

RESEARCH ARTICLE



Visual Thinking Strategies as Humanistic Education: A Qualitative Study of Teachers Using VTS

Christina Connors¹ and Jody S. Piro^{1,*} ¹Education and Educational Psychology, Western Connecticut State University, USA

Abstract: Previous research has suggested that Visual Thinking Strategies (VTS) practices positively impact student performance and if so they may also affect teacher performance. The purpose of this study was to explore VTS on teachers' perceptions of their general teaching practice. A qualitative, multiple case study was conducted to investigate the experience of teachers using VTS. Eligible teacher participants were identified through the VTS Organization and the Watershed Collaborative. The two cases – teachers practicing VTS in Kindergarten Grade 12 (K-12) setting and teachers practicing in VTS outside of the K-12 setting – were investigated separately and then compared in a cross-case analysis. An analysis of the data indicated that using VTS in teaching relates to a humanistic teaching style. These findings have implications for educators and educational institutions wishing to implement humanistic teaching practices and raise further questions pertaining to VTS and humanistic education practices that might be explored through future research.

Keywords: Visual Thinking Strategies, humanistic learning education, humanistic teaching, teaching practices, relational teaching, student engagement, safe learning environment

1. Introduction

Visual Thinking Strategies (VTS) was born from a reflection by the Board at the Museum of Modern Art (MOMA) in New York City on the effectiveness of the museum's art education programs [1, 2]. When the art education programs were found to be ineffective, Yenawine [1], the director of educational programming at MOMA, teamed with Housen [3], a cognitive psychologist conducting research on esthetic development, to resolve the problem, and the VTS process was the result of that collaboration.

VTS as proposed by Yenawine [1] is as follows:

- 1) *Validate student voice.*
- 2) *Elevate student vocabulary.*
- 3) *Link and frame student remarks.*
- 4) *Create an environment where students feel comfortable to take risks.*
- 5) *Position the teacher as listener.*
- 6) *Require students to support observations with evidence.*

While it started out as a means of advancing esthetic development, VTS was soon recognized as a valuable educational tool for promoting critical thinking skills [1]. VTS allows students "the permission to wonder!" by allowing exploratory learning. During VTS sessions, students worked in groups and were guided through the practice by a facilitator using a specific set of prompts to encourage deeper thinking without identifying correct or incorrect answers [3].

¹Philip Yenawine, "Permission to Wonder", <https://www.philipyenawine.com>

*Corresponding author: Jody S. Piro, Education and Educational Psychology, Western Connecticut State University, USA. Email: piroj@wcsu.edu

VTS is a set of protocol; therefore, VTS is used as a singular noun in this study. VTS is now widely used in schools and museums across the United States and abroad, and teachers have adapted the protocol to discuss poems and other texts in addition to artwork [1]. Properly conducted VTS sessions have been credited with fostering creative and critical thinking skills and bolstering communication skills among students [4]. Other positive outcomes attributed to VTS practice include improved student engagement, literacy, and evidential reasoning [5, 6], and VTS practice positively impacted student performance [7–10].

Despite substantial studies investigating the impacts of VTS on student learning, formal research on how VTS influences teacher practice is not robust. VTS is a dynamic practice; each session is a collaboration between students and the teacher. Thus, if student performance is affected by VTS, the practice may affect some change in teacher performance as well.

This study investigated how a sample of teacher participants reflected on how VTS impacted their teaching practice. Three questions guided the study:

- 1) How do VTS teacher training and classroom practice influence (K-12) participants' perceptions of their teaching practice in general classroom instruction?
- 2) How do VTS teacher training and classroom practice influence non-traditional participants' (instructors of incarcerated peoples/adult education/university professors/museum educators) perceptions of their teaching practice?
- 3) How, if at all, do the perceived experiences of teacher participants in K-12 school settings differ from those of teachers practicing outside of the K-12 school setting?

The exploration and comparison of the experiences of teachers using VTS in K-12 settings versus non-traditional educational settings may provide insight into how using VTS assist teachers foster a more humanistic learning environment. The results of this study may have implications for learning institutions and educators hoping to establish a more humanistic learning environment.

2. Related Research

2.1. Background of VTS

DeSantis and Housen [11] began their research into people's interactions and relationships with art in the mid-1970s. Referring to Vygotsky's [12] assertion that thinking and language are deeply interconnected, DeSantis and Housen [11] posit that language and thinking about art would also be related. She further speculated that listening to people converse about works of art could provide insight as to the individual's understanding of, and relationship to, the work of art [11].

DeSantis and Housen [11] were also interested in Vygotsky's [12] proposition that the developmental stage of an individual could best be determined based on the types of problems they could solve with assistance from more advanced peers or a teacher. Vygotsky [12] identifies this stage of approaching mastery as the zone of proximal development. This proposition inspired DeSantis and Housen's [11] assertion that individuals could transition from one stage of esthetic development to another with assistance from fellow VTS session participants.

Through their collaboration at MOMA, Yenawine [1] and Housen [3] realize the broader educational potential of VTS. In 1995, Yenawine [1] and Housen [3] began work on making VTS accessible to teachers. More than 4,000 teachers in the United States have worked with the VTS organization to implement VTS, providing a rich base of data connecting VTS and various student outcomes [1, 13].

