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Pedagogical Communication of Generation Y History Teachers in Digital-Era History Learning for Generation Z Students at SMA Petra 4 Sidoarjo

Aprillia Ayu Tri Widyaningrum & Riyadi
Universitas Negeri Surabaya, Indonesia
riyadiriyadi@unesa.ac.id

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Abstract

Digital transformation has reshaped how Generation Z students access information, communicate, and participate in learning, requiring teachers to adapt their pedagogical communication accordingly. This study examined how Generation Y history teachers adapted their communication practices to the characteristics of Generation Z students in digital-era history learning at SMA Petra 4 Sidoarjo. A qualitative case-study design was employed, with data collected through in-depth interviews, participant classroom observations, and documentation from February to April 2026. The analytical framework operationalized stimulus, organism, and response components to connect teachers' verbal messages, digital media, and instructional methods with students' characteristics and learning responses. Data were analyzed through the interactive processes of data reduction, data display, and conclusion drawing and verification. Credibility was strengthened through source, technique, and time triangulation. The findings indicate that students responded most positively to audiovisual media, two-way communication, discussions, contextual examples, feedback, and positive reinforcement. Generation Y teachers integrated Canva,

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learning videos, electronic modules, learning management systems, educational games, verbal and nonverbal communication, and dialogic interaction. These practices were qualitatively associated with increased motivation, participation, attention, conceptual understanding, and confidence in expressing opinions. However, students' multitasking remained a persistent barrier to sustained attention. The study concludes that effective intergenerational pedagogical communication in history education requires multimodal, dialogic, and contextually relevant strategies alongside deliberate efforts to manage digital distraction.

Keywords: Digital-Era Learning; Generation Y Teachers; Generation Z Students; History Education; Pedagogical Communication

INTRODUCTION

Secondary classrooms increasingly bring together teachers and students whose formative experiences with technology differ. Mannheim's theory of generations suggests that shared sociohistorical conditions can shape cohort-level dispositions, although generational categories are better treated as contextual tendencies than as deterministic learner profiles (Mannheim, 1952; Putra, 2016). In this context, Generation Z is commonly characterized by intensive digital connectivity, rapid access to information, and familiarity with multitasking and online interaction (Bencsik et al., 2016; Ishak et al., 2025; Karina et al., 2021). For schools, the practical issue is therefore not whether students use digital technology, but how teachers organize communication and learning so that digital familiarity supports rather than fragments learning.

The same digital familiarity creates both instructional opportunities and attention-management challenges. Studies cited in this manuscript associate Generation Z learners with visual, audio-visual, interactive, and collaborative learning preferences, while also noting distraction and fragmented concentration in device-rich environments (Kristyowati, 2021; Rahmawati et al., 2025). These tensions are particularly relevant to history education, where students must visualize past events, interpret evidence, and connect temporal or causal relationships that may remain abstract under prolonged one-way exposition. Contextual examples, visual historical material, and technology-supported activities can help make past events more concrete and create space for discussion rather than passive memorization (Andarwati, 2019; Kusumaningtyas et al., 2020; Sidik & Suswandari, 2022).

Teacher adaptation therefore requires more than technical competence. Generation Y teachers are often positioned as relatively familiar with the expansion of personal computing and internet-based communication (Khasanah, 2022; Zorn, 2017), but classroom effectiveness depends on how technological fluency is integrated with pedagogical judgment, classroom management, and communication competence (Buchari, 2018; Pricilia et al., 2024; Priyambodo & Saputri, 2021; Sobarningsih & Muhtar, 2022). Digital media become pedagogically meaningful only when they are selected for a clear instructional function and embedded in purposeful teacher-student interaction.

Pedagogical communication provides a useful lens because it includes not only teacher explanation but also questioning, feedback, reinforcement, nonverbal behavior, dialogic exchange, and the media through which instructional messages are delivered (Garcia-Fariña, 2025; Zhou et al., 2025). Dialogic pedagogy positions students as active participants who question, interpret, and co-construct meaning rather than merely receiving information (Freire, 2018). Communication perspectives likewise emphasize the relationship among message, channel, receiver, and effect (Fisher, 2002). In digitally mediated classrooms, this relationship expands to include the interaction among teacher, student, and media (Sosiawan & Ratnawati, 2023; Suwito et al., 2025).

