

RESEARCH ARTICLE

Effectiveness of interdisciplinary teacher teams among English teachers in public secondary schools in Jolo

Makintan Saada¹

¹Sulu State College, Jolo, Sulu, Philippines

*Corresponding author: sscgspub@sulustatecollege.edu.ph

ABSTRACT. This descriptive-comparative study assessed the effectiveness of interdisciplinary teacher teams among English teachers in public secondary schools in Jolo during school year 2023-2024. One hundred (n=100) samples were taken through non-probability sampling method, quota sampling, among selected public secondary schools in Jolo, Sulu, Philippines. A modified questionnaire was used to elicit the perceptions of English teachers regarding the effectiveness of implementing interdisciplinary teacher teams in public secondary schools. English teachers believed that the interdisciplinary teacher teams among secondary schools was very effective in Instructional Practices, Student Orientation, Team Organization, and Team Structures. Findings also noted significant difference on the perceptions of English teachers regarding the effectiveness of interdisciplinary teacher teams in Team Organization. The study highlighted the positive impact of interdisciplinary approaches on student engagement and achievement. Interdisciplinary teacher teams offered opportunities for professional growth and development. Educators had the opportunity to expand their knowledge base, develop their teaching practices, and gain insights into alternative instructional approaches through collaboration with colleagues from different disciplines. Educational institutions can support this professional development by providing resources, incentives, and recognition for interdisciplinary collaboration.

KEYWORDS: *collaboration, instructional practices, interdisciplinary teacher teams, student orientation, team organization*

ARTICLE DETAILS

JEAS-00018; Received: February 28, 2024; Accepted: March 28, 2024; April 21, 2024

CITATION:

Saada, Makintan. (2024). Effectiveness of interdisciplinary teacher teams among English teachers in public secondary schools in Jolo. *Journal of Education and Academic Settings*. DOI: 10.62596/mcyw5g50

COPYRIGHT

Copyright © 2024 by author(s). *Journal of Education and Academic Settings* is published by Stratworks Research Inc. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), allowing redistribution and reproduction in any format or medium, provided the original work is cited or recognized.

Introduction

English education plays a crucial role in equipping students with language skills, critical thinking abilities, and cultural awareness. However, traditional teaching methods often focus solely on language instruction, overlooking the potential advantages of integrating interdisciplinary perspectives. Interdisciplinary teacher teams, consisting of English teachers collaborating with subject specialists from other disciplines, offer a promising approach to enhance the quality of English education by incorporating diverse knowledge and perspectives.

The effectiveness of interdisciplinary teacher teams has gained increasing attention in the field of education. Interdisciplinary collaboration among teachers has the potential to enhance teaching

practices, improve student outcomes, and promote professional development. However, there is a need to explore the impact of interdisciplinary experiences on students and teachers in specific contexts, such as Jolo, Sulu, Philippines. This study aims to investigate the effectiveness of interdisciplinary teacher teams among English teachers in public secondary schools in Jolo, Sulu, and fill the existing knowledge gap in this area.

Instructional practices refer to the strategies, methods, and techniques employed by teachers to deliver instruction in the English language. It includes aspects such as lesson planning, classroom management, use of technology, and differentiation of instruction to meet the diverse learning needs of students. Instructional practices involves the pedagogical approaches used by teachers to facilitate student learning and engagement (Chavez, 2023; Chavez & Lamorinas, 2023).

Student organization focuses on the extent to which interdisciplinary teacher teams contribute to the organization and engagement of students in the learning process. It encompasses collaborative activities, project-based learning, cooperative group work, and student-centered approaches that promote active participation and meaningful learning experiences. Robinson et al., (2011) defines student organization as the ability of students to effectively manage their time, resources, and tasks in order to optimize their learning outcomes.

Team organization examines the structure and functioning of interdisciplinary teacher teams. It includes aspects such as team roles and responsibilities, communication and collaboration among team members, decision-making processes, and the establishment of a supportive and collaborative team culture. According to Hargreaves and Fink (2006), team organization refers to the coordination and cooperation among team members to achieve shared goals and objectives. Team structure refers to the formal arrangement of roles, responsibilities, and relationships within an interdisciplinary teacher team.

The emphasis on leadership primarily arises when examining its impact on collaborative practice, particularly in the context of analyzing collaboration in language learning situations. As evidenced by several studies, it has been suggested that leaders who wish to promote collaboration among their team members should adhere to several key practices. These practices include implementing structural measures that facilitate and support collaboration (Choi & Hwang, 2015). Additionally, leaders should acknowledge and appreciate teachers who demonstrate a genuine interest in collaboration, while also taking into careful consideration any concerns they may have (Hameduddin & Engbers, 2022; Megawaty et al., 2022; Tao et al., 2022; Thompson, 2022).

It is recommended that leaders explicitly define the task, roles, and objectives for the collaborative efforts (Banks et al., 2022; Eichenauer et al., 2022; Strielkowski et al., 2022). Lastly, leaders can incentivize collaboration by offering rewards such as higher pay, reduced teaching duties, and funding for research (Durakovic et al., 2022; Karna & Ko, 2022).

While there is a growing body of research on interdisciplinary teacher teams and their impact on teaching and learning, there is a notable knowledge gap regarding the specific context of Jolo, Sulu, Philippines. Limited research has been conducted to explore the effectiveness of interdisciplinary experiences among English teachers in public secondary schools in this region. Understanding the impact of interdisciplinary teacher teams in Jolo, Sulu is crucial for informing educational practices and policies that can enhance teaching effectiveness, student engagement, and overall educational outcomes.

This study examined the indicators of instructional practices, student organization, team organization, and team structure among English teachers in public secondary schools in Jolo, Sulu. By investigating the impact of interdisciplinary experiences on these indicators, the study aimed

to bridge the knowledge gap and provide valuable insights into the effectiveness of interdisciplinary teacher teams in this local context.

Research Questions

The research study determined the effectiveness of Interdisciplinary teacher teams among English Teachers in public secondary schools in Jolo. Below were the specific questions answered in this study.