2.2. Empirical research on VTS

A growing body of literature explores the learning outcomes and experiences of students participating in VTS sessions. Research has indicated that under competent facilitation, VTS can bolster critical thinking skills [13, 14]; encourage participation by English language learners [11, 15]; improve outcomes for all learners, not just already high achieving students [15]; improve observational skills [16]; affect the conceptual comprehension of students [17]; advance healthcare worker skills [18]; improve communication and collaboration skills [19, 20]; and increase reading and writing scores on state proficiency exams [15].

Critical thinking skills are exhibited when students provide logical, factual statements to support their ideas [15]. Critical thinking skills include observation, interpretation, evaluation, association, problem-finding, comparison, and flexible thinking [21, 22]. A three-year study conducted in inner-city schools also found evidence that VTS practice contributed to critical thinking skills [22]. In that study, third, fourth, and fifth graders from five schools – two experimental groups ($n = 64$) and three control groups ($n = 71$) – were shown the same work of art. Students in the treatment group averaged 28 lines when speaking about the work of art, whereas students in the control group averaged 14 lines ($p = 0.000$). Analysis of these interviews also showed statistically significant differences in the instances of critical thinking and evidential reasoning between the two groups, with the treatment group outperforming the control group in both categories [22].

VTS has also been associated with fostering academic development among members of vulnerable student populations. A study of four schools in the Miami-Dade County district implied that VTS could be used to help retain students who are categorized as “at risk of failure” and to improve their state test scores as well. The study was conducted over the course of three years and included students from three treatment schools ($n = 181$) and one control school ($n = 56$). All four schools in the study had a high “at risk of failure” student population, and more than 70 percent of students in each school were eligible for free lunch. Results from the three treatment schools showed statistically significant correlations between growth in visual literacy and achievement in reading and math, with scores on the Florida Comprehensive Achievement Test rising between 0.35 and 0.40 points. There was no evidence of this relationship in the control school [15].

Ishiguro et al. [23] find that students expressed having different experiences with VTS depending on whether artwork was viewed in a classroom setting or at an art museum. The researchers conducted a mixed method study of undergraduate students majoring in art education ($n = 35$), randomly assigning them to a classroom condition or a museum condition. The 7-week experiment consisted of a pre-session, the VTS intervention, a post-session, and three questionnaires. The analysis indicated that participants viewed the artwork in a more favorable light when viewed in a museum setting ($p < 0.05$ for both appreciation and beauty), but that this was offset by an increase in appreciation for art over time by participants in the classroom condition (the correlation coefficient between art viewing time and interest score was 0.277 when $p < 0.05$). The difference in participants' experiences in the Ishiguro et al. [23] study is of particular interest here because one case in their study involved classroom teachers while the other was made up of teachers in a non-traditional setting (in their case, a museum).

The literature described above suggested that VTS can yield positive learning outcomes, even among high-risk students, and that teachers are pivotal to the success of VTS practice in the classroom. VTS positions the teacher as the facilitator of a session, someone who guides students to explore and construct through a process of meaning-making. This shift in power dynamics and focus on personal exploration is concurrent with the philosophy of humanism [24].

2.3. Humanism and VTS

The results of the current study indicated that humanistic teaching as perceived by the participants was closely aligned with VTS, and as such, we elucidate how humanism is connected with VTS. While students' experiences with VTS are typically associated with constructivism and the work of Vygotsky [1, 12], an analysis of data gathered from teachers [for this study] suggested an association with humanism. While a VTS session is interactive, the teacher and students do not necessarily experience it in the same way. For students, the VTS session provides an opportunity to learn from their fellow classmates, consider another's perspective, collaborate, and help one another bridge learning gaps through the zone of proximal development [1, 3], all hallmarks of constructivist learning theory [25]. From the teacher's point of view VTS sessions provide an arena for students' voices to be heard, create an environment of facilitation, and frequently position the teacher as learning along with the students, all actions that align with Maslow and Rogers' ideal of humanism [24].

One of the distinctive aspects of humanistic education was the repositioning of the teacher as a facilitator [24, 26–28]. Rogers emphasized the importance of the relationship between facilitator and student to the process of self-actualization [26]. Prior research indicated that students who felt cared for by their teachers were more motivated learners [29] as well as acknowledging the role that emotions in the classroom had on academic growth [30, 31]. There was evidence from previous studies that in learning environments where the teacher relinquished some control of the learning process to the students, rates of teacher burnout were lower [32], relationships between teacher and student were more often viewed positively [33, 34] and that the positive relationships were bi-directional [35]. Results of research indicated that the teacher's willingness to relinquish some control and act as a facilitator was found to be a critical step in building a functional community of learners [27]. These communities of learners [36] created the safe, accepting environments advocated for by Rogers [24, 28]. In a study investigating a community of learners where each learners' input was valued, a space was created for student voice, a concept of importance to students [37, 38]. Encouraging student voice was indicated as a factor in students becoming more independent thinkers [39], which in turn appeared to lead to students who were more involved in directing their own learning [40]. Linguistically diverse learners increased critical thinking and affective skills as a result of using VTS [7].

