

Exploring The Relationship between Teaching Methods and Styles among Educators

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ABSTRACT

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The role of an educator in the contemporary educational landscape extends beyond information transmission, encompassing diverse teaching styles that shape student learning experiences. This study explores five distinct teaching styles: expert, authority, model, facilitator, and delegator, each with distinctive philosophies and methods. The background of the study emphasises the importance of understanding teaching styles in the Malaysian educational context due to diverse student backgrounds and the need for adaptable instructional methods. This quantitative study investigates the impact of direct, discuss, and delegate teaching methods on the teaching and learning processes while exploring potential relationships between these methods and teaching styles. The study participants include 100 educators, mostly females with advanced degrees in science and technology. The instrument in the study is a 5-point Likert scale survey with four sections to investigate the correlation between teaching methods and styles. The study identifies significant positive relationships between various teaching methods and styles, highlighting the interconnection of instructional strategies and educator behaviours. The findings emphasise the importance of flexible teaching strategies customized to meet the learners' diverse needs. The implications of the study include improving teaching practices, encouraging student engagement, and promoting effective learning environments.

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1. INTRODUCTION

1.1 Background of The Study

The study of teaching styles among educators is essential for understanding how teachers handle their responsibilities in the classroom and how their techniques influence student learning. Teaching styles refer to the various strategies and methods teachers use to facilitate learning in classrooms (Grasha, 1996). They comprise many strategies and techniques educators employ to facilitate learning. These methods might vary from traditional lecture-based approaches to more interactive and student-centred approaches.

In Malaysia, as in many other countries, there is a wide range of issues about teaching styles and instructional approaches in the education field. A growing concern is the need to cater to the various educational requirements and preferences of students. Malaysian students come from diverse cultural, language, and socioeconomic backgrounds, which can influence their most effective instructional methods. In addition, students may have varying learning styles, requiring educators to employ innumerable teaching techniques to engage all learners. A recent academic study highlights the significance of addressing these problems to improve the quality and relevance of education in Malaysia. Research conducted by George et al. (2022) and Abdullah et al. (2023) provides insights into the difficulties that Malaysian educators face while dealing with various teaching styles within the cultural and institutional framework. They highlighted the importance of educational systems that emphasize the ability to adapt, adjust, and cater to students' diverse needs.

Another issue relates to the widespread use of traditional, lecture-based instructional approaches in Malaysian classrooms. Although these strategies may have been successful previously, studies indicate that employing more interactive and student-centred approaches improves student engagement and learning results (Dunn & Dunn, 1993). However, educators might face difficulties when implementing these approaches into practice due to large class sizes, limited resources, and compulsory standardized assessments.

It is necessary to prepare students for the challenges of the 21st Century by thinking critically, solving problems, and teamwork. Teaching styles that focus on guiding and empowering students assist in developing their skills, making them more prepared for success today. Therefore, it is significant to recognize how teaching methods affect student learning to improve education generally. Educators can improve the learning experience by addressing diverse learning requirements, using more interactive teaching methods, and preparing students for future challenges.

1.2 Statement of Problem

Despite the array of teaching styles employed, learners often face challenges that impede academic success. Issues such as the absence of expertise, authority, facilitation, delegation, and personal modelling in teaching contribute to these struggles. Hence, they impact student comprehension and motivation. Recognizing how these instructional aspects interact is crucial for educators and institutions aiming to enhance learning outcomes. Smith et al. (2021) asserted that effective teaching encompasses content delivery, strategic use of expertise, authority, and facilitation to create an engaging learning environment. Additionally, Brown et al. (2018) highlighted the significance of delegation and personal modelling in fostering student autonomy and skill development. By collectively exploring these aspects, this study aims to provide insights essential for refining teaching strategies, addressing learner challenges, and eventually

improving the overall educational experience. Therefore, to achieve these goals, the study outlines two primary objectives. First, to investigate the impact of various teaching methods (direct, discuss, and delegate) on the teaching and learning process. The second is to explore the potential relationship between these teaching methods and the teaching styles among educators. It will contribute to a better understanding of instructional practices in education.