To organize these interactions analytically, this study uses the Stimulus-Organism-Response (S-O-R) framework. In the S-O-R tradition, external stimuli are processed by an organism before being expressed in observable or reported responses (Kumari et al., 2017; Wang et al., 2024). The framework is not used here to infer experimental causality. Instead, pedagogical messages, digital media, and teaching methods are treated as stimuli; Generation Z students and their attention and interpretive processes as the organism; and motivation, participation, confidence, attention, and perceived understanding as learning responses. This framing links pedagogical communication with classroom evidence while keeping the claims within the boundaries of a qualitative case study.

Within the literature reviewed in this manuscript, Generation Z learning preferences, Generation Y teacher adaptation, digital media use, and pedagogical communication have often been discussed as distinct concerns (Chan & Lee, 2023; Masalimova et al., 2026; Suyono et al., 2025). Less explicit attention has been given to how these elements operate together in a secondary-school history classroom and how a Generation Y teacher's communicative choices are processed and responded to by Generation Z learners. SMA

Petra 4 Sidoarjo offers an information-rich setting because history learning uses LCD projection, internet access, LMS resources, Canva, videos, e-modules, and educational games alongside explanation, questioning, discussion, and reinforcement. Therefore, this study aims to (1) describe the learning characteristics of Generation Z students in history lessons, (2) examine how a Generation Y history teacher adapts pedagogical communication in a digitally supported classroom, (3) identify the communication model that emerges from classroom practice, and (4) explain the qualitative learning responses associated with that model. The study contributes an integrated account of generational perspective, pedagogical communication, and S-O-R analysis in digital-era history learning.

Conceptually, the study treats generational labels as contextual descriptors rather than fixed psychological categories. The objective is not to attribute every classroom response to age cohort, but to examine how a teacher responds to digitally shaped learning conditions that are visible in this case (Kalantzis & Cope, 2010). The multidisciplinary relevance lies in connecting a sociological generational lens with pedagogical communication and history education: generational theory frames the cohort context, communication perspectives explain message, channel, receiver, and feedback relations, and history pedagogy provides the disciplinary problem of helping students interpret past events through meaningful representations and discussion (Fisher, 2002; Freire, 2018; Mannheim, 1952). By combining these perspectives, the analysis can distinguish the mere presence of digital tools from the communicative processes through which those tools become educationally useful. **Figure 1** therefore positions technology as part of a broader interaction system and includes a feedback pathway from student responses to subsequent teacher communication.

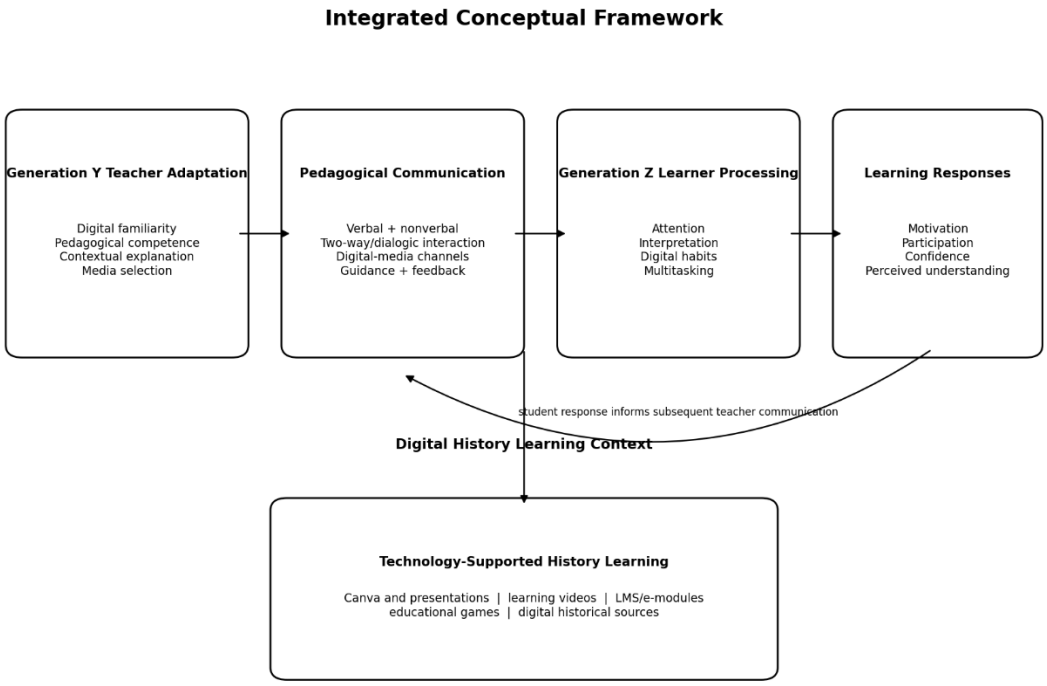


Figure 1. Integrated conceptual framework of teacher adaptation, pedagogical communication, learner processing, and learning responses