1. What is the demographic profile of English teachers at public secondary schools in Jolo based on sex, age length of teaching service, and educational attainment?
2. How effective was the interdisciplinary teacher teams among English Teachers of Public Secondary Schools?
3. Did the effectiveness of interdisciplinary teacher team among English teachers differed in terms of the demographics?

Literature Review

The concept of teaching collaboration revolves around the voluntary engagement of two or more parties who actively participate as equal partners, collectively assuming responsibility for both positive and negative outcomes (Khasawneh et al., 2023; Özdemir et al., 2023). Both parties involved in the collaborative effort acknowledge and strive towards a shared objective. In addition, these individuals engage in the collaborative exchange of resources, knowledge, and skills pertaining to their respective teaching practices (Buyukgoze et al., 2022; Chavez et al., 2023b; Pischetola et al., 2023; Richter et al., 2022). Both parties engage in a structured and organized process, as per a predetermined plan, or alternatively, they may opt for a more spontaneous and casual approach.

Existing literature on interdisciplinary teams indicates that the level of team commitment can significantly influence the overall success of collaborative teaming endeavors (Liu et al., 2022; Oudenampsen et al., 2023). Consequently, certain teams invest a significant amount of time in cultivating team commitment and team identity among both teachers and students (Bolduc et al., Jenkins et al., 2023; 2023; Petrova et al., 2022). This is achieved through various means such as adopting team names, colors, mottos, offering group rewards and prizes, and utilizing other symbolic elements.

Balancing member inputs is a crucial aspect of group processes. It has been suggested that work groups which do not attain a proper equilibrium of inputs from group members may experience a decline in the utilization of relevant member expertise and effort (Babamiri et al., 2022). There is a possibility that the group may experience burnout when certain members become tired of shouldering a larger share of the group's workload compared to others (Dias et al., 2022; Hindardjo et al., 2022; Shaikh et al., 2022).

Interdisciplinary collaboration has become increasingly recognized as a beneficial approach to enhance teaching and learning in educational settings (Bronstein, 2003; Moirano et al., 2022; Yeager, 2003). In the context of public secondary schools, creating interdisciplinary teacher teams has the potential to promote a holistic and well-rounded educational experience for students. These teams can enable educators to share their expertise, perspectives, and resources, ultimately enriching the quality of instruction and student learning outcomes (Rooks et al., 2022; Yáñez de Aldecoa & Gómez-Trigueros, 2022).

Interdisciplinary collaboration has been found to offer numerous benefits to teachers. One such benefit is the achievement of teaching efficiency, which is facilitated through the sharing of expertise and duties (Li, 2023; Neitzel et al., 2022). Additionally, collaboration provides valuable professional development opportunities for teachers (Chavez, 2020; Nikonorova, 2022), enabling them to acquire innovative methods and content knowledge (Bloomquist & Georges, 2022). Moreover, collaboration helps to reduce feelings of isolation among teachers by fostering increased moral support. Collaboration has been found to have positive effects on students, as it has been shown to enhance their motivation and understanding (Meyer et al., 2022; Komp et al., 2022).

Collaboration allows students to be exposed to multiple teaching styles and perspectives, which can further enhance their learning experience. Students may experience more effective collaboration when their teachers have a positive relationship. Additionally, teachers' pedagogical skills, rather than just their content expertise, also play a crucial role in facilitating effective collaboration among students (Shimizu et al., 2022).

Interdisciplinary teacher teams are characterized by the collaborative efforts of educators from diverse subject areas, with the aim of enriching student learning and fostering a comprehensive approach to education. These teams commonly participate in collaboration in planning, shared choice-making, and streamlined teaching practices to offer students with meaningful and connected learning experiences. Through collaborative efforts, educators have the ability to cultivate a nurturing professional learning community that effectively caters to the wide-ranging needs of students (van Goch & Lutz, 2023).

Methods

This study employed descriptive-comparative analysis (Chavez & Lamorinas, 2023) in determining the effectiveness of interdisciplinary teacher teams. A survey was conducted to elicit the responses from selected English teachers in public high schools in Jolo, Sulu. Through the survey instrument, participants were asked to provide responses pertaining to their perceptions, experiences, and attitudes regarding interdisciplinary teacher teams.

Descriptive analysis in research involves the systematic and detailed examination of data to summarize and present the characteristics or attributes of a particular phenomenon or population (Chavez, 2021; Chavez et al., 2023a; Murro et al., 2023). Meanwhile, comparative analysis identifies patterns, relationships, or contrasts to gain insights into the factors influencing the phenomenon under investigation.

The descriptive aspect of the analysis involved summarizing and presenting the characteristics and demographics of the participants, such as age, gender, years of teaching experience, and educational background. Subsequently, a comparative analysis was conducted to examine potential differences or similarities in these demographic variables among the participants. This comparative approach enabled the researchers to identify any significant associations between demographic factors and perceptions of interdisciplinary teacher teams, thereby contributing to a more comprehensive understanding of the concept of interdisciplinary teaching.

1. Population and Sampling Design

The primary respondents of the study are the English teachers who are actively involved in interdisciplinary team teaching in public secondary schools in Jolo, Sulu, Philippines. This study used quota sampling (n=100) in selecting the participants. Quota sampling is a non-probability

sampling technique used in research to initially specify the number of respondents to participate in the study.

The researchers administered questionnaires randomly to individuals who met the criteria for demographic profiles until the desired number of participants was reached. This process involved various selection methods *e.g.*, using online surveys and face-to-face surveys. As participants are recruited, the researchers carefully monitored the quotas to ensure that the quota was met.

2. Research Instruments

This study modified the questionnaire developed by Presko (1998) on Interdisciplinary Team Audit. Modification focused on the effectiveness of Interdisciplinary Teacher Team among English teachers in public secondary schools in Jolo, Sulu, Philippines.