Inayat and Ali (2020) investigated perceived teaching styles within school and university classrooms, delving into the dynamic relationship between various teaching styles and their impact on student engagement, curiosity, and exploration in diverse educational programs. The research provides valuable insights into specific instructional approaches that enhance or hinder students' active participation and interest in learning. Similarly, research by Hadjar and Backes (2023) explored nuanced differences in teaching styles between male and female students. The findings prove that gender may influence instructional practices and classroom composition. Understanding these gendered dimensions is crucial for fostering inclusive and equitable teaching environments. The study contributes to a broader understanding of effective teaching styles and the need for tailored approaches considering diverse student populations.

Xiao (2006) pointed out that the mismatch in teaching and learning styles between Irish English teachers and Chinese students stems from culture-based differences in perceptions and expectations. Thus, it underscores the necessity for more in-depth investigations into the "cultures of learning" associated with teaching styles and their direct influence on diverse learning outcomes. The research highlights the crucial role of comprehensive communication between Chinese students and teachers in Western contexts to design effective instructional strategies. Similarly, a study by Gilakjani (2012) acknowledged potential variations in teaching styles across diverse educational settings, advocating for research that explores how cultural, institutional, and contextual factors influence the effectiveness of various teaching approaches. The research delves into the explanation of learning styles, the match or mismatch between learning and teaching styles, and the visual, auditory, and kinesthetic learning styles among Iranian learners, providing pedagogical implications for the EFL/ESL classroom. Despite significant strides in understanding the impact of teaching styles on student outcomes, a notable gap remains in examining the combined influence of expertise, authority, facilitation, delegation, and personal modeling on learning experiences. Previous researchers, including Xiao (2006) and Gilakjani (2012), have addressed these elements individually, indicating a need for integrated studies that comprehensively explore how these factors interact to shape effective teaching practices and improve the overall educational experience. Future research should strive to bridge this gap by providing a holistic understanding of the intricate relationships between different aspects of teaching styles and their collective impact on student engagement, autonomy, and success.

1.3 Objectives of the Study and Research Questions

The study investigates educators' perceptions of the strategies utilized for teaching and learning. Specifically, it seeks to address the following research questions:

- i. How does the direct method influence teaching and learning?
- ii. How does the discussion method influence teaching and learning?
- iii. How does the delegation method influence teaching and learning?
- iv. Is there a significant relationship between teaching methods (direct, discuss, and delegate) in educational settings?

2. LITERATURE REVIEW

2.1 Teaching Method and Teaching Style

Teaching methods and styles are essential elements of the educational process. They have significant impacts on the classroom environment and shape students' learning experiences. Thornton (2013) provided insights into various teaching methods, including direct, discussion, and delegation, highlighting their impact on student learning experiences. Grasha (1994) investigated several teaching styles, such as expert, authority, facilitator, and delegator, emphasizing the diverse philosophies and approaches that educators employ in the classroom. Recent studies have shown how various teaching methods align with or influence different teaching styles, highlighting the complex relationship between instructional strategies and educator behaviours. For instance, Smith et al. (2021) explored how the direct method, which focuses on delivering content, corresponds with expert and formal authority teaching styles. It sheds light on the instructional method that improves knowledge acquisition and student engagement. Similarly, Inayat and Ali (2020) scrutinized the impact of the discussion technique on teaching styles, specifically how personal modelling and facilitation approaches encourage active involvement and interest among students. Many researchers continue to observe the complex interactions between teaching methods and teaching styles by integrating the findings from previous and recent studies. They provide valuable views for improving instructional effectiveness and promoting student success in numerous educational settings.