METHODS

This study employed a qualitative case-study design to examine pedagogical communication in its natural classroom context. A case-study approach was appropriate because the research focused on an in-depth account of teacher-student interaction, digital-media use, generational characteristics, and learning responses within a bounded school setting rather than on statistical generalization (Moleong, 2019; Sugiyono, 2020; Yusanto, 2020). The study was conducted at SMA Petra 4 Sidoarjo, East Java, from February to April 2026.

Participants were selected purposively according to generational category, direct involvement in history learning, and their capacity to provide information relevant to the research focus. The primary participants were one Generation Y history teacher and Generation Z students from the observed history class. Supporting informants included the school principal, the homeroom teacher, and other teachers familiar with the history-learning process. This combination was intended to obtain classroom-level accounts from the main participants and institutional perspectives for source triangulation (Arikunto, 2019; Sugiyono, 2020).

Data were collected through in-depth interviews, participatory classroom observation, and documentation. Student interviews explored learning patterns, technology use, experiences of teacher communication, motivation, participation, and perceived learning responses. The teacher interview examined technology adaptation, communication style, instructional strategy, media selection, planning, classroom challenges, and perceived student responses. Observations focused on verbal and nonverbal interaction, questioning, discussion, use of digital media, participation, attention, and feedback. Documentation included instructional materials, digital resources, classroom photographs, and other records relevant to the learning process. Using multiple techniques enabled evidence from one source or method to be compared with evidence from the others (Lincoln & Guba, 1985; Zuldafrial & Lahir, 2012).

The researcher served as the primary instrument, supported by interview guides, observation sheets, and documentation protocols. The instruments were organized around the S-O-R framework. Stimulus referred to the teacher's verbal and nonverbal messages, digital learning media, and teaching methods; organism referred to Generation Z students and the ways they attended to and interpreted those stimuli in relation to their digital-generation characteristics; and response referred to observed or reported motivation, participation, historical understanding, critical thinking, confidence, and expression of opinions. **Table 1** shows how these components were linked to indicators and sources of evidence.

Table 1. Operationalization of the S-O-R framework and research instruments

S-O-R component	Indicator	Key sub-indicators	Primary evidence
Stimulus	Pedagogical messages	Explanation, questioning, motivation, reinforcement, feedback, and verbal/nonverbal communication	Teacher interview; student interview; observation
Stimulus	Learning media	PowerPoint, Canva, learning videos, LMS/e-modules, and perceived media effectiveness	Teacher interview; student interview; observation; documentation
Stimulus	Teaching methods	Attention gaining, learning objectives, prior knowledge, guidance, discussion, presentation, project, feedback, and real-life connections	Teacher interview; student interview; observation
Organism	Generation Z learner processing	Digital familiarity, attention, interpretation and understanding, multitasking, and preference for visual-interactive learning	Teacher interview; student interview; observation

S-O-R component	Indicator	Key sub-indicators	Primary evidence
Response	Learning responses	Motivation, participation, historical understanding, critical thinking, confidence, attention, and expression of opinions	Teacher interview; student interview; observation

The S-O-R framework was therefore used as an analytical organizer rather than as a causal model. Pedagogical messages, digital media, and teaching methods were classified as stimuli; Generation Z learner processing, including attention and interpretation, was treated as the organism component; and changes reported or observed in motivation, participation, confidence, attention, and perceived understanding were treated as responses. **Figure 2** summarizes this analytical flow.

