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Students' Perceptions of Teachers' Instructional Variation Skills

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ABSTRACT

Teachers' ability to vary their instructional behavior, ranging from how they initiate classroom dialogue to how they arrange the physical learning space, is widely regarded as a determinant of student engagement and classroom vitality. This study describes students' perceptions of teachers' instructional variation skill across four indicators: question-initiation and reflective pacing, responsiveness and reinforcement, method and material variation, and spatial positioning and media use. A quantitative descriptive design was used, with data collected through a 10-item, five-point Likert questionnaire completed by 44 valid respondents, after three incomplete responses were excluded from an initial pool of 47. The results show that, overall, teachers' instructional variation skill was perceived at a moderate level (M = 3.28, SD = 0.42). At the indicator level, however, the two interactional indicators, question-initiation and reflective pacing (M = 3.61) and responsiveness and reinforcement (M = 3.45), were perceived at a high level, whereas method and material variation (M = 3.14) and spatial positioning and media use (M = 3.08) remained at a moderate level. These findings suggest that the teachers in this sample are perceived as more consistent in sustaining classroom dialogue than in diversifying instructional methods, movement, seating, and media, pointing to specific and actionable areas for pedagogical development.

Keywords: teaching variation; instructional skill; classroom interaction; descriptive statistics; student perception

INTRODUCTION

Teachers' instructional behavior is widely recognized as one of the most malleable and consequential levers available for shaping how students engage with classroom learning. Evidence from multilevel studies across school systems indicates that when teachers provide higher-quality instructional support, students consistently report higher behavioral and emotional engagement, and that this relationship holds even after accounting for individual and classroom-level differences (Skaar & Krane, 2025). Because instructional behavior, unlike many individual or family-level factors, is something teachers and schools can deliberately develop, understanding its component skills has direct practical value for classroom improvement.

Among these component skills, the capacity to vary instruction, commonly termed teaching variation, occupies a central place in classroom pedagogy (Hasyim, Arfiani, & Saleh, 2024; Jamal & Wahira, 2025; Maliha & Rahmi, 2025; Sari, Nasrullah, & Nasir, 2024) . Rather than a single behavior, teaching variation is a multidimensional construct spanning at least three broad domains: the verbal and interactional style through which a teacher engages students in dialogue, the instructional methods and materials used to present content, and the physical and media-based elements of the learning environment, including classroom movement, seating arrangement, and instructional tools (Smaldino et al., 2002). A teacher who varies each of these domains is theorized to sustain student attention and curiosity more effectively than one who relies on a narrow, repetitive instructional routine.

A substantial body of research supports the importance of each domain individually. On the interactional side, classic and more recent work on classroom questioning shows that extending the pause a teacher allows after posing a question, commonly termed wait time, is associated with longer and more thoughtful student responses, increased participation, and gains in higher-order thinking

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(Rowe, 1986; Tobin, 1987; Cotton, 1988). Reinforcement theory further suggests that timely, specific, and rationally justified positive feedback strengthens the very behaviors it follows, a principle with deep roots in behavioral psychology and consistently confirmed in more recent classroom feedback research (Skinner, 1938; Hattie & Timperley, 2007). On the methodological side, repetitive and predictable instruction has been linked to student boredom and disengagement, while deliberately varied teaching strategies help sustain interest across a wider range of learners (Wlodkowski & Ginsberg, 1995). Finally, the physical and media dimensions of variation matter as well: seating arrangement and teacher mobility around the room shape opportunities for interaction and on-task behavior (Wannarka & Ruhl, 2008; Poorvu Center for Teaching and Learning), while the deliberate use of audio-visual and other instructional media supports comprehension by engaging multiple channels of attention (Mayer, 2009).

Although each of these domains has been studied extensively on its own, comparatively few descriptive studies map students' perceptions across several indicators of teaching variation within a single classroom sample, particularly using compact, self-constructed instruments of the kind common in undergraduate and in-service teacher research. This gap matters because it is precisely at the indicator level, rather than at the level of a single composite score, that practical guidance for teachers is most actionable: knowing that a teacher's overall variation skill is merely "moderate" says less than knowing specifically which of the underlying indicators, interactional, methodological, or physical and media-related, accounts for that moderate standing. This study therefore aims to describe, indicator by indicator, students' perceptions of teachers' instructional variation skill, without testing its relationship to any further outcome variable.

METHODS

This study used a quantitative descriptive design intended solely to characterize students' perception of teachers' instructional variation skill (Variable X); it did not test the relationship between this variable and any outcome measure. Data were collected from 47 students through a self-administered online questionnaire. Three respondents left the questionnaire entirely blank and were excluded from analysis, leaving 44 valid respondents (N = 44).