The questionnaire had two parts—the demographics and the Interdisciplinary Teacher Team scale. The first part of the questionnaire deals with the demographic profile of teacher-respondents which were the gender, age, educational attainment, and length of service. The second part of the questionnaire determined the extent of the effectiveness of interdisciplinary teacher teams among English teachers in public secondary schools in Jolo. The questionnaire was a 30-item Likert scale classified into four indicators—(i) Instructional Practices, (ii) Student Orientation, (iii) Team Organizations, and (iv) Team Structure.

3. Data Gathering Procedure

The study established clear research objectives and delineating the specific demographic characteristics relevant for representation within the sample. Following this, quotas were designated for each subgroup, aligning with the distribution of these characteristics within the target population. A sampling plan was devised, outlining recruitment strategies, sampling techniques, and data collection methodologies to be employed. Online and face-to-face surveys were conducted to gather the data from the participants.

Before answering the questionnaire, the researcher explained the purpose of this study and the terms for data confidentiality. Participants were then asked to sign a waiver or consent form indicating their willingness to participate in the study. This form also provided information about the purpose of the survey, the nature of participation, any potential risks or benefits, and assurances of confidentiality and anonymity. By signing the waiver, participants indicate their informed consent to participate in the study.

Upon recruitment, questionnaires were administered, ensuring clarity and relevance to the research objectives. Throughout the survey administration process, researchers were available to address any questions or concerns that participants may have and provide clarification on the survey instructions or questions if needed.

Throughout the data collection phase, diligent monitoring of quotas was undertaken to ensure proportional representation and diversity within the sample. Recruitment efforts persisted until the desired sample size was achieved, considering statistical considerations and research objectives. Subsequently, collected data underwent rigorous analysis using appropriate statistical techniques, with a focus on comparing responses across demographic subgroups. Findings were interpreted within the context of the research objectives and the inherent strengths and limitations of quota sampling.

4. Data Analysis Process

This study employed statistical analysis to interpret empirical data from survey responses. Specifically, the analysis utilized the Jeffreys's Amazing Statistics Program (JASP) version 0.18.2, which is an open-source software tool endorsed by the University of Amsterdam. JASP is known for its user-friendly interface, resembling SPSS, and offers a variety of standard analysis methods in both classical and Bayesian forms.

In descriptive analysis, *Percentage* was utilized to compare different demographic groups, assessing the proportions of respondents within each category or group. The study calculated the weighted mean to determine the average of the dataset, with each value being multiplied by its respective weight, considering the responses from each data point. This approach allowed for the derivation of composite means for all items or statements within the dataset.

For inferential analysis, the study employed the Student's t-test and Analysis of Variance (ANOVA) to detect significant differences in respondents' responses based on demographic characteristics. The Student's t-test was used to assess whether there was a significant difference between the means of two independent groups, particularly beneficial for smaller sample sizes. Conversely, ANOVA was employed to evaluate differences among the means of three or more independent groups. Unlike the pairwise comparisons enabled by the t-test, ANOVA simultaneously investigates variances within and between multiple groups, providing insights into the extent of differences beyond chance alone.

Results

Question 1. What is the demographic profile of English teachers at public secondary schools in Jolo, Sulu based on their sex, age, length of teaching service, and educational attainment?

This study analyzed the demographics of the selected English teachers among public secondary high schools in Jolo, Sulu. Examining demographic profiles provided insight into the characteristics of the sample population, including factors such as age, sex, education level, and years in service. By analyzing the demographic characteristics of the sample, researcher determined the extent to which their findings are applicable to different demographic groups or settings.

Table 1 presents the summary data for teachers' demographic profile collected from the survey. Findings indicated that majority of participants were ages ≤ 30 years old ($n=42$; 42.00%) and 31-40 years old ($n=42$; 42.00%). In contrast, only a fraction of teachers aged >41 years old ($n=16$; 16.00%) on the time of survey.

Among the 100 selected teachers in Jolo, Sulu, 58.0% ($n=58$) of them were females and 42.0% ($n=42$) were males.

Table 1. Summary table of teachers' demographic profile

Demographics		Frequency (N=100)	Percentage
Age	≤ 30 years old	42	42.0%
	31-40 years old	42	42.0%
	>41 years old	16	16.0%
Sex	Male	42	42%
	Female	58	58%
Length of Service	5 years & below	47	47.0%
	6-10 years	31	31.0%
	11-20 years	16	16.0%
	21 years & above	6	6.0%

Educational Attainment	Bachelor's degree	38	38.0%
	Bachelor's with MA units	31	31.0%
	Master's degree	27	27.0%
	Master's degree with Doctoral units	3	3.0%
	Doctorate degree	1	1.0%

Additionally, among the 100 teachers, most of them were relatively new in academe with <5 years of teaching experience ($n=47$; 47.00%). Almost one-thirds of teachers had 6-10 years of experience ($n=31$; 31.00%). Only 16.0% ($n=16$) had experience from 11-20 years and 6.0% had >20 years of experience in teaching.

Furthermore, most of the participants had finished a bachelor's degree ($n=38$; 38.0%). Some participants acquired both a bachelor's degree and MA units ($n=31$; 31.0%) while 27% ($n=27$) finished their master's degree. Only 3.0% ($n=3$) had a master's degree and doctorate units, and 1% ($n=1$) graduated with a doctorate degree.

Question 2. How effective was the interdisciplinary teacher teams among English teachers at public secondary schools?

This study analyzed the perceptions of English teachers regarding the effectiveness of interdisciplinary teacher teams in Jolo, Sulu. The findings had separate interpretations for different indicators—(i) Instructional Practices, (ii) Student Orientation, (iii) Team Organizations, and (iv) Team Structure.

Table 2 presented the effectiveness of interdisciplinary teacher teams in terms of Instructional Practices. Findings indicated that the interdisciplinary teacher teams were **very effective** ($\bar{x}=3.321$; $\sigma=0.352$) in different contexts of instructional practices. Specifically, the English teachers believed that the “*team members integrate curriculum*” ($\bar{x}=3.44$; $\sigma=0.519$), “*team members provide exploratory experiences for students*” ($\bar{x}=3.43$; $\sigma=0.497$), and “*team members utilize interdisciplinary focus which helps apply knowledge and skills across disciplines*” ($\bar{x}=3.40$; $\sigma=0.492$).