2.2 Past Studies on Teaching Style

The literature review synthesizes the studies to explore the impact of various teaching styles on student engagement, achievement, and satisfaction. McKenney (2018) identified five distinctive teaching styles—individual model, facilitator, formal power, expert, and delegator—each with unique effects on classroom dynamics and student success. Idhaufi & Ashari (2017) emphasized that adapting teaching methods to students' preferred learning styles significantly enhances educational effectiveness, promoting profound understanding and knowledge retention.

For educational standards, Glenn (2016) underscored the importance of instructors employing diverse instructional approaches tailored to specific learning objectives and student populations. The finding highlights the crucial role of educators in being adaptable to achieve optimal educational outcomes. Dickinson et al. (2021) agreed with this perspective, asserting that students' progress relies heavily on the quality of teacher-student relationships and the individualization of feedback they receive.

Öznacar et al. (2017) introduced technology as a catalyst for increased student engagement and personalized learning experiences in the classroom. They pointed out the usefulness of digital collaboration tools and interactive whiteboards as examples of technology leveraged to create more dynamic and tailored educational environments.

Building on the theme of fostering connections, Darling-Hammond et al. (2020) advocated for creating inclusive and supportive learning environments that facilitate students' understanding and connection with others. This perspective aligns with the evolving educational paradigm, which supports a holistic approach to student development. Rahmat (2021) explores the evolution of lecturer roles and lays out a model for characterizations and adjustments necessary to reflect the different roles required in contemporary educational contexts. The article argues that it is necessary to adjust the teaching according to the different needs of students, which

generally supports or complements existing research on the relationships between a variety of instructional activities and their academic benefits.

In summary, these studies suggest a paradigm shift in education towards more sophisticated and adaptable strategies, emphasizing student involvement, flexibility, and holistic growth. The literature review supports a move towards student-centred, interactive instructional approaches that foster critical thinking, creativity, and skill development essential for continuous learning. This evolving educational paradigm reflects a commitment to creating dynamic and inclusive learning environments that cater to the diverse needs of students and promote lifelong learning.

2.3 Conceptual Framework

Based on reviewed previous literature, a conceptual framework is proposed to explore teaching methods and styles among educators in higher education institutions. Figure 1 shows the proposed conceptual framework of the study. The framework suggests teaching methods (Thornton, 2013) and teaching styles (Grasha, 1994) as the foundation of the current study. The study applies the direct method through expert and formal authority teaching styles, the discussed method through personal model and facilitator's teaching style, and the delegator teaching style to explore various educator teaching styles.