Variable X was measured using 10 Likert-scale items with five response options (Always = 5, Often = 4, Sometimes = 3, Rarely = 2, Never = 1). Based on the instructional aspect each item addresses, the ten items were theoretically grouped into four indicators: (1) question-initiation and reflective pacing (2 items), covering whether the teacher opens question-and-answer exchanges and allows students time to think before responding; (2) responsiveness and reinforcement (2 items), covering the promptness of the teacher's answers and the use of relevant, rational reinforcement; (3) method and material variation (3 items), covering the use of varied teaching methods, the renewal of methods across lessons, and the provision of illustrative examples; and (4) spatial positioning and media use (3 items), covering the teacher's movement around the room, the arrangement of student seating, and the use of audio-visual media.

Item-level and indicator-level mean scores were computed and classified into five categories, Very Low, Low, Moderate, High, and Very High, using the standard interval formula for five-point Likert data, (maximum − minimum) ÷ number of categories = 0.80, which yields the boundaries 1.00-1.80, 1.81-2.60, 2.61-3.40, 3.41-4.20, and 4.21-5.00 respectively. The same procedure, scaled to a ten-item total, was applied to each respondent's summed score (range 10-50) to construct the overall frequency distribution. All computations were performed using Microsoft Excel.

RESULT AND DISCUSSION

This section presents the descriptive statistics of Variable X as a whole and of its four constituent indicators, followed immediately by a discussion of each indicator in relation to the relevant literature. Table 1 presents the mean, standard deviation, and category of Variable X as a whole and of its four indicators, based on the 44 valid respondents.

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Table 1. Descriptive Statistics of Teacher's Instructional Variation Skill by Indicator (N = 44)

Indicator	Mean	SD	Category
Question-Initiation and Reflective Pacing	3.61	0.44	High
Responsiveness and Reinforcement	3.45	0.55	High
Method and Material Variation	3.14	0.58	Moderate
Spatial Positioning and Media Use	3.08	0.60	Moderate
Overall Variable X (10 items)	3.28	0.42	Moderate

Source: Processed from questionnaire data by the author (2026).

Overall, students perceived their teachers' instructional variation skill at a moderate level (M = 3.28, SD = 0.42). Disaggregating this aggregate figure by indicator, however, reveals a clear hierarchy: the two interactional indicators, question-initiation and reflective pacing (M = 3.61) and responsiveness and reinforcement (M = 3.45), were perceived at a high level, while method and material variation (M = 3.14) and spatial positioning and media use (M = 3.08) remained at the upper end of the moderate range. This gap of roughly half a scale point between the highest- and lowest-scoring indicators suggests that the moderate overall score is not evenly distributed across the construct, but instead reflects a genuine, unevenly perceived skill set, a pattern examined indicator by indicator below.

Table 2. Frequency Distribution of Overall Teacher's Instructional Variation Skill (N = 44)

Interval	Frequency	Percentage	Category
10-18	0	0%	Very Low
19-26	5	11.4%	Low
27-34	26	59.1%	Moderate
35-42	13	29.5%	High
43-50	0	0%	Very High
Total	44	100%	

Source: Processed from questionnaire data by the author (2026).

Table 2 shows that the overall score of nearly six in ten respondents (59.1%) fell in the moderate interval (27-34), with a further 29.5% in the high interval (35-42) and a smaller share (11.4%) in the low interval (19-26); no respondent fell into either the very low or the very high interval. This concentration around the moderate-to-high range, rather than at either extreme, indicates that teachers' instructional variation skill is perceived as reasonably consistent across the sample, with the moderate classification of the overall mean reflecting a genuine central tendency rather than an average obscuring a sharply bimodal split between very favorable and very unfavorable perceptions.

1. Question-Initiation and Reflective Pacing

This indicator, comprising the items on initiating question-and-answer exchange and allowing students time to think before responding, recorded the highest mean of the four indicators (M = 3.61, High), with three-quarters of respondents (75.0%) placing it in the high or very high range and only one respondent (2.3%) in the low range. The concentration of responses at the upper end of the scale, coupled with the near-absence of low ratings, indicates not merely a favorable average but a broadly shared perception across the sample, suggesting that this practice is comparatively uniform rather than confined to a subset of highly skilled teachers.