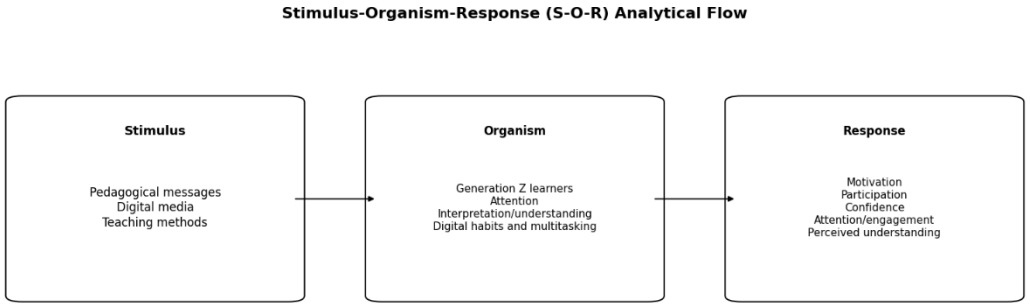


Figure 2. Stimulus-Organism-Response analytical flow used to organize the study

Data analysis followed the interactive logic of Miles, Huberman, and Saldaña (2014), consisting of data condensation, data display, and conclusion drawing/verification. Data condensation involved selecting, focusing, and organizing interview, observation, and documentation evidence relevant to the four research focuses and the S-O-R categories. Data display involved narrative presentation, comparison across sources, and thematic mapping. Preliminary conclusions were then checked repeatedly against the available evidence and revised when contradictory or insufficiently supported data were identified. This iterative process is consistent with qualitative analysis principles that emphasize continuous focusing, comparison, and verification (Emzir, 2011; Miles et al., 2014).

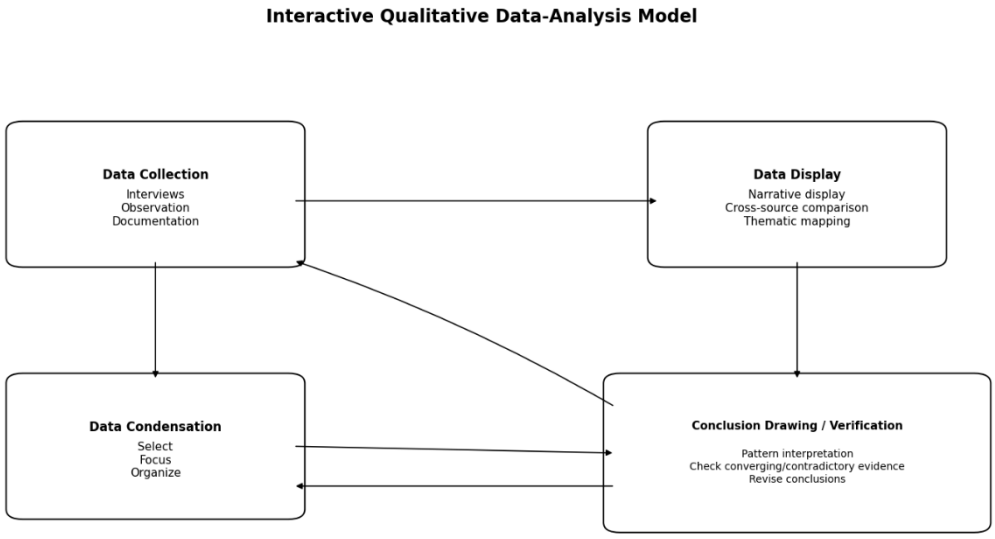


Figure 3. Interactive qualitative data-analysis model adapted from Miles, Huberman, and Saldaña (2014)

Credibility was strengthened through source triangulation, technique triangulation, and time triangulation. Claims were retained only when they were supported by converging evidence from relevant interviews, observations, documentation, or supporting informants. The study therefore reports contextual qualitative patterns and perceived changes rather than experimental or causal effects (Lincoln & Guba, 1985).

RESULTS

The analysis produced four connected themes: (1) Generation Z learning characteristics, (2) Generation Y teacher adaptation, (3) the pedagogical communication model used in digital-era history learning, and (4) the learning responses associated with that model. The themes were developed from interviews, classroom observation, documentation, and supporting informants, and are presented below without extending the claims beyond the evidence available in this case.

Generation Z Students in History Learning

Across student interviews and classroom observations, visual, audio-visual, interactive, and collaborative learning emerged as the most consistently preferred learning conditions. Students described learning videos, Canva presentations, historical images, and event documentation as helping them construct a more concrete picture of historical events.

Group discussion was also valued because it created opportunities to compare perspectives, ask questions, and obtain clarification from peers and the teacher.