Table 2. Effectiveness of interdisciplinary teacher teams based on Instructional Practices			
Instructional Practices metric	$\bar{x}$	σ	Rating
Team members integrate curriculum	3.44	0.519	Very Effective
Team members use evaluative data from students to assess their programs and practices.	3.26	0.463	Very Effective
Team members use parents/community members as volunteers in their classrooms to help with special events and activities.	3.19	0.563	Effective
Team members provide exploratory experiences for students.	3.43	0.497	Very Effective
Team members collaborate to eliminate curricular objective duplication.	3.30	0.522	Very Effective
Team members use team building activities to create a sense of identity and community among teams of students.	3.36	0.522	Very Effective
Team members provide information to the community about middle school programs.	3.27	0.510	Very Effective
Team members use activities to promote tolerance and appreciation for cultural diversity.	3.31	0.486	Very Effective
Team members use flexible scheduling to provide needed time for various classroom activities.	3.25	0.480	Very Effective
Team members utilize interdisciplinary focus which helps apply knowledge and skills across disciplines.	3.40	0.492	Very Effective
Composite Mean	3.321	0.352	Very Effective
Remarks: 1.00-1.74 (Not Effective); 1.75-2.50 (Somehow Effective); 2.51-3.24 (Effective); 3.25-4.00 (Very Effective)			

Shown in **Table 3**, the interdisciplinary teacher teams was *very effective* in Student Orientation ($\bar{x}=3.448$; $\sigma=0.369$). For instance, the English teachers believed that the “*team members provide a safe classroom environment for students*” ($\bar{x}=3.51$; $\sigma=0.522$), “*team members show respect towards teachers and students with whom they work*” ($\bar{x}=3.50$; $\sigma=0.502$), “*team members show concerns for students as well as subject matter*” ($\bar{x}=3.50$; $\sigma=0.502$), “*team members use activities/lessons which require problem solving skills and creativity*” ($\bar{x}=3.47$; $\sigma=0.502$), and “*team members provide students with curriculum that focuses on the acquisition of knowledge, skills and personal development*” ($\bar{x}=3.47$; $\sigma=0.502$).

Table 3. Effectiveness of interdisciplinary teacher teams based on Student Orientation

Student Orientation metric	$\bar{x}$	σ	Rating
Team members stress basic skills across each content area	3.42	0.516	Very Effective
Team members show respect towards teachers and students with whom they work.	3.50	0.502	Very Effective
Team members show concerns for students as well as subject matter	3.50	0.502	Very Effective
Team members use activities /lessons which require problem solving skills and creativity	3.47	0.502	Very Effective
Team members provide a safe classroom environment for students	3.51	0.522	Very Effective
Team members use common planning time to identify and diagnose students' needs	3.42	0.496	Very Effective
Team members show compassion, flexibility, and tolerance when working with students	3.43	0.498	Very Effective
Team members provide students with curriculum that focuses on the acquisition of knowledge, skills and personal development	3.47	0.502	Very Effective
Team members provide students with opportunities to demonstrate responsibility	3.44	0.499	Very Effective
Team members utilize personnel such as counselors, specialist etc. during common planning time to meet the student's needs	3.32	0.510	Very Effective
Composite Mean	3.448	0.369	Very Effective

Remarks: 1.00-1.74 (Not Effective); 1.75-2.50 (Somehow Effective); 2.51-3.24 (Effective); 3.25-4.00 (Very Effective)

Table 4 presented the effectiveness of interdisciplinary teacher teams based on the Target Orientation. Findings indicated that the interdisciplinary teacher teams was *very effective* in ensuring Target Orientation ($\bar{x}=3.3321$; $\sigma=0.376$). Specifically, the English teachers believed that “*team leaders coordinate team activities as a responsibility of their job*” ($\bar{x}=3.32$; $\sigma=0.497$), “*team leaders keep team members on task during team meetings*” ($\bar{x}=3.37$; $\sigma=0.485$), and “*team leaders use meetings with the administration to discuss team concerns and issue*” ($\bar{x}=3.33$; $\sigma=0.473$).

Table 4. Effectiveness of interdisciplinary teacher teams based on Team Organization

Instructional Practices metric	$\bar{x}$	σ	Rating
Team leaders keep team members on task during team meetings	3.37	0.485	Very Effective
Team members record minutes and decisions made during team meetings	3.26	0.441	Very Effective
Team members integrate curricular activities to aid in providing modifications for students with I.E.P.s.	3.27	0.446	Very Effective
Team leaders use meetings with the administration to discuss team concerns and issue	3.33	0.473	Very Effective
Team leaders coordinate team activities as a responsibility of their job	3.43	0.497	Very Effective
Composite Mean	3.332	0.376	Agree

Remarks: 1.00-1.74 (Not Effective); 1.75-2.50 (Somehow Effective); 2.51-3.24 (Effective); 3.25-4.00 (Very Effective)

Table 5 summarizes the effectiveness of interdisciplinary teacher teams in terms of Team Structure scale. As indicated, English teachers believed that the interdisciplinary teacher teams

was *very effective* ($\bar{x}=3.27$; $\sigma=0.418$) in upholding team structure. Teachers reported that the “*team members are provided with common planning time during the school days*” ($\bar{x}=3.34$; $\sigma=0.476$), “*team members’ classrooms are located in the same area of the building*” ($\bar{x}=3.32$; $\sigma=0.548$), and “*team members use small and large groupings when delivering instruction*” ($\bar{x}=3.29$; $\sigma=0.456$).