Student focused education with a focus on self-worth with students as a full subject of education was found to be part of the humanist tradition [41]. The humanistic education envisioned by Maslow and Rogers was student-focused and based on the individual's needs and interests, with the teacher acting as a guide in a caring relationship [23, 34, 42–44]. The connections between the six skills central to VTS practice [1] and some of the tenets of humanistic education are illustrated in Table 1.

Table 1
Connections between VTS skills and aspects of a humanistic education

VTS skills	Humanistic education
Validate student voice	Recognizing the individual's language, thoughts, and actions [26].
Elevate student vocabulary	Providing the resources the student needs to learn [24].
Link and frame student remarks	Letting the student know they have been heard/verifying understanding [26].
Create a safe environment	Accepting students unconditionally [26].
Listen actively	Listening intently [26].
Provide evidence	Indicative of genuine learning taking place [24].

Note: The VTS skills in the table are adapted from VTS: *Using art to deepen learning across school disciplines* [1]. The connections between VTS skills and humanistic education are original to this research.

This review of the literature illustrated the importance of the relationship between teachers and students and the reciprocal nature of trust and openness. While the literature contains some anecdotal accounts of teachers' experiences using VTS [1], there are few formal studies focusing expressly on those experiences.

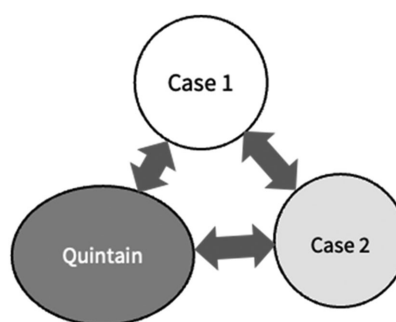
This current research aimed to provide empirical research on teachers' experiences using VTS.

3. Research Methodology

3.1. Research design

This qualitative, multiple case study examined the quintain of VTS practice and the impact of VTS practice on general teacher practice. Quintain is a term coined by Stake [45] to represent the binding commonality among several cases being studied. Each case was explored individually and then considered within a cross-case analysis to identify similarities and contrasts [46]. Multiple case studies are appropriate in situations where the researchers wish to learn more about a quintain across contexts [45]. In this study, the two cases were bound by the experience of VTS training and the use of VTS in teaching practice. Figure 1 demonstrates the quintain/case relationship.

Figure 1
Quintain/case relationship



3.2. Setting and sampling

VTS is practiced in PreK–12 schools, museums, correctional facilities, and universities/colleges across the United States and around the world. To solicit potential study candidates, a letter of intent was drafted explaining the scope of the study and level of commitment required. The letter of intent was sent to 10 VTS trainers located in New York, California, Washington, and Oregon to share with teachers participating in the VTS advanced practicum and coaching programs. The letter of intent was also distributed to the VTS organization and the Watershed Collaborative (a project of Yenawine [1]) as well as participants from a VTS training attended by the researcher. Twenty-six individuals responded to the VTS Questionnaire, four of the respondents either did not meet the criteria for the study or declined the interview stage of participation of the study. The remaining individuals who responded to the questionnaire agreed to participate in the interview portion of the study and collectively made up the K-12 case, hereafter known as case 1, ($n = 14$), and the non-traditional case ($n = 8$), hereafter known as case 2. Participants in the case 1, the traditional case, were all practicing VTS in K-12 schools in the United States. Participants in case 2, the non-traditional case, were facilitating VTS sessions in museums, correctional facilities, and universities/colleges, and all but one participant was located in the United States. All participants used VTS sessions in a variety of ways: as part of their planned class activities, as a form of informal assessment, as an introduction to a topic, and to critique a work of art. Some participants used VTS on

daily, others on a weekly or monthly basis depending on the role of VTS in the participants' teaching practice.

A purposive sample was implemented to gather data [47, 48]. Initially, twenty-six possible participants were contacted and twenty-four responded. Every participant who responded to the questionnaire who was either practicing VTS in a traditional or non-traditional setting and agreed to interviews was included in the interview phase ($n = 22$). For this study, VTS training and experience using the practice in an educational setting were obligatory for participation. Figure 2 displays the sampling.

3.3. The cases

The cases within a multi-case study must be categorically bound together [45]. In the current study, the cases were bound by the experience of using VTS; in case 1, VTS was used in K-12 settings, and in case 2, VTS was used in a variety of

non-traditional educational settings (museums, university/college, incarcerated people/adult education). Participants in this study had all completed at least the beginner practicum in VTS and had been practicing VTS for a minimum of one year. Tables 2 and 3 demonstrate the demographics for both cases, case 1 (K-12) and case 2 (non-traditional educational settings).

3.4. Instruments

3.4.1. Demographic questionnaire

The Visual Thinking Strategies Questionnaire (VTSQ) was used to gather general demographic information about the participants and the settings in which they worked. Twenty-six people completed the questionnaire. The results of the questionnaire were intended to select a purposive sample with maximum variation from the greater sample for the next phase of the study. However, because the questionnaire response was