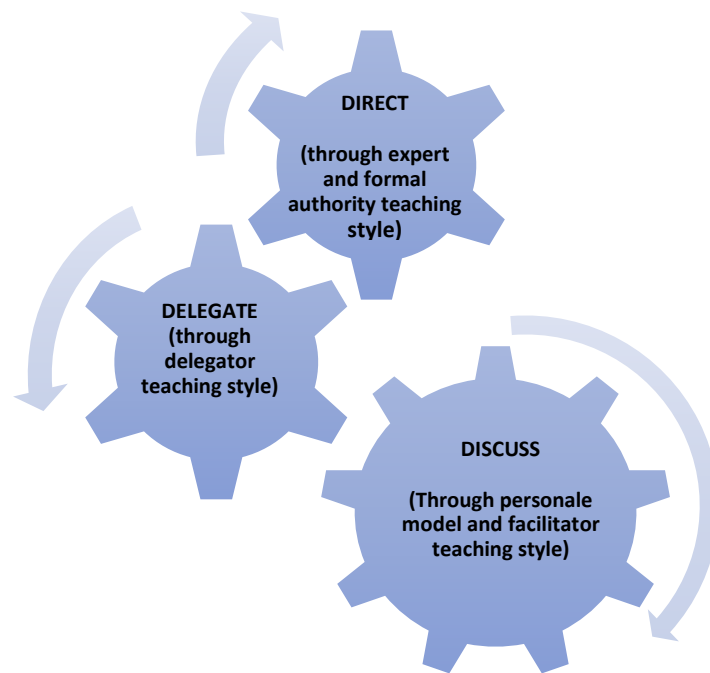


Figure 1: Conceptual Framework of the Study-Teaching Method and Teaching Style

3. METHODOLOGY

The current study applied a quantitative method to explore educators' perceptions of the strategies employed for teaching and learning. A purposive sampling was selected, and 100 respondents responded to the survey. The instrument uses a 5-point Likert-scale survey adapted and adopted from Thornton (2013) and Grasha (1994). The survey details, distributed in four separate sections, are in Table 1 below. Section A contains four items to obtain information about the demographic profile. Meanwhile, Section B consists of 16 items to gauge

respondents' perception of the direct method, and Section C comprises 16 items to determine the discuss method used in teaching. Lastly, Section D entails eight items to examine the perception of the delegate method employed.

Table 1: Distribution of Items in the Survey

Section	Teaching Method	Teaching Style	Items	Total Items	Cronbach Alpha Values
B	Direct	(i)Expert Teaching Style	8	16	0.793
		(ii)Formal Authority Teaching Style	8		
C	Discuss	(i)Personal Model Teaching Style	8	16	0.825
		(ii)Facilitator Teaching Style	8		
D	Delegate	Delegator Teaching Style	8	8	0.854
			Total	40	0.918

Table 1 also proves survey reliability as Cronbach alpha value for Section B is 0.793, Section C is 0.825, and Section D is 0.854. The instrument is presumed reliable if Cronbach alpha value is $r=0.7$ or greater (Nunnally and Bernstein, 1994). SPSS was utilized to analyse the responses to answer the research questions for the study.

4. FINDINGS

This section presents the findings of the research, including the demographic profile of participants, the influence of direct, discuss, and delegate teaching methods on teaching and learning, and the relationships between these teaching methods.

4.1 Findings for Demographic Profile

Table 2: Results from Section A - Demographic Profile

Gender	Male 21%	Female 79%	
Education Qualification	Diploma 1%	Degree 16%	Master or PhD 82%
Years of Teaching Experience	Less than 5 years 17%	6 to 10 years 12%	11 years and above 71%
Teaching Area	Science Social 20%	Science and Technology 72%	Others 8%

Table 2 shows the results gained from Section A about the demographic profiles of the respondents. The results reveal a predominantly female respondent group, comprising 79%, while males are 21%. Most participants hold advanced degrees, with 82% having master's or doctorate degrees, 16% with bachelor's degrees, and 1% with diplomas. As for teaching experience, most participants (71%) have 11 or more years of experience, followed by 12% with 6 to 10 years and 17% with less than five years. The results also indicate that 72% of respondents teach science and technology, 20% teach social, and 8% teach others.

4.2 Findings for Direct Method

This section presents the results obtained from Section B -The Direct Method to answer the first research question 1: How does the direct method influence teaching and learning? In the study context, respondents' perception of the direct method was analysed based on part (i) expert and part (ii) formal authority teaching styles.

Table 3: Mean for Expert Teaching Style

Items	Mean Score
ETSQ1 Facts, concepts, and principles are the most important knowledge that students should acquire.	4.74
ETSQ2 I set high standards for students in this class.	3.68
ETSQ3 What I say and do model appropriate ways for students to think about issues in the content.	4.18
ETSQ4 My teaching goals and methods address a variety of student learning styles.	4.13
ETSQ5 Students typically work on course projects alone with little supervision from me.	3.03
ETSQ6 Sharing my knowledge and expertise with students is very important to me.	4.71
ETSQ7 I give students negative feedback when their performance is unsatisfactory.	2.59
ETSQ8 Activities in this class encourage students to develop their own ideas about content issues.	4.24