Observation on 27 April 2026 showed a similar pattern. Most students attended to the projected material, took notes, responded to questions, and became more visibly active when the lesson moved into discussion. Attention weakened during longer stretches of one-way explanation, and some students opened unrelated applications on their devices. The evidence therefore suggests a dual pattern: digital familiarity can support engagement when media are embedded in active learning, but it can also facilitate distraction when classroom interaction becomes monotonous.



Figure 4. Classroom observation during a history lesson at SMA Petra 4 Sidoarjo

Generation Y History Teacher Characteristics

The Generation Y history teacher responded to these learning patterns by combining explanation with discussion, questioning, videos, Canva, e-modules, LMS activities, educational games, contextual examples, and digital historical sources. Extended lecturing was not used as the sole instructional approach. Instead, technology was integrated into a sequence of explanation, visualization, questioning, and student activity intended to maintain attention and make historical content easier to interpret.

Adaptation also occurred through interpersonal communication. The teacher avoided immediately labeling incorrect responses as failures, offered guidance and

motivation, invited students to attempt answers again, and provided simple praise or appreciation for active participation. These practices created a more supportive communication climate and gave students repeated opportunities to speak, ask questions, and refine their responses.

Pedagogical Communication Model

The pedagogical communication observed in history lessons was predominantly two-way, dialogic, interactive, and technology-supported. Communication extended beyond content delivery: students were invited to ask questions, discuss, present opinions, receive feedback, and reflect. The teacher combined accessible language, contextual examples, visual media, positive reinforcement, and responsive verbal and nonverbal behavior to maintain interaction.

A relatively consistent sequence was observed across the learning process: greeting and apperception, communication of learning objectives, digitally supported content presentation, questioning and group discussion, teacher guidance, feedback and reinforcement, and closing reflection. Verbal communication was complemented by eye contact, facial expression, intonation, and other responsive nonverbal behaviors. **Table 2** summarizes the sequence, channels, and observed student responses.

Table 2. Observed pedagogical communication model

Stage/component	Teacher practice	Media/channel	Observed response
Apperception and objectives	Links content to familiar phenomena and communicates learning objectives	Oral communication and presentation	Initial attention and readiness
Content presentation	Uses accessible language, contextual examples, and historical representations	Canva; video; e-module; LMS; LCD	Visible attention; reported easier understanding
Dialogic interaction	Uses questioning, discussion, presentation, and opportunities to express opinions	Verbal and dialogic communication	Questioning, participation, and expression of opinions
Guidance and reinforcement	Provides guidance, motivation, appreciation, and corrective support without immediate blame	Verbal and nonverbal communication	Confidence and comfort in communication
Feedback and reflection	Provides feedback, reinforces key ideas, and closes with reflection	Direct communication and learning media	Reported understanding and continued engagement



Figure 5. History learning using video or digital media

Pedagogical Effects on History Learning

Across teacher and student interviews, dialogic communication supported by digital media was repeatedly associated with a more active learning process. The teacher reported greater student enthusiasm and questioning when videos, Canva, discussion, and questioning were combined. Students likewise described the lessons as easier to follow and less monotonous when digital media were accompanied by opportunities to discuss, answer, and respond.

A second pattern concerned confidence and classroom climate. Students reported greater willingness to ask questions and express opinions when their answers were respected and incomplete responses were followed by additional guidance rather than immediate blame. Observation and principal triangulation were consistent with this account, showing active group discussion, student responses to questions, attention to digital media, and positive reactions to teacher appreciation.

Across the available evidence, the most consistent learning responses were stronger motivation, greater participation in discussion and questioning, higher confidence in expressing opinions, better attention during varied learning activities, more open teacher-student interaction, and improved perceived understanding of historical material. These findings should be interpreted as converging qualitative patterns within the case, not as

experimentally measured effects. **Table 3** summarizes the four research focuses and their learning implications.