Figure 2
Sampling

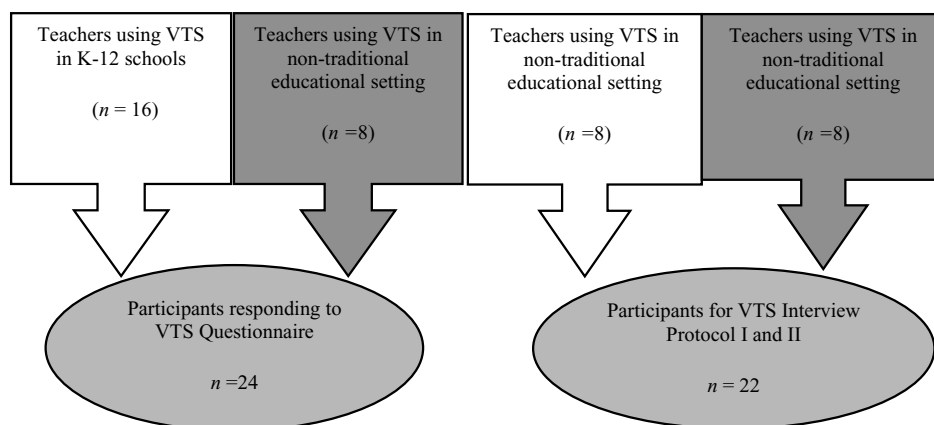


Table 2
Research participants' demographic information, case 1, K-12 case

Pseudonym	Age	Gender	Subject taught	Years using	
				VTS	Race/Ethnicity
Peggy	40	Female	Intro to Art, Drawing, AP Art History	10	Caucasian
Miora	63	Female	Elementary/All	10	Caucasian
Nuria	45	Female	Multiple subjects – self contained	4	American Indian/ Euro- American
Maritza	63	Female	Literacy, Math, Science, Social Studies, Social-Emotional Learning	8	Caucasian
Kathy	41	Female	Science & Engineering	7	Caucasian
Elisenda	43	Female	Elementary/All	5	Caucasian
Valerie	31	Female	Art	1	Caucasian
Skye	50	Female	Math/ELA	4	Caucasian
Nelly	41	Female	Visual Arts	6	Mixed
Sabina	50	Female	Elementary/All	3	Native American
Dalia	62	Female	Arts Integration	6	Caucasian/ Jewish
Owen	66	Male	Elementary/All	12	Caucasian
Myles	39	Male	8th grade Art, Drawing & Painting 1 & 2, Graphic Design, Sculpture, Studio	2	Caucasian
Bajda	43	Female	Math, Science, Leadership	6	Caucasian

Table 3
Research participants' self-identified demographic information, case 2, non-traditional case

Pseudonym	Age	Gender	Subject taught	Years using VTS	Race/Ethnicity
Eileen	52	Female	GED Social Studies & Reasoning through Language Arts	1	Caucasian
Helen	64	Female	VTS I & VTS II	16	Caucasian
Laurel	55	Female	ESL	4	Caucasian
Luci	50	Female	English as a Foreign Language	10	Spanish
Carey	44	Female	Social Studies/History	5	Caucasian
Jenn	62	Female	VTS – LGBTQ & Women Artists	1+	Caucasian
Denise	70	Female	University Teacher Prep	8	Caucasian
Lanser	49	Female	GED English, Reading, Writing, Reasoning through Language Arts, English for ELL	4	Caucasian

lower than expected all the questionnaire respondents ($n=22$) who agreed to complete the interviews were included in the study. Therefore, the results informed the two case demographics.

3.4.2. Interviews I and II

Each participant completed two interviews; the initial interview provided opportunities to speak more broadly on teaching experiences while the second interview was focused on the use of VTS. The Interview Protocol for VTS I was a researcher-created, semi-structured, open-ended semi-structured interview protocol designed to ensure the collection of a complete set of data from each participant [47]. The interview questions addressed the tenets of VTS through six focus areas: teacher as listener, validating without judgment, synthesizing student remarks, creating a safe learning space, asking for supporting evidence, and elevating vocabulary [1]. One question that was asked to gauge participants' perceptions of teacher as listener was "Would you talk a little bit about how you let your students know you value their response?" Participants' perceptions of the ways in which they created a learning environment where students felt safe to take risks were addressed through questions such as "What role do you think student knowledge has in the class?" (Would you share an example of a time when it was very valuable to the lesson? When it was disruptive?) An example of a question that was asked to ascertain participants' perceptions of how they promoted the use of evidence was "Can you please describe teaching practices you employ to encourage students to support their ideas with evidence?" To gain insight as to how participants perceived their ability to synthesize student comments and understandings, the question "How do you help students to recognize how their comments build off of and add to the class discussion?" was asked. Results of the primary interview informed the second round of interviews, which delved further into participants' perceptions of their teaching practice.

3.5. Data collection and analysis procedures

3.5.1. Phase 1: Questionnaire and analysis

Willing participants were directed to a SurveyMonkey link where they were first asked to sign a consent form to participate in the study. Upon completing the consent form, participants were directed to a second SurveyMonkey link where they completed the VTSQ. The VTSQ collected demographic information as well as data on number of years teaching, number of years practicing VTS, and educational setting and should take no more than 15 min to complete. From the participants who completed the

VTSQ ($n=26$), a sub-sample ($n=22$) of people agreed to complete two rounds of interviews.

Responses from the VTSQ provided demographic data used to characterize the case [45].