Table 3 displays the results of expert teaching style. Notably, respondents highly prioritized the acquisition of facts, concepts, and principles (ETSQ1) with a mean score of 4.74 and believed in modelling appropriate thinking about content issues through their words and actions (ETSQ3) with a mean score of 4.18. While they expressed a moderate inclination to set high standards for students (ETSQ2) with a mean score of 3.68 and addressed diverse learning styles (ETSQ4) with a mean score of 4.13. There was a relatively lower agreement on students working independently on projects with little supervision (ETSQ5) with a mean score of 3.03. The respondents strongly emphasized the importance of sharing knowledge with students (ETSQ6) with a mean score of 4.71 and encouraging students to develop their ideas about content issues (ETSQ8) with a mean score of 4.24. However, there is a lower inclination to give negative feedback for unsatisfactory performance (ETSQ7) with a mean score of 2.59. Overall, the mean scores offer insights into the respondents' teaching styles, highlighting their emphasis on knowledge sharing, varied teaching approaches, and encouraging independent thinking among students.

Table 4: Mean for Formal Authority Teaching Style

Items	Mean Score
FATSQ1 I spend time consulting students on how to improve their work on individual and/or group projects	4.21
FATSQ2 Activities in this class encourage students to develop their ideas about content issues	4.24
FATSQ3 What I have to say about a topic is important for students to acquire a broader perspective on the issues in that area	4.3
FATSQ4 Students would describe my standards and expectations as somewhat strict and rigid	3.4
FATSQ5 I typically show students how and what to do in order to master course content	4.3
FATSQ6 Small group discussions are employed to help students develop their ability to think critically	4.3
FATSQ7 Students design one of more self-directed learning experiences	3.9
FATSQ8 I want students to leave this course well-prepared for further work in this area	4.5

Table 4 illustrates the results of the formal authority teaching style. Notably, the respondents demonstrated a commitment to engaging with students on project improvement (FATSQ1) with a mean score of 4.21 and fostering an environment that encourages the development of students' ideas on content issues (FATSQ2) with a mean score of 4.24. They emphasized the importance of their perspectives in providing a broader understanding of topics (FATSQ3) with a mean score of 4.3 and expressed a balanced approach to setting standards with somewhat strict and rigid expectations (FATSQ4) with a mean score of 3.4. Additionally, the respondents actively guided the students in mastering course content (FATSQ5) and employed small group discussions to enhance critical thinking skills (FATSQ6) sharing the same mean score of 4.3. While there is a notable emphasis on preparing students for further work in the area (FATSQ8) with a mean score of 4.5, self-directed learning experiences have a slightly lower emphasis (FATSQ7) with a mean score of 3.9. These mean scores collectively offer insights into the respondents' formal authority teaching style, emphasizing the guidance and encouragement of independent thinking within a structured framework.

4.3 Findings for Discuss Method

This section presents the results gained from Section C-The Discuss Method addressing research question 2: How does the discussion methods influence learning and teaching? In the study context, the respondents' perception of the discuss method was evaluated based on part (i) the personal model and part (ii) the facilitator's teaching style.

Table 5: Mean for Personal Model Teaching Style

Items	Mean Score
PMTSQ1 It is my responsibility to define what students must learn and how they should learn it.	4.09
PMTSQ2 Examples from my personal experiences often are used to illustrate points about the material.	4.19
PMTSQ3 I guide students' work on course projects by asking questions, exploring options, and suggesting alternative ways to complete tasks.	4.39
PMTSQ4 Developing the ability of students to think and work independently is an important goal	4.44
PMTSQ5 Lecturing is a significant part of how I teach each of the class sessions.	4.36
PMTSQ6 I provide very clear guidelines for how I want tasks completed in this course.	4.48
PMTSQ7 I often show students how they can use various principles and concepts	4.34
PMTSQ8 Course activities encourage students to take initiative and responsibility for their learning	4.41