Table 5. Effectiveness of interdisciplinary teacher teams based on Team Structure

Team Structure metric	$\bar{x}$	σ	Rating
Team members are provided with common planning time during the school days	3.34	0.476	Very Effective
Team members’ classrooms are located in the same area of the building	3.32	0.548	Very Effective
Team members’ classrooms are adjacent to one another.	3.21	0.498	Effective
Team members share the same group of students	3.19	0.545	Effective
Team members use small and large groupings when delivering instruction	3.29	0.456	Very Effective
Composite Mean	3.27	0.418	Effective

Remarks: 1.00-1.74 (Not Effective); 1.75-2.50 (Somehow Effective); 2.51-3.24 (Effective); 3.25-4.00 (Very Effective)

Question 3. Did the perceived effectiveness of interdisciplinary teacher teams among English teachers differed in terms of the demographics?

This study conducted a comparative analysis on the perceived effectiveness of interdisciplinary teacher teams based on the demographics of English teachers in Jolo, Sulu. By examining the dynamics within interdisciplinary teacher teams, this research sought to explore how various demographic factors such as age, sex, educational background, and years of teaching experience might influence the effectiveness of collaborative efforts among English educators.

Table 6 presented the analysis conducted comparing the perceived effectiveness in terms of the sex of English teachers. Using Student’s t-test, findings indicated that sex variable observed no significant difference on the perceived effectiveness of Instructional Practices ($t=0.468$; $p=0.641$), Student Orientation ($t=1.613$; $p=0.110$), Team Organization ($t=0.830$; $p=0.409$), and Team Structures ($t=0.512$; $p=0.610$). Consequently, the perceptions of English teachers in Jolo, Sulu about the effectiveness of interdisciplinary teacher teams was relatively equal and similar regardless of their sex.

Table 6. Inferential Analysis according to Sex

VARIABLES		$\bar{x}$	σ	Mean Difference	t	Sig.	Description
Instructional practices	Male	3.3405	0.32912	0.03358	0.468	0.641	Not Significant
	Female	3.3069	0.37128				
Student Orientation	Male	3.3786	0.34040	-0.11970	-1.613	0.110	Not Significant
	Female	3.4983	0.38365				
Team Organization	Male	3.2952	0.29380	-0.06338	-0.830	0.409	Not significant
	Female	3.3586	0.42675				
Team structures	Male	3.2952	0.39568	0.04351	0.512	0.610	Not Significant
	Female	3.2517	0.43619				

*Significant at alpha 0.05

Table 7 presented the summary for test conducted comparing the perceived effectiveness of interdisciplinary teacher teams in terms of English teacher’s age group. Findings indicated that no significant difference was observed for Instructional Practices ($t=0.645$; $p=0.527$), Student

Orientation ($t=1.896$; $p=0.156$), and Team Structures ($t=2.375$; $p=0.098$). Meanwhile, difference on the perceived effectiveness was recorded in Team Organization ($t=4.122$; $p=0.019$). This indicated that while age variable did not directly mediate the Instructional Practices, Student Orientation, and Team Structures of the interdisciplinary teacher teams, it could somehow interact with other aspects like that of Team Organization.

Table 7. Inferential Analysis according to Age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Instructional Practices	Between Groups	.162	2	.081	0.645	0.527	Not Significant
	Within Groups	12.164	97	.125			
	Total	12.326	99				
Student Orientation	Between Groups	.508	2	.254	1.896	0.156	Not Significant
	Within Groups	12.982	97	.134			
	Total	13.490	99				
Team Organization	Between Groups	1.098	2	.549	4.122	0.019*	Significant
	Within Groups	12.920	97	.133			
	Total	14.018	99				
Team Structures	Between Groups	.808	2	.404	2.375	0.098	Not Significant
	Within Groups	16.502	97	.170			
	Total	17.310	99				

*Significant at alpha 0.05

Table 8 summarized the comparative analysis conducted for perceived effectiveness in terms of teacher's length in teaching service. Findings indicated no significant differences on the perceptions of English teachers about the effectiveness of interdisciplinary teacher teams in Instructional Practices ($t=0.897$; $p=0.446$), Student Orientation ($t=2.660$; $p=0.053$), Team Organization ($t=1.841$; $p=0.145$), and Team Structures ($t=1.726$; $p=0.167$). Consequently, the length of service could not directly influence the perceptions of English teachers about the effectiveness of interdisciplinary teacher teams.

Table 8. Inferential Analysis according to Length of Service

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Instructional practices	Between Groups	0.336	3	0.112	0.897	0.446	Not Significant
	Within Groups	11.990	96	0.125			
	Total	12.326	99				
Student Orientation	Between Groups	1.035	3	0.345	2.660	0.053	Not Significant
	Within Groups	12.454	96	0.130			
	Total	13.490	99				
Team organization	Between Groups	0.762	3	0.254	1.841	0.145	Not Significant
	Within Groups	13.255	96	0.138			
	Total	14.018	99				
Team structures	Between Groups	0.886	3	0.295	1.726	0.167	Not Significant
	Within Groups	16.424	96	0.171			
	Total	17.310	99				

*Significant at alpha 0.05

Table 9 presented the analysis regarding the effectiveness of interdisciplinary teacher teams based on the educational attainment of English teachers. Findings indicated no significant

difference observed on Instructional Practices ($t=1.134$; $p=0.345$), Student Orientation ($t=0.842$; $p=0.502$), and Team Structures ($t=0.937$; $p=0.446$). Meanwhile, a significant result yielded in comparing the mean within Team Organization scale ($t=2.861$; $p=0.027$). Findings indicated that the educational attainment of English teachers could have considerable impact on the team organization when implementing interdisciplinary teacher teams. However, it is important to note the disparity in the profiles of the participants with only one teacher ($n=1$) having a doctorate degree. Because of this statistical limitation, the researcher instead filtered the data collected excluding the responses from this participant.