3.5.2. Phase 2: Interviews and analysis

Participants who agreed to the interview segment of the study ($n=22$) were contacted via email to schedule the first of two online interviews during the spring of 2021. The data from the first set of interviews were analyzed by the researcher, and the findings informed the interview protocol for the second round of interviews. Each interview was restricted to one hour to be respectful of the participant's time. Upon the completion of each interview, observations, questions, and general notes about the conversation were entered in a research journal to provide reflexive data [49].

The interviews were recorded using the Otter Voice Meeting Notes phone app². Using a recording device allowed the researcher to focus completely on the participant's responses and to take advantage of opportunities for follow-up questions. Member checking was conducted within three weeks of each interview; interview transcripts were emailed to the participants as an electronic file [50]. Both sets of interviews were transcribed using Otter Voice Meeting Notes² technology.

The first author conducted initial coding and all subsequent and final coding decisions were made by both authors using colored index cards, post-it notes and later inputted into Microsoft Excel v. 2018 spreadsheet and reduced from codes to themes. Coding continued until the five final themes developed with 100% agreement between the researchers.

The construction of meaning from the data was the result of a progressive coding process [51] with a codebook used throughout the process [52]. Complete coding [53] was used to identify interview responses that were relevant to the research questions. Each interview was coded in its entirety before moving on to the next interview [53, 54]. Within the framework of thematic analysis, the interview responses were analyzed through a first cycle of activity and strategy coding so that the researcher could begin to understand the perspectives of the participants and develop a provisional list of categories [55]. Activity coding is used in research exploring behaviors that are part of a setting [55]; in this study, coded activities included the behaviors associated with VTS teaching practice. Examples of activity codes from the data analysis from this study included the following: show interest for students, multiple perspectives, insight into students, active listening, know students in a new way, give voice to students who do not normally speak, space for student voice, vocabulary

²"Introducing Meeting GenAI," Otter.ai, 2020, <http://www.otter.ai>

building, opportunity for students to dig deeper, and students as problem solvers. Strategy coding is used to categorize the conscious means that individuals use to accomplish things [55]. In this study, the coded strategies identified instances of the use of the six identified VTS skills (validate student voice without judgment, elevate student vocabulary, link and frame student remarks, create an environment where students feel comfortable to take risks, position the teacher as listener and require students to support observations with evidence) in a general classroom session. Examples of strategy codes from this study included paraphrasing, connecting knowledge to real life, listening, active communication, personal connections, wait time, respectfully disagree, conditional language in feedback, and facilitating.

The second cycle of pattern coding was used to categorize the data and explore emergent themes [56]. Three of the themes—*experiencing VTS from the instructors' perspective*, *transferring skills*, and *providing evidence*—were later changed to *facilitating instruction*, *active communication*, and *providing a space for student voice*. A cross-case analysis further informed the quintain of the experience of teachers using VTS. A list of themes that addressed key questions about the quintain was generated and used to systematically review both cases. During the process of condensing the codes [46], the research question and relevant literature [45] grounded the data analysis. Throughout this iterative process, a balance between the importance of the individual case against its relevance to the quintain was maintained [45]. Five final themes related to an overall finding statement were developed.

4. Findings and Discussion

The finding statement was *The practice of VTS lent itself to the development of a humanistic approach to teaching* [24, 57, 58]. In describing how that approach marked a shift away from previous practices, the following five themes emerged among participant

responses: (1) Facilitating instruction; (2) Creating a community of learners; (3) Providing a space for student voice; (4) Generating active communication; (5) Speaking humanistically. These themes indicated that the practice of VTS from both cases encouraged the development and use of classroom strategies that corresponded with the fundamental tenets of humanistic education. Each theme is organized around case 1, case 2, and cross-case findings, as related to the three research questions on the experiences of the traditional case, non-traditional case, and a comparison between the cases. Quotes are verbatim from participants and identified as Interview 1 (I1) or Interview 2 (I2) within the narrative. Figure 3 graphically displays the themes.