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This result aligns closely with the classroom-questioning literature, which has long identified the pause a teacher allows after posing a question, commonly termed wait time, as a comparatively simple yet consistently effective lever for improving classroom discourse. Extending this pause to three seconds or more has been associated with longer, more confident, and more logically developed student responses, as well as a higher proportion of students attempting to answer at all (Rowe, 1986; Tobin, 1987). The underlying mechanism is generally understood in cognitive rather than merely procedural terms: a brief silence gives students the processing space needed to retrieve relevant information, organize it into a coherent response, and evaluate their own reasoning before speaking, rather than being pressured into the first fragment of an answer that comes to mind. Because this space is available to the whole class rather than only to the fastest responders, extended wait time has also been linked to broader participation, including increased contributions from students who are typically more hesitant to speak (Rowe, 1986). Reviews of classroom questioning practice further note that training teachers to build in deliberate thinking time, alongside genuine question-and-answer exchange, tends to raise the cognitive level of the discussion overall, as students are given room to move beyond recall toward inference, justification, and elaboration (Cotton, 1988).

The favorable perception recorded here therefore suggests that the teachers in this sample have internalized a widely recommended, low-cost interactional habit, one that requires no additional materials or preparation time yet carries disproportionate benefits for the quality of classroom talk. Because this habit sets the tone for classroom dialogue more broadly, establishing an expectation that questions are opportunities for genuine thinking rather than tests of speed, it may also help explain why the second, closely related indicator below was likewise perceived favorably, insofar as a classroom culture that already tolerates silence and encourages deliberation provides fertile ground for the related practices captured in that indicator.

2. Responsiveness and Reinforcement

Covering the promptness with which the teacher answers student questions and the provision of relevant, rational reinforcement, this indicator produced the second-highest mean (M = 3.45, High), with 61.4% of respondents in the high or very high range, 29.5% moderate, and 9.1% low. Compared with the first indicator, the distribution here is somewhat more dispersed, with nearly a third of respondents placing this practice only in the moderate category, suggesting that although the behavior is generally regarded favorably, it is perceived with less consistency across the sample than the initiation of question-and-answer exchange and the provision of thinking time.

The pairing of prompt responsiveness with rational reinforcement in a single indicator is consistent with reinforcement theory, which holds that a behavior, in this case, students posing or answering questions, becomes more likely to recur when it is promptly and appropriately followed by a positive consequence (Skinner, 1938). The temporal dimension of this principle is particularly relevant to the present indicator: reinforcement that follows closely on the heels of the target behavior is understood to strengthen the association between the behavior and its consequence more effectively than reinforcement that is delayed, since delay weakens the learner's ability to connect the response with the feedback it receives. Applied to classroom feedback specifically, research indicates that timely, specific, and genuine positive feedback strengthens both students' motivation and their willingness to remain engaged in subsequent exchanges, whereas vague or delayed feedback tends to be unrelated to improved participation (Hattie & Timperley, 2007). The qualifier "rational" in this indicator is worth underscoring: reinforcement that is merely prompt but generic, offered indiscriminately regardless of the quality or accuracy of a student's contribution, risks being perceived as insincere or uninformative, and may therefore fail to produce the same motivational benefit as reinforcement that is visibly tied to the substance of what the student has said.

The comparatively high, though slightly lower than Indicator 1, mean recorded here suggests that while responsiveness itself is perceived favorably, the reinforcement component, being relevant and rational rather than simply frequent, may be a somewhat less consistently applied practice, a nuance that a composite indicator score cannot fully separate but that could be explored in future item-level analysis. It is also plausible that this second indicator builds upon the interactional foundation established by the first: a teacher who reliably initiates exchange and allows time for thinking creates more frequent

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opportunities for questions to arise in the first place, which in turn places greater demand on the teacher's capacity to respond promptly and to reinforce each response in a way that is substantively tied to what the student has actually said, a more effortful task than sustaining silence alone. Viewed together, the two indicators may thus reflect complementary stages of the same classroom-dialogue sequence, opening the exchange and thinking space on one hand, and sustaining and rewarding it on the other, with the latter proving marginally more difficult to enact with full consistency.

3. Method and Material Variation

This indicator, combining the use of varied teaching methods, the renewal of methods across lessons, and the provision of illustrative examples, produced a mean of 3.14 (Moderate), the first indicator to fall below the high threshold. Just over half of respondents (52.3%) rated it moderate, one-quarter (25.0%) rated it high, and nearly a quarter (22.7%) rated it low, the widest three-way split observed among the four indicators. Unlike the two preceding indicators, where low ratings were negligible or minimal, the near-even split between the high and low categories here indicates a genuine divide in student experience rather than a broadly shared perception with a long tail of exceptions, a pattern that marks a qualitative shift from the consistency observed in Indicators 1 and 2.