Table 8. Inferential Analysis according to Educational Attainment

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Instructional practices	Between Groups	0.561	4	0.140	1.134	0.345	Not Significant
	Within Groups	11.764	95	0.124			
	Total	12.326	99				
Student Orientation	Between Groups	0.462	4	0.115	0.842	0.502	Not Significant
	Within Groups	13.028	95	0.137			
	Total	13.490	99				
Team Organization	Between Groups	1.507	4	0.377	2.861	0.027*	Significant
	Within Groups	12.510	95	0.132			
	Total	14.018	99				
Team Structures	Between Groups	0.657	4	0.164	0.937	0.446	Not Significant
	Within Groups	16.653	95	0.175			
	Total	17.310	99				

*Significant at alpha 0.05

Discussion

This study analyzed the perceived effectiveness of interdisciplinary teacher teams based on four metrics. Findings indicated that this organizational strategy was very effective in developing Instructional Practices, Student Orientation, Team Organization, and Team Structures among public secondary high schools in Jolo, Sulu.

Interdisciplinary teacher teams involve educators from different subject areas or disciplines who collaborate closely to design and implement instructional strategies, curricular activities, and assessments that integrate content and concepts from multiple disciplines. These teams typically consist of teachers representing various academic subjects, such as math, science, language arts, social studies, and the arts.

Since close collaboration integrates varied information, abilities, and experience, it can improve the development of interdisciplinary curriculum materials involving teachers from different topic areas (Feng et al., 2022; Gryson et al., 2024; Liu et al., 2022; Tonnetti & Lentillon-Kaestner, 2023). Collaboration not only helps them advance professionally in other fields but also improves their ability to teach interdisciplinary courses (Al-Saaideh et al., 2015; Lenoir & Hasni, 2016). Moreover, Lenoir and Hasni (2016) point out that people are trained extremely narrowly in a single subject these days, making it difficult for teachers to grasp many fields. Thus, joint efforts are necessary for interdisciplinary teaching to enable the construction of cognitive contents and processes from other disciplines.

Previous understanding of collaboration and interdisciplinary teaching also reflected on the findings. For instance, collaborative efforts become imperative in facilitating interdisciplinary

teacher teams, enabling the construction of cognitive content and processes from diverse disciplines. Evaluative data from students can inform the refinement of interdisciplinary programs and practices, ensuring they meet the diverse learning needs and preferences of students across different subject areas. Providing exploratory experiences for students and using team-building activities can foster a sense of identity and community among students, promoting collaboration, empathy, and respect for cultural diversity. By using flexible scheduling to accommodate various classroom activities, teachers can optimize instructional time and facilitate interdisciplinary learning experiences that integrate knowledge and skills across different disciplines.

Studies on interdisciplinary approach in education revealed that it could influence their motivation and achievement (Chavez & Ceneciro, 2021; Holmbukt & Larsen, 2016; Tonnetti & Lentillon-Kaestner, 2023). By integrating many academic fields, students are better able to understand the significance of their learning in the actual world and may better connect their learning to their interests and experiences (Holmbukt & Larsen, 2016; Kanmaz et al., 2022). Students also learn at a higher level because to the interdisciplinary approach, which emphasizes the connections between several disciplines in addition to developing a deep understanding of each one separately (Tonnetti & Lentillon-Kaestner, 2023). English teachers from Jolo, Sulu noted that for them to develop interdisciplinary approach in their classrooms, they show respect to their co-teachers, they ensure flexibility in learning, uphold the concept of targeted learning, and embodies exploratory learning for students. Through these approach in education, student expanded their individual interests and abilities, maximizing their engagement and academic growth.

The success of interdisciplinary teacher teams suggests that collaboration among educators from diverse subject areas enhances the development of instructional practices, student orientation, team organization, and team structures. This underscores the importance of collaborative efforts in fostering interdisciplinary approaches to teaching and learning. Collaborative endeavors not only contribute to the professional growth of teachers but also improve their ability to effectively design and implement interdisciplinary curriculum materials.

The study emphasized the necessity of interdisciplinary teaching in addressing the limitations of narrow subject-area training. By bringing together educators with expertise in different disciplines, interdisciplinary teacher teams enable the construction of cognitive content and processes from diverse fields, enriching students' learning experiences and promoting higher-level understanding.

Conclusion

The analysis of interdisciplinary teacher teams' effectiveness in public secondary high schools in Jolo, Sulu, revealed significant insights into the benefits of collaboration across diverse subject areas. The study demonstrated that interdisciplinary teacher teams effectively foster the development of instructional practices, student orientation, team organization, and team structures. This highlights the transformative potential of collaborative efforts among educators from different disciplines in shaping holistic and integrated educational experiences for students. This study also noted the importance of interdisciplinary teaching in overcoming the limitations of narrow subject-area training. By bringing together educators with diverse expertise, interdisciplinary teacher teams facilitate the synthesis of cognitive content and processes from multiple disciplines, thereby enriching students' learning experiences and promoting higher-level understanding.

The findings enriched the understanding about interdisciplinary teacher teams. By integrating multiple academic fields, interdisciplinary approaches enable students understand the real-world relevance of their learning and foster connections between academic content and personal interests

and experiences. This holistic approach to education not only enhances student engagement but also maximizes their academic growth and development.

The success of interdisciplinary teacher teams in Jolo, Sulu highlights the transformative potential of collaboration across diverse subject areas in education. Embracing interdisciplinary approaches not only enhances instructional practices and structures but also enriches students' learning experiences and promotes higher-level understanding. By fostering collaboration, flexibility, and targeted learning approaches, educators can cultivate a dynamic and inclusive educational environment that maximizes student engagement and academic achievement.