Table 5 tabulates the results of the personal model teaching style. The highest mean score is for providing guidelines to students on how tasks should be completed in the course (PMTSQ6) at 4.48. Developing students' ability to think and work independently (PMTSQ4) and encouraging students to take initiative and responsibility for their learning via meticulously designed course activities (PMTSQ8) have mean scores of 4.44 and 4.41. The respondents believed they guided the students by asking questions, exploring options, and suggesting alternative methods to complete tasks (PMTSQ3) at a mean score of 4.39. Meanwhile, lecturing is a predominant part of their instructional approach (PMTSQ5) at 4.36. The respondents consistently demonstrated the application of principles and concepts to students (PMTSQ7) with a mean score of 4.34, and they often used personal examples to explain the lessons (PMTSQ2) with a mean score of 4.19. Lastly, the lowest mean score is for the respondents who perceived that they are responsible for deciding what and how students learn (PMTSQ1) at 4.09.

Table 6: Mean for Facilitator Teaching Style

Items	Mean Score
FTSQ1 Students take responsibility for teaching part of the class sessions	3.31
FTSQ2 My expertise is typically used to resolve disagreements about content issues	3.85
FTSQ3 This course has very specific goals and objectives that I want to accomplish	4.41
FTSQ4 Students receive frequent verbal and/or written comments on their performance	4.15
FTSQ5 I solicit student advice about how and what to teach in this course	3.71
FTSQ6 Students set their own pace for completing independent and/or group projects	3.52
FTSQ7 Students might describe me as a "storehouse of knowledge" who dispenses the facts, principles, and concepts they need	3.84
FTSQ8 My expectations for what I want students to do in this class are clearly defined in the syllabus	4.3

Table 6 depicts the results of the facilitator's teaching style. The highest mean score is for the educator who has clear goals for the course (FTSQ3) at 4.41. The second highest mean score is for the educator's expectations for student conduct and performance in the course are explicitly outlined in the syllabus (FTSQ8) at 4.3, followed by students getting regular feedback on their work (FTSQ4) at 4.15. The respondents perceived that they use their expertise to settle content disputes (FTSQ2) at a mean score of 3.85, and students may view the educator as a knowledgeable resource (FTSQ7) with a mean score of 3.84. Meanwhile, the educator allows students to teach some topics in class which has a mean score of 3.31, and the educator asks students for input on how to teach has a mean score of 3.71. Finally, the lowest mean score is for students who can work at their speed on projects at 3.52.

4.3 Findings for Delegate Method

This section unveils the results gained from Section D about the delegate method to answer research question 3: How does the delegation method influence teaching and learning? Usually, educators with a delegator style give students control over learning tasks. Students choose and manage their projects, often working in groups. This approach helps students learn both subject content and teamwork skills.

Table 7: Results from Section D - Delegator Teaching Style

Items	Mean Score
DTSQ1 Eventually, many students begin to think like me about course content	3.48
DTSQ2 Students can make choices among activities to complete course requirements	3.36
DTSQ3 My approach to teaching is similar to a manager of a workgroup who delegates tasks and responsibilities to subordinates	3.59
DTSQ4 There is more material in this course than I have time available to cover it	3.55
DTSQ5 My standards and expectations help students develop the discipline they need to learn	4.17
DTSQ6 Students might describe me as a "coach" who works closely with someone to correct problems in how they think and behave	3.94
DTSQ7 I give students a lot of personal support and encouragement to do well in this course	4.24
DTSQ8 I assume the role of a resource person who is available to students whenever they need help	4.32

Table 7 conveys the results about the delegator teaching style. The highest mean score is for educators acting as always-available resources to students (DTSQ8) at 4.32. Next, the second and third highest mean scores are the educator provides personal support for students to succeed

at 4.24, and the educator's high standards help students stay disciplined in learning at 4.17. Then, students always see the educator as a supportive "coach," which has a mean score of 3.94, and the educator acts as a manager who assigns tasks and has a mean score of 3.59. Meanwhile, the mean score for too much content for the educator to cover in time is 3.55. Followed by the second lowest mean score is students often start thinking similarly to the educator about the course content at 3.48. The lowest mean score is for allowing students to choose activities to meet course requirements at 3.36.