Table 3. Synthesis of findings across the four research focuses

Focus	Main finding	Learning implication
Generation Z students	Digitally familiar; prefer visual-interactive media, discussion, and collaboration; attention weakens during monotonous one-way learning	Learning should remain dynamic, visual, dialogic, and intentionally manage attention
Generation Y teacher	Adapts technology, interpersonal communication, and pedagogical strategy through contextual explanation, guidance, motivation, and reinforcement	Teacher functions as facilitator and guide for purposeful and responsible digital learning
Communication model	Two-way, dialogic, verbal-nonverbal, and digitally mediated; progresses from apperception to reflection	Technology functions as a communication channel rather than merely a presentation tool
Learning responses	Converging evidence indicates stronger motivation, participation, confidence, attention during varied activities, perceived understanding, and teacher-student interaction	Communication aligned with learner characteristics can support the quality of history learning

DISCUSSION

Generation Z Characteristics and the Need for Interactive History Learning

The findings suggest that Generation Z students' digital familiarity should not be interpreted as an automatic learning advantage. In this case, visual and audio-visual media supported attention and historical visualization when they were combined with questioning, discussion, and contextual explanation, whereas prolonged one-way explanation coincided with distraction and off-task device use. This interpretation is consistent with literature describing Generation Z as responsive to visual-interactive learning while also facing fragmented attention in digitally saturated environments (Bencsik et al., 2016; Kristyowati, 2021; Rahmawati et al., 2025). For history education, the important issue is therefore not the presence of technology itself but the instructional design surrounding it. Digital materials appear most useful when they help students visualize evidence, connect events with contemporary contexts, and participate in meaning-making (Andarwati, 2019; Kusumaningtyas et al., 2020; Sidik & Suswandari, 2022).

Generation Y Teacher Adaptation in the Digital Era

Generation Y teacher adaptation in this case was not limited to adopting digital tools. The teacher combined Canva, videos, e-modules, LMS resources, games, and online information with questioning, contextual explanation, guidance, feedback, and positive

reinforcement. This supports the view that digital competence becomes pedagogically useful only when integrated with communication and classroom judgment (Priyambodo & Saputri, 2021; Sobarningsih & Muhtar, 2022). The important contribution of the case is the orchestration of technology and interpersonal communication: digital media created channels for representation and attention, while dialogue and reinforcement created the conditions for students to respond, clarify ideas, and remain involved. This extends a simple description of a technology-adaptive Generation Y teacher by showing how adaptation is enacted through communicative choices in the classroom.

Dialogic and Technology-Supported Pedagogical Communication

The observed model can be interpreted as an integrated and partly reciprocal S-O-R process. Teacher messages, digital media, and teaching methods functioned as stimuli; students' attention, interpretation, and digital habits represented the organism component; and participation, motivation, confidence, attention, and perceived understanding appeared as responses. However, classroom communication was not strictly linear. Student questions, incomplete answers, and changes in attention prompted teacher guidance, feedback, reinforcement, and shifts in activity, creating a feedback loop between response and subsequent stimulus. This reciprocal pattern is consistent with dialogic pedagogy, in which knowledge is co-constructed through questioning, explanation, listening, and response rather than transmitted in a single direction (Freire, 2018). It also supports digitally mediated communication perspectives that position teacher, learner, and media as interdependent elements of the learning process (Sosiawan & Ratnawati, 2023).

Viewed from a multidisciplinary perspective, the model connects three strands that are often treated separately: generational learning tendencies, pedagogical communication, and history-specific instructional practice. The generational perspective helps explain why rapid access to digital information, visual media, and multitasking are relevant conditions of the classroom, but it does not by itself prescribe how teaching should be organized. Communication theory adds the relational mechanism by directing attention to how messages are framed, which channels are used, how learners respond, and how feedback modifies subsequent interaction. History pedagogy provides the disciplinary setting in which these communicative choices matter because learners must move from exposure to information toward interpretation of events, sources, contexts, and competing perspectives.

In the observed lessons, Canva, videos, e-modules, LMS resources, and digital historical materials were therefore not isolated innovations; they became parts of a broader communication system that included explanation, questioning, discussion, guidance, and reinforcement. This integration clarifies the study's contribution beyond a description of generational differences. The proposed model suggests that effective adaptation occurs when the teacher coordinates technological channels with dialogic interaction and uses student responses as information for the next instructional move. Such a formulation also prevents the S-O-R framework from being read too mechanically. The organism component is not a passive relay between stimulus and response, because students interpret messages through prior knowledge, attention, digital habits, and the social dynamics of classroom participation. In turn, their questions, hesitation, engagement, or distraction become feedback that can reshape the next stimulus. The resulting model is therefore best treated as an analytical heuristic for reciprocal classroom communication rather than as a deterministic sequence.