References

1. Al-Saaideh, M. I. A., & Al-Zyoud, M. S. N. A. (2015). Benefits of Teaching Interdisciplinary Subjects Collaboratively in Jordanian Pre-Vocational Education. *Educational Research and Reviews*, 10(20), 2702-2712.
2. Babamiri, M., Heydari, B., Mortezaipoor, A., & Tamadon, T. M. (2022). Investigation of demand-control-support model and effort-reward imbalance model as predictor of counterproductive work behaviors. *Safety and Health at Work*, 13(4), 469-474.
3. Banks, G. C., Dionne, S. D., Mast, M. S., & Sayama, H. (2022). Leadership in the digital era: A review of who, what, when, where, and why. *The Leadership Quarterly*, 33(5), 101634.
4. Bloomquist, C. D., & Georges, L. (2022). Interdisciplinary leadership: A leadership development model for scholar-practitioners. *Journal of leadership education*, 21(4), 1-18.
5. Bolduc, S., Knox, J., & Ristoph, E. B. (2023). Evaluating team dynamics in interdisciplinary science teams. *Higher Education Evaluation and Development*, 17(2), 70-81.
6. Bronstein, L. R. (2003). A model for interdisciplinary collaboration. *Social work*, 48(3), 297-306.
7. Buyukgoze, H., Caliskan, O., & Gümüş, S. (2022). Linking distributed leadership with collective teacher innovativeness: The mediating roles of job satisfaction and professional collaboration. *Educational Management Administration & Leadership*, 17411432221130879.
8. Chavez, J. V. (2020). Impact of Massive Open Online Course on the Teacher-Enrollees' Personal Growth and Professional Development. *Solid State Technology*, 63(4), 1575-1590.
9. Chavez, J. V. (2021). Bilingual parents' dispositions: Precursor to developing the English language teaching curriculum. *Psychology and Education*, 58(5), 161-166.
10. Chavez, J. V. (2023). Assessing online academic integrity and humanized teaching in Zamboanga Peninsula Polytechnic State University. *Journal of Multidisciplinary in Social Sciences*, 19(1), 9-17.
11. Chavez, J. V., Gregorio, A. M. W., Araneta, A. L., & Bihag, C. D. (2023a). Magna carta for women health workers, teachers, and minimum-wage earners in the workplace: Policy awareness and organizational compliance. *Environment and Social Psychology*, 9(1).
12. Chavez, J. V., Libre, J. M., Gregorio, M. W., & Cabral, N. P. (2023b). Human resource profiling for post-pandemic curriculum reconfiguration in higher education. *Journal of Infrastructure, Policy and Development*, 7(2), 1975.
13. Chavez, J., & Ceneciro, C. (2021). Hybridization of Learning Management Systems in Tertiary Schools. *IOER International Multidisciplinary Research Journal*, 3(4), 116-122.
14. Chavez, J., & Lamorinas, D. D. (2023). Reconfiguring assessment practices and strategies in online education during the pandemic. *International Journal of Assessment Tools in Education*, 10(1), 160-174.

15. Choi, D., & Hwang, T. (2015). The impact of green supply chain management practices on firm performance: the role of collaborative capability. *Operations Management Research*, 8, 69-83.
16. Dias, A. L., Pascoal, B., Pereira, L., & Costa, R. (2022). Transformational leadership contributions for employee autonomy. *International Journal of Service Science, Management, Engineering, and Technology (IJSSMET)*, 13(1), 1-21.
17. Durakovic, I., Aznavoorian, L., & Candido, C. (2022). Togetherness and (work) place: Insights from workers and managers during Australian COVID-induced lockdowns. *Sustainability*, 15(1), 94.
18. Eichenauer, C. J., Ryan, A. M., & Alanis, J. M. (2022). Leadership during crisis: An examination of supervisory leadership behavior and gender during COVID-19. *Journal of Leadership & Organizational Studies*, 29(2), 190-207.
19. Feng, X., & Hölttä-Otto, K. (2022). An Exploration of Teachers' Competencies in Interdisciplinary Engineering Education. In *International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, 86243, American Society of Mechanical Engineers.
20. Gryson, T., Strubbe, K., Valcke, T., & Vanderlinde, R. (2024). Enhancing Teachers' Interdisciplinary Professional Development through Teacher Design Teams: Exploring Facilitating Conditions and Sustainability. *Education Sciences*, 14(4), 425.
21. Hameduddin, T., & Engbers, T. (2022). Leadership and public service motivation: a systematic synthesis. *International Public Management Journal*, 25(1), 86-119.
22. Hargreaves, A., & Fink, D. (2009). Distributed leadership: democracy or delivery?. In *Distributed leadership: Different perspectives* (pp. 181-193). Dordrecht: Springer Netherlands.
23. Hindardjo, A., Pratama, M. F., & Ali, J. (2022). Analysis of the Influence of Competence and Work Culture on Employee Performance with Moderation of Exit Intentions: A Case Study at Bank Syariah Indonesia. *International Journal of Management Science and Application*, 1(1), 1-17.
24. Holmbukt, T., & Larsen, A. B. (2016). Interdisciplinary teaching as motivation: An initiative for change in post-16 vocational education. *Nordic Journal of Language Teaching and Learning*, 4(1).
25. Jenkins, B., Lester, K., Noble, A., Such, H., Yawn, B., & Scott, A. (2023). Evaluating the impact of continuing medical education in the interdisciplinary team: a novel, targeted approach. *Journal of CME*, 12(1), 2161730.
26. Kanmaz, A. (2022). A Study on Interdisciplinary Teaching Practices: Primary and Secondary Education Curricula. *African Educational Research Journal*, 10(2), 200-210.
27. Karna, D., & Ko, I. (2022). The role of we-intention and self-motivation in social collaboration: Knowledge sharing in the digital world. *Sustainability*, 14(4), 2042.
28. Khasawneh, Y. J. A., Alsarayreh, R., Al Ajlouni, A. A., Eyadat, H. M., Ayasrah, M. N., & Khasawneh, M. A. S. (2023). An Examination of Teacher Collaboration in Professional Learning Communities and Collaborative Teaching Practices. *Journal of Education and e-Learning Research*, 10(3), 446-452.
29. Komp, R., Kauffeld, S., & Ianiro-Dahm, P. (2022). The concept of health-promoting collaboration—A starting point to reduce presenteeism?. *Frontiers in Psychology*, 12, 782597.
30. Lenoir, Y., & Hasni, A. (2016). Interdisciplinarity in primary and secondary school: Issues and perspectives. *Creative Education*, 7(16), 2433-2458.