This more moderate and more dispersed perception is consistent with research on instructional variety and student boredom, which suggests that while teachers generally recognize the value of diversifying their methods, doing so consistently, lesson after lesson, is harder to sustain in practice than maintaining a single well-established interactional habit. The demand this indicator places on teachers is qualitatively different from that of the first two: initiating exchange and allowing thinking time are, in essence, single behaviors that, once adopted, can be repeated in largely the same form across lessons, whereas methodological variation and renewal require ongoing planning, a continually refreshed repertoire of strategies, and the judgment to select and sequence illustrative examples that remain relevant to each new topic. This higher preparatory and cognitive burden offers one plausible explanation for why the practice is both rated lower on average and perceived far less uniformly across respondents. Scholars working on student motivation have argued that no single teaching strategy reliably engages every learner, and that teachers must therefore continually renew their methodological repertoire to avoid the disengagement that predictable, repetitive instruction tends to produce (Wlodkowski & Ginsberg, 1995). Where interactional habits such as wait time can become near-automatic once internalized, sustaining methodological variety arguably resists this kind of automation, since genuine renewal, by definition, requires that a teacher not simply repeat what has already become comfortable.

The comparatively wide spread of responses recorded for this indicator suggests that such renewal is being achieved unevenly across the teachers represented in this sample: some students experience a genuinely varied methodological approach, while a meaningful minority experience instruction that feels comparatively static. This unevenness stands in contrast to the pattern observed in the first two indicators and points to a possible ceiling on interactional practices alone: a classroom that welcomes questions and allows time to think, and that responds to student contributions with prompt and rational reinforcement, does not automatically guarantee that the substantive content of instruction, the methods and examples through which material is delivered, is equally well varied. In this sense, the decline recorded here may mark the boundary between what is comparatively easy to sustain, the tone and rhythm of dialogue, and what demands more deliberate, lesson-by-lesson effort, the substance of what is actually taught and how.

4. Spatial Positioning and Media Use

The final indicator, covering the teacher's movement around the room, the arrangement of student seating, and the use of audio-visual media, recorded the lowest mean of the four (M = 3.08, Moderate), with 45.5% of respondents rating it moderate, 29.5% high, and a full quarter (25.0%) low, the largest low-category share in the entire set.

This pattern is broadly consistent with research suggesting that the physical and technological dimensions of instructional variation are frequently the most under-resourced or inconsistently implemented in ordinary classroom settings. Reviews of classroom seating research indicate that where

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and how students are seated, and how freely a teacher circulates through the room, measurably shape participation and on-task behavior, yet these are also elements of classroom design that many teachers adjust only occasionally rather than as a matter of routine practice (Wannarka & Ruhl, 2008; Poorvu Center for Teaching and Learning, n.d.). Likewise, while audio-visual and other instructional media are well established as tools that support comprehension by engaging multiple channels of attention (Mayer, 2009; Smaldino et al., 2002), their use in practice often depends on the availability of equipment and time for preparation, constraints that verbal interaction and reinforcement do not share. The comparatively low and widely dispersed perception recorded for this indicator therefore points less to a lack of awareness among teachers than to practical barriers in consistently implementing the physical and media-related aspects of instructional variation.

Taken together, these four indicators depict an internally uneven construct. The interactional dimensions of teachers' instructional variation skill, initiating question-and-answer exchange, allowing reflective pauses, responding promptly, and reinforcing appropriately, are perceived consistently and favorably, whereas the methodological and physical-media dimensions are perceived only moderately and with considerably wider variation among respondents. This divergence suggests that efforts to strengthen teachers' overall instructional variation skill would likely yield more improvement by focusing on the less consistently perceived indicators, method and material renewal, classroom mobility, seating arrangement, and media use, than by further reinforcing interactional habits that are already comparatively well established.

CONCLUSION

This study described students' perceptions of teachers' instructional variation skill across several indicators, based on valid student responses. Overall, the skill was perceived at a moderate level, with most respondents' overall assessments falling within the moderate range. At the indicator level, question initiation and reflective pacing, as well as responsiveness and reinforcement, were perceived favorably. In contrast, method and material variation, together with spatial positioning and media use, remained at a moderate level and showed considerably greater variation in student perceptions.

These findings indicate that the teachers represented in this sample are perceived as considerably more consistent in sustaining classroom dialogue than in diversifying instructional methods, movement, seating arrangement, and media use, and suggest that professional development aimed at strengthening teaching variation as a whole may be most productive if it targets these latter, less consistently perceived indicators specifically. As this study was descriptive in nature and did not test the relationship between instructional variation and any student outcome, nor draw on a probability sample beyond a single group of 44 respondents, its findings should be read as indicative rather than generalizable. Future research is recommended to examine these four indicators in relation to concrete learning outcomes, and across larger and more diverse samples of students and teachers, to confirm and extend the patterns observed here.

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