Pedagogical Effects, Implications, and Limitations

The learning responses reported in this study can also be interpreted through instructional-design principles that emphasize gaining attention, connecting with prior knowledge, presenting information meaningfully, eliciting learner activity, providing guidance, and giving feedback (Gagné et al., 2005; Merrill, 2002). The findings do not demonstrate that digital media independently caused higher motivation or understanding. Instead, they indicate that positive responses were most visible when media were embedded in a dialogic sequence with opportunities to question, discuss, receive guidance, and obtain reinforcement. This bounded interpretation is consistent with evidence linking teacher communication and pedagogical competence with student motivation (Silaban et al., 2025) and with calls to move from monologic toward dialogic communication for Generation Z learners (Suwito et al., 2025).

Practically, the case suggests that digital history learning for Generation Z should be designed around communication functions rather than around the novelty of technology. Visual and audio-visual media can be used to represent historical events and sources; questioning and discussion can make student interpretation visible; contextual examples can connect the past with familiar experiences; and feedback and positive reinforcement can sustain confidence and participation. History teachers therefore need both digital competence and the pedagogical judgment to decide when technology should be introduced,

when discussion should replace explanation, and when feedback is needed to redirect attention or deepen interpretation. This role is consistent with the broader view of history teachers as guides who help students interpret and evaluate information rather than simply transmit content (Syiraz et al., 2025).

At the level of classroom design, the evidence points to sequencing as an important practical mechanism. The positive responses were not attached to a single medium or method; they appeared when several communication functions were combined in a purposeful order (Watson-Manheim & Bélanger, 2007). Apperception and contextual examples established an entry point, visual or audio-visual media supported representation of historical content, questioning and discussion made student interpretation visible, and guidance or reinforcement helped sustain participation. This sequence also created opportunities for attention management. When attention weakened during extended explanation, shifting toward discussion or more interactive activity provided a different participation demand, whereas simply adding more digital content would not necessarily address distraction. The implication is that technology selection should begin with the communicative task that needs to be achieved: a video may support visualization, an LMS may organize access to material, an e-module may structure independent work, and a game may create an interactive checkpoint, but each remains pedagogically limited unless students are given opportunities to interpret, question, and receive feedback. The same principle applies to teacher communication. Positive reinforcement should not be understood merely as praise; in this case it functioned together with corrective guidance to keep incomplete answers inside the learning conversation rather than closing participation. Likewise, nonverbal responsiveness, accessible language, and opportunities to express opinions helped create a classroom climate in which students could continue interacting with historical content. Because these observations are qualitative, the study cannot rank which element was most influential. Its practical value instead lies in showing how multiple elements were coordinated and how their combined use was associated with more sustained participation and perceived understanding. Future classroom-based studies could examine this sequence more explicitly, including when particular transitions between explanation, media use, discussion, and feedback are most effective for different learning tasks.

The study is limited to one school and a qualitative case-study design, so the findings represent context-bound patterns rather than generalizable causal relationships. The absence of experimental measurement also means that changes in motivation, attention, or

understanding should be read as observed and perceived responses. Future research could test or compare the proposed communication model across schools, subjects, grade levels, and teacher generations, and could examine how specific technologies, including artificial intelligence, virtual reality, or other interactive media, reshape teacher-student communication. Comparative work could also investigate whether the feedback-loop interpretation of the S-O-R framework appears in other classroom contexts.

CONCLUSION

This case study shows that effective digital-era history learning for Generation Z depended less on the presence of technology than on how a Generation Y teacher used technology within pedagogical communication. The teacher integrated verbal and nonverbal communication, visual-audio-visual media, questioning, discussion, contextual examples, guidance, feedback, and positive reinforcement in a predominantly two-way and dialogic sequence. Across interviews, observation, documentation, and supporting informants, this pattern was accompanied by stronger participation, motivation, confidence in expressing opinions, attention during varied activities, more open teacher-student interaction, and improved perceived understanding of historical material, while multitasking remained a persistent challenge.

The study contributes a contextual communication model in which pedagogical messages, digital media, and teaching methods operate as stimuli; Generation Z learners process these stimuli through attention, interpretation, and their digital habits; and learning responses emerge through participation, motivation, confidence, and understanding. Importantly, the classroom process also showed feedback from student responses to subsequent teacher communication, making the model more reciprocal than a strictly linear S-O-R sequence. History teachers should therefore select digital tools for explicit pedagogical functions and combine them with dialogue, feedback, and attention management. Because the study is limited to one school and a qualitative design, the model should be examined comparatively before broader generalization.

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