31. Li, Z. (2023). Analysis of “Teaching” and “Learning” in Interdisciplinary Learning. *Journal of Contemporary Educational Research*, 7(12), 248-252.
32. Liu, H. Y., Hsu, D. Y., Han, H. M., Wang, I. T., Chen, N. H., Han, C. Y., ... & Huang, D. H. (2022). Effectiveness of interdisciplinary teaching on creativity: A quasi-experimental study. *International Journal of Environmental Research and Public Health*, 19(10), 5875.
33. Liu, X., Wang, X., Shi, B., Li, C., & Chen, W. (2022). Effect of Interdisciplinary Team Teaching on Postgraduate Students’ Beliefs and Confidence in Academic Writing. *Creative Education*, 13(9), 2834-2855.
34. Megawaty, M., Hamdat, A., & Aida, N. (2022). Examining linkage leadership style, employee commitment, work motivation, work climate on satisfaction and performance. *Golden Ratio of Human Resource Management*, 2(1), 01-14.
35. Meyer, A., Richter, D., & Hartung-Beck, V. (2022). The relationship between principal leadership and teacher collaboration: Investigating the mediating effect of teachers’ collective efficacy. *Educational management administration & leadership*, 50(4), 593-612.
36. Moirano, R., Sánchez, M. A., & Štěpánek, L. (2020). Creative interdisciplinary collaboration: A systematic literature review. *Thinking Skills and Creativity*, 35, 100626.
37. Murro, R. A., Lobo, J. G., Inso, A. R. C., & Chavez, J. V. (2023). Difficulties of parents with low educational attainment in assisting their children in modular distance learning during pandemic. *Environment and Social Psychology*, 9(1).
38. Neitzel, S., Zhao, Y., & Diaz Eaton, C. (2022). Improving Interdisciplinary Teaching through a Complexity Lens. *bioRxiv*, 2022-05.
39. Nikonorova, E. I. (2022). Professional development e-course on how to integrate interdisciplinary approach into the learning process in schools that practise multimodality and use interactive educational online services. *RUDN Journal of Informatization in Education*, 19(2), 97-107.
40. Oudenampsen, J., van de Pol, M., Blijlevens, N., & Das, E. (2023). Interdisciplinary education affects student learning: a focus group study. *BMC medical education*, 23(1), 169.
41. Özdemir, N., Kılınç, A. Ç., Polatcan, M., Turan, S., & Bellibaş, M. Ş. (2023). Exploring teachers’ instructional practice profiles: Do distributed leadership and teacher collaboration make a difference?. *Educational Administration Quarterly*, 59(2), 255-305.
42. Petrova, M. N., Geldres Piumatti, R., De Steffen, C. C., Diez, M., & Lucho Lingán, C. R. (2022). Collaborative learning in international interdisciplinary teams. In *DS 117: Proceedings of the 24th International Conference on Engineering and Product Design Education (E&PDE 2022)*, London South Bank University in London, UK. 8th-9th September 2022.
43. Pischetola, M., Møller, J. K., & Malmberg, L. (2023). Enhancing teacher collaboration in higher education: the potential of activity-oriented design for professional development. *Education and Information Technologies*, 28(6), 7571-7600.
44. Presko, K. M. (1998). *The development of the interdisciplinary team audit*. University of Missouri-Columbia.
45. Richter, E., Fütterer, T., Meyer, A., Eisenkraft, A., & Fischer, C. (2022). Teacher collaboration and professional learning: Examining professional development during a national education reform.
46. Robinson, V. M., Bendikson, L., & Hattie, J. (2011). Leadership and student outcomes: Are secondary schools unique. *Leadership and Learning, Sage, London*, 131-42.

47. Rooks, R. N., Scandlyn, J., Pelowich, K., & Lor, S. (2022). Co-teaching two interdisciplinary courses in higher education. *International journal for the scholarship of teaching and learning*, 16(2), 8.
48. Shaikh, C. F., Kelly, E. P., Paro, A., Cloyd, J., Ejaz, A., Beal, E. W., & Pawlik, T. M. (2022). Burnout assessment among surgeons and surgical trainees during the COVID-19 pandemic: a systematic review. *Journal of Surgical Education*, 79(5), 1206-1220.
49. Shimizu, I., Matsuyama, Y., Duvivier, R., & van der Vleuten, C. (2022). Perceived positive social interdependence in online versus face-to-face team-based learning styles of collaborative learning: a randomized, controlled, mixed-methods study. *BMC Medical Education*, 22(1), 567.
50. Smith, K. A., Sheppard, S. D., Johnson, D. W., & Johnson, R. T. (2005). Pedagogies of engagement: Classroom-based practices. *Journal of engineering education*, 94(1), 87-101.
51. Strielkowski, W., Firsova, I., Azarova, S., & Shatskaya, I. (2022). Novel Insights in the leadership in business and economics: A post-coronavirus update. *Economies*, 10(2), 48.
52. Tao, W., Lee, Y., Sun, R., Li, J. Y., & He, M. (2022). Enhancing Employee Engagement via Leaders' Motivational Language in times of crisis: Perspectives from the COVID-19 outbreak. *Public relations review*, 48(1), 102133.
53. Thompson, B. (2022). *How Leaders Develop Collaborative Leadership for Effectiveness* (Doctoral dissertation, University of Pennsylvania).
54. Tonnetti, B., & Lentillon-Kaestner, V. (2023). Interdisciplinarity in Physical Education: Effect on Students' Situational Interest. *Education Sciences*, 13(4), 373.
55. van Goch, M., & Lutz, C. (2023). Scholarly Learning of Teacher-Scholars Engaging in Interdisciplinary Education. *Journal of Interdisciplinary Studies in Education*, 12(SI), 67-90.
56. Yáñez de Aldecoa, C., & Gómez-Trigueros, I. M. (2022). Challenges with complex situations in the teaching and learning of social sciences in initial teacher education. *Social Sciences*, 11(7), 295.
57. Yeager, S. (2005). Interdisciplinary collaboration: the heart and soul of health care. *Critical Care Nursing Clinics*, 17(2), 143-148.