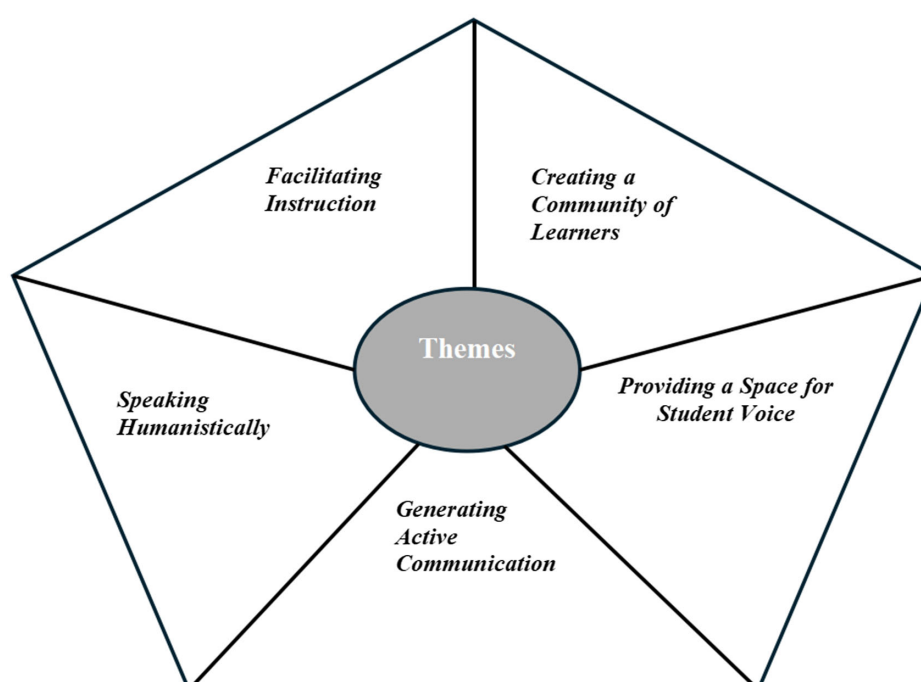
4.1. Theme 1: Facilitating instruction

4.1.1. Case 1: Traditional case

Maslow [58] argues that students were only able to discover their true talents and reach their full potential when teachers provided an atmosphere of acceptance. Rogers [59] echoes that sentiment when he emphasized the importance of facilitators and teachers providing a psychological climate comfortable enough for students to take control of their own learning. Participants also mentioned paraphrasing, another VTS strategy, in connection with establishing an environment where students felt encouraged to actively participate.

Kathy believed that paraphrasing had improved her relationships with her students because they felt she had taken the time to listen to and understand them (I2). Similarly, Valerie speculated that paraphrasing helped teachers build relationships with their students, adding that the process helped her students feel respected (I2). The emphasis on students feeling heard came up again in Bajda's response: "I validate them because I'm able to be a more active listener. Paraphrasing lets them know, 'Okay, she actually heard me and listened to me'" (I2). Practicing VTS made Maritza re-envision her role as a facilitator; whereas once, teaching felt "like checking off boxes" of knowledge delivery, it later became focused on actively making connections between student understandings (I2).

Figure 3
Themes



As their students felt more comfortable actively participating in their learning, participants were able to transition into the role of facilitator of learning. In this role, participants shared the responsibility for learning with their students, provided resources for learning, and provided a safe learning environment that promoted growth [59]. Valerie credited VTS with helping her make this leap: "It has made me more student-centered and more willing to listen to students' opinions on things, whereas before it was more of that, 'the teacher has all of the answers' sort of thing" (I2).

Despite its challenges, participants felt that the practice of VTS had a positive influence on both their work and personal lives. Many of the changes they described in their interviews can be described as humanistic in nature. Elisenda claimed that VTS practice "has been transformative for me as a teacher and a person. I feel like I listen to the kids more, and I feel like they get more say in their education because of it" (I2). Peggy appreciated the practice for helping her step back and allowed students to create their own meanings, while Myles experienced VTS to level the playing field between student and instructor (I2).

Adopting the role of facilitator influenced the way some participants planned their lessons and the work they accepted from students. Greater flexibility was required to incorporate student interests and questions and to provide the space needed for students to express themselves in the mode that spoke to their strengths and values. For Maritza, the shift from teaching to facilitating lessons meant creating simpler outlines for her lesson plans but spending more time researching the topics she would be discussing each day (I2). Her deeper understanding of the content, she said, allowed her to deduce from student conversation where her lessons should go next. Instead of following a predetermined script that could not consider where her learners were, she was able to tailor the lesson to student interest and gaps in knowledge (I2). Maritza referenced that collaborative process when she noted, "The questions that you use in VTS are the same questions that the kids see me asking myself, and they get a real sense that we're kind of co-creating our understandings" (I2).

4.1.2. Case 2: Non-traditional case

Participants in the non-traditional case were either teaching all adults, or a combination of adults and school-age children. Knowles [60] recognizes that adults typically approached learning differently than children. They were more self-directed learners due to their better-established sense of self; they entered the learning environment with a broader range of life experiences, and they were usually learning with an intent for application [60].

Eileen's strategy for establishing an environment where students would feel safe to take risks involved careful consideration of how she responded to student comments. She stated that instead of telling students that any answer was incorrect, she would ask how the student who made the comment had come to that conclusion. This gave her an insight into the student's reasoning without deflating the student's ego and thus discouraging future participation. Eileen supported any student participation with positive feedback and actively engaged students in conversation about topics they were interested in (I2). As a result, Eileen found that "listening to the things that they're concerned about gives them a voice and gives them the freedom, or permission, to use their voice in class" (I1). Carey noticed it was useful to start her lessons off by explaining the VTS process to the learners and having each person share something meaningful before starting the session. In her experience, laying this groundwork allowed the process to unfold more organically as the group worked together (I1). Jenn commented that she was mindful of making eye contact and using body language to

help her students feel welcome and valued. Luci remembered a student in class who also had autism who could be disruptive because she was always trying to get Luci's attention. However, Luci noticed that during VTS sessions, when students generated the conversation, the student was not disruptive and focused her attention on her fellow students (I2).

Participants in the non-traditional case referred to paraphrasing within the contexts of building this level of confidence among their students and of building their own capacity as facilitators of instruction. Denise reiterated the idea that paraphrasing built a sense of respect between teacher and student: "You respect them by repeating [their comment] and capturing it. You respect them by using their words . . ." (I1). Laurel elaborated on this idea when she stated that VTS gave all students the time and space to put into words the ideas they have in their heads, adding that paraphrasing could also empower learners by "building their vocabulary" (I2). Carey noticed the importance of paraphrasing not just for individual students but for the whole group dynamic: "Everybody has an opportunity to say what their perspective is. People feel heard and that what they have to say is okay" (I2). Non-traditional participants communicated that practicing VTS fostered an environment of facilitation. Denise noted, "VTS gives you the evidence that shifting the role of the teacher . . . helps you to slow down and to be more thoughtful in presenting material and . . . to have students more in the leadership role." (I2).