4.5 Findings for the Relationship between All Teaching Methods

This section presents the analysis of the overall results to address research question 4, which examines the relationship between all teaching methods. Based on the conceptual framework, the following hypothesis is proposed:

H₀: There is no significant relationship between teaching methods in educational settings.

H₁: There is a significant relationship between teaching methods in educational settings.

To determine whether there are significant correlations in the mean scores among these variables, the data were analysed using SPSS for correlations. The results are presented separately in Tables 8, 9, and 10 below.

Table 8: Correlation between the Direct and Discuss Methods

		Direct	Discuss
Direct	Pearson Correlation	1	0.756***
	Sig. (2-tailed)		<0.001
	N	100	100
Discuss	Pearson Correlation	0.756***	1
	Sig. (2-tailed)	<0.001	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed)

Table 8 demonstrates an association between direct and discuss methods. Correlation analysis shows that there is a highly significant association between the two methods ($r=.756^{**}$) and ($p=.000$). According to (Jackson, 2015), the significant coefficient is at the .05 level, and a positive correlation is measured on a 0.1 to 1.0 scale. A weak positive correlation would be between 0.1 to 0.3, a moderate positive correlation from 0.3 to 0.5, and a strong positive correlation from 0.5 to 1.0. Thus, there is a strong positive relationship between direct and indirect communication.

Table 9: Correlation between the Direct and Delegate Methods

		Direct	Delegate
Direct	Pearson Correlation	1	0.663***
	Sig. (2-tailed)		<0.001
	N	100	100
Delegate	Pearson Correlation	0.663***	1
	Sig. (2-tailed)	<0.001	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed)

Table 9 shows there is an association between direct and delegate methods. Correlation analysis indicates that there is a highly significant association between both methods ($r=.663^{**}$) and ($p=.000$). The significant coefficient is recognized at the .05 level, a positive correlation is

measured on a 0.1 to 1.0 scale, a weak positive correlation is between 0.1 to 0.3, a moderate positive correlation is from 0.3 to 0.5, and a strong positive correlation is from 0.5 to 1.0 (Jackson, 2015). Hence, there is a strong positive relationship between direct and delegate methods.

Table 10: Correlation between the Delegate and Discuss Methods

		Delegate	Discuss
Delegate	Pearson Correlation	1	0.654***
	Sig. (2-tailed)		<0.001
	N	100	100
Discuss	Pearson Correlation	0.654***	1
	Sig. (2-tailed)	<0.001	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed)

Table 10 reveals an association between delegate and discuss methods. Correlation analysis shows that there is a highly significant association between the two methods ($r=.654^{**}$) and ($p=.000$). Revisiting Jackson's (2015) suggestion, the coefficient is significant at the .05 level, a positive correlation is measured between 0.1 to 1.0, a weak positive correlation between 0.1 to 0.3, a moderate positive correlation between 0.3 to 0.5, and a strong positive correlation between 0.5 to 1.0. Therefore, there is a strong positive relationship between delegate and discuss methods.

5. CONCLUSION

5.1 Summary of The Results and Discussions

This study explores how different teaching methods; direct, discuss, and delegate affect the teaching and learning processes. Additionally, it also investigates the relationships between teaching methods and styles among teachers.