4.1.3. Cross-case analysis

In both cases, participants shared views that expressed the qualities of a facilitator of instruction as established by Maslow and Rogers [24]. Participants in both cases also recognized paraphrasing as a useful tool, but whereas traditional participants focused on how paraphrasing helped raise up student voice and build community, non-traditional participants highlighted how paraphrasing cultivated an environment of respect and resulted in more facilitation than lecturing.

4.2. Theme 2: Creating a community of learners

4.2.1. Case 1: Traditional case

Participants in the first case indicated that the work they did to create a safe learning environment helped generate trust not just between teacher and student but also among the students themselves. To Rogers [59], who asserts that learning from fellow students was superior to learning from books or even a facilitator, this peer-to-peer engagement was a sign of progress. Rogers [59] described this kind of progress as an aspect of learning that became possible when student-centered education was taking place: "As the learning process continues, the climate is more and more often provided by the learners for each other."

Participants in the traditional case noticed this collaborative development and the benefits it provided to both teachers and students. Miora seemed to echo Rogers's [59] prioritization of peer-to-peer over top-down learning: "I think it's great if I can have a great relationship with every student. But if they will help each other and support each other as thinkers, that's magical." Kathy also noticed student conversations during VTS sessions helping to build relationships and added that sharing their ideas turned her students from passive learners into more active learners (I2). Bajda reflected that the format of VTS conversations led to a greater level of respect both between herself and her students and among the students themselves. Bajda observed, "students are building or disagreeing respectfully, and they're able to have this conversation. It's not the blame game, it's not, 'You're right,

you're wrong" (I2). This heightened level of respect allowed space for students to express dissenting opinions.

Nuria shared that VTS had advanced a culture of risk-taking around expressing differing opinions (I2). Myles commented that higher levels of mutual respect in his classroom allowed him to have conversations with students during which they might ask him, "How do you consider this?" and reflected that student conversations had caused him to look at works of art differently (I2). Skye similarly acknowledged that conversations with students influenced her perspective, noting, "VTS reminds me, I see one thing, but there could be ten different perspectives of what the kids see" (I2). Valerie was able to expand her consideration of student perspectives as well; she noted she was more open to her students' various interpretations of her lessons and attributed this to the practice of VTS (I2). These sentiments reflect Rogers's [59] assertion that teachers attuned to the student-centered learning environment entered that environment simply "as one more learner."

4.2.2. Case 2: Non-traditional case

Through his own experiences facilitating encounter groups (a type of group therapy), Rogers heralded the potential for growth within a community of learners [26]. Such growth was unlikely in a conventional classroom setting wherein the teacher was the authority; Knowles [60] finds that in those settings, students often saw one another as competitors as opposed to resources for learning. In the non-traditional case 2, participants emphasized relationship building rather than the building of mutual trust and respect as the anchor for a community of learners. This is not surprising given that many participants in the non-traditional case work with adult learners. During a VTS session, students learned to rely on one another as learning resources as they heard their teacher weave together one another's ideas during paraphrasing. Students were able to see how their remarks related to the remarks of others, and an observation by one student often helped others see something they had not seen before. When Helen encouraged students to view one another as resources by using student work as exemplars, she noticed that small change in practice had a powerful impact on her learners. Helen also recognized how linking student comments to one another helped both Helen and her students better appreciate student voice (I2). For Helen, the apex of students seeing one another as a resource in her class came when "I could see what someone else had said reflected in what they were actually creating, kind of an aggregate, certainly an organic type of connecting" (I1). Laurel believed her students learned from one another simply by physical proximity. She added that in her field (language learning), classmates were especially dependent on one another, so every time a student made a comment, other students gained something just by hearing the pronunciation of words (I1). Jenn said she actively built on the prior knowledge her students brought to her lessons and drew links to help students to see that they were building off one another's thoughts (I1).

4.2.3. Cross-case analysis

Hod et al. [61] clarify that merely putting a group of students together is not enough to create a community culture in which shared norms are reflected in an appreciation of differences and decency is valued. These norms must be established by the group through expectations and examples set by the teacher. Participants in both cases of this study indicated that using VTS fostered relationships among students and between the students and teacher.

4.3. Theme 3: Providing a space for student voice

4.3.1. Case 1: Traditional case findings

Ferguson et al. [37] find that student voice emerged in environments of trust and collaboration between teachers and students, was evident when students participated in meaningful decision-making regarding their learning experience, and was fundamental to a democratic education. While not specifically called student voice, this idea resonated through the work of Maslow and Rogers in their descriptions of free and authentic expression, self-actualization, and expressive behavior [24]. Many participants reported that the insight they gained about their students during VTS sessions informed their general teaching and planning processes. This change in participants' general practice reflected a shift toward Rogers's call for curriculum that arose out of mutual interaction between the student and the teacher rather than curriculum that was predetermined [62]. Dalia observed that hearing from her students was useful in that they often came up with a better way of doing an activity based on their prior knowledge of a given topic (I1). Nelly felt the VTS sessions with her class helped her learn more about her students' personalities and life experiences. She believed that creating space for student voice helped her students "guide their own learning a little bit better than just looking at a textbook" (I2). These experiences exemplified how VTS practice helped participants encourage their students onto the path of becoming what Rogers [59] calls a self-directed learner: one who would seek out the resources they needed to complete learning objectives of their own choosing.