In addressing Research Question 1, the study found that the direct method includes expert and formal authority teaching styles that focus on students gaining knowledge, setting high standards, and promoting independent thinking. The finding is in line with previous research by Smith et al. (2021) as well as Inayat & Ali (2020), which argued for engaging students through direct instruction while developing their critical thinking abilities. Research question 2 explores the role of discuss methods, such as the personal model and facilitator teaching style, in promoting student participation, critical thinking, and active involvement. Findings from McKenney (2018) and Idhaufi & Ashari (2017) support this idea of creating collaborative learning environments where pedagogical strategies are tailored according to the diverse preferences of learners. Meanwhile, Research Question 3 explores the delegate method, characterized by a delegator teaching style. The method allows them to provide their authority about collaborative learning experiences, thereby empowering them. This method empowers students by This method empowers students by delegating leadership over collaborative learning experiences. This finding is consistent with previous research by Öznacar et al. (2017) and Darling-Hammond et al. (2020). These studies highlight the importance of technology for diverse teaching methods in stimulating students' interest and overall progress. Finally, Research Question 4 explores the correlation between all teaching methods, highlighting key aspects such as the direct-to-discuss, direct-to-delegate, and delegate-to-discuss methods, which demonstrate a positive relationship between them. These findings support that some specific teaching styles are suitable for different teaching methods, this means that teachers

should be able to make changes and adapt their lessons as needed to accommodate different students who learn things differently from one another, as presented by Glenn (2016) and Dickinson et al. (2021).

5.2 Pedagogical Implications and Suggestions for Future Research

The findings of the study have several implications for educational practice and future research. Firstly, educators need to decide that different teaching methods are necessary to create effective learning environments. Future studies should also examine the instructional practices and approaches used concerning student outcomes, such as the development of critical thinking, creativity, and problem-solving skills. The examination of contextual factors, such as cultural and institutional differences, in teaching methods and student experiences can likely lead to some possible outcomes for personalized instruction.

Future researchers should consider conducting continuous studies of the long-term effects on students' learning outcomes and academic achievement. Furthermore, future researchers should investigate how the use of technology can facilitate the advancement of diverse teaching methods, thereby enhancing student engagement and learning (Rogowsky et al.). This study could potentially stimulate additional research on the efficacy of development programs that aim to enhance teachers' instructional skills or reflective teaching methods. This, in turn, could positively impact teacher quality and student achievement in various educational environments.

Researchers consistently assert that varied pedagogic methods are necessary to support the diversity of learning styles across both newer and older generations. Previous studies have highlighted the importance of direct instruction, discussion-based learning, and delegation in promoting student engagement, critical thinking, and overall academic achievement (Smith et al., 2021; McKenney, 2018; Öznacar et al., 2017). Similarly, the present study supports such findings and correlates various strategies with different styles of teaching, such as expert, facilitator, or delegator.

Furthermore, this study addresses the significant relationships between teaching methods and styles, highlighting the significant positive correlations between the direct method and the discussion style, as well as the ability to delegate teaching in both indirect and discussion-oriented ways. The study's findings underscore the necessity for teachers to adjust and be adaptable in their teaching methods to meet student's diverse needs, including the potential impact of surrounding factors on teaching and learning experiences.

In summary, the current study contributes to the body of literature by highlighting significant relationships between various teaching methods and styles from earlier studies, although additional evidence is still required. The results provide an understanding of their relationships and implications for learning. Moreover, the practical implications related to this study are that educators and policymakers should consider multi-flexible teaching techniques or styles in order to create an inclusive learning environment where students can learn effectively.

6. LIMITATIONS

While this study provides valuable insights into the relationships between teaching methods and teaching styles, several limitations should be considered. First, the sample size sample predominantly comprised educators with advanced degrees in science and technology, mostly female, which may restrict the generalizability of the findings to other demographic groups and educational contexts. Second, the use of cross-sectional design and self-reported surveys with

Likert scales could lead to response biases and make it harder to get a full picture of how teaching methods affect student outcomes. Additionally, the study did not fully explore external factors such as school policies, community influences, and the socio-economic backgrounds of students, which could significantly impact educational outcomes. Future research could address these limitations by employing larger and more diverse samples and looking into more contextual factors to make the results more reliable in varied educational settings.

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AUTHORS' CONTRIBUTION

ZSO and NAM conducted the introduction and literature review sections. ZSO and SSM gathered, refined, and analysed the data using SPSS. SS authored the methodology, discussion, and implications sections. All authors reviewed and approved the final manuscript.

CONFLICT OF INTEREST

None declared

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