Class discussions during VTS sessions gave teachers in the traditional case a window into the minds of their students and informed them how to best help each student progress on their own path. Elisenda's experience with VTS provided her with insight as to who her students were and what kind of learners they were, and that insight led her to change the types of activities she offered her students (I1). Kathy stated that her lesson plans became more student-directed after becoming experienced with VTS: What her students expressed during VTS sessions, rather than what she had laid out on a lesson plan, determined her the path forward and informed her next steps for instruction (I1). Maritza discovered that while listening to her students during VTS sessions, she could figure out where her students were on a continuum of understanding and how to help her students move forward from there (I1). These examples of participants using student generated data to inform instruction align with Maslow's [58] assertion that the humanistic teacher would see the student as they were and help them move forward to self-actualize from there.

4.3.2. Case 2: Non-traditional case

In his commentary on self-directed learners, Knowles [57] describes an evolution from the learner's experiences being less valuable than those of the teacher to those experiences becoming an "increasingly rich resource for learning which should be exploited." Participants in the non-traditional case recognized VTS to help give voice to and employ their students' experiences for the enhancement of the whole class. Many found the discussions that took place during VTS sessions were prime opportunities for covertly gathering rich student data. Carey discovered that these discussions were useful in ascertaining both what her students knew and what that prior knowledge was based on (I2). From that starting point, she could then tie what her students already knew to what she was hoping to help them learn,

thereby making the new content relevant to their lives (I1). Jenn recalled VTS discussions in which a student shared something slightly more advanced than the rest of the class could grasp. She speculated that this student pushed the rest of the class to Vygotsky's "zone of proximal development," engaging their curiosity and driving the class conversation forward (I1). Luci acknowledged the association between the experiences students brought with them to class and what sense they would make of the subject (I1). Lanser remarked that students' prior experiences served as building blocks they could use to construct new meaning and acknowledging them created an opportunity to celebrate the students' contributions to the class (I1). Eileen believed the utilization of prior experiences in learning gave every student the ability to contribute to the class. She reminded her students, "there are different ways of looking at this; I have my own perspective, but I can learn from you as well" (I1). Laurel regarded paraphrasing as a way to highlight student voice while simultaneously helping students build off one another's learning (I1). Denise credited VTS with helping her students shift their perceptions of learning. In particular, she felt that asking for more information (I1).

4.3.3. Cross-case analysis

Participants in both cases expressed that listening to student responses in VTS sessions gave them a better sense of who their students were as individuals, which in turn informed instruction. Participants in both cases acknowledged VTS as a platform for student voice, which empowered them to make their students feel valued and heard.

4.4. Theme 4: Generating active communication

4.4.1. Case 1: Traditional case findings

Maslow and Rogers both championed the creation of a learning environment in which students felt secure, accepted, and safe to take the risks necessary for self-actualization to occur [24]. Evidence that emerged in this study illustrated ways in which VTS married these two concepts: for example, by creating learning environments in which students were invited to share thoughts and take risks, and open conversations were the norm. Participants in the traditional case discussed how VTS provided a space for students and teachers to listen to one another and share ideas through active dialogue [1].

Dalia expressed this sentiment when she described VTS as "One more reason to communicate together and share ideas" (I2). Kathy emphasized the value of several VTS practices, including providing students with time to think and to share those thoughts with others in their class, and the merits of paraphrasing students' comments (I1). Elisenda remarked she had to listen astutely to her students' comments so she could repeat them back to the class and link them to one another, augmenting the vocabulary where applicable (I2). Maritza credited VTS with generating vibrant, organic discussions in class that were more valuable than contrived class discussions driven by sentence stems (I1). She also commented on the sustaining nature of the VTS questions, which invited students to dig deeper instead of giving them the sense that they had learned all that there was to know (I2). Rogers [59] speculates that knowledge is ever-changing and that true learning never really ends [63], an idea reflected in the second VTS question, "What more can we find?" [1].

4.4.2. Case 2: Non-traditional case findings

Participants in the non-traditional case were also aware of the influence the active class discussions generated through VTS had on their teaching experiences. One communal category that came emerged among non-traditional participants was that employing VTS made them better listeners. Helen noticed that paraphrasing and linking had become so ingrained in her practice post-VTS training that she used those techniques outside of VTS sessions without effort. She noted an increased willingness to engage in conversation with students as part of class instruction as well as on a more informal level (I1) and observed that VTS had made her a much better listener (I2). Eileen found that talking and joking around with students helped her to gain their trust and imbue in them a sense of responsibility. Eileen reasoned, "I listened to them...and so then when I bring questions for discussion, they feel that they know that I am going to listen to what they have to say" (I1). Luci believed active listening helped her become more balanced and less authoritarian because students felt respected and validated when she listened to them. Her students, in turn, gained space to be themselves, being open for them to interpret, to be curious (I2). Lanser recalled letting her students know they had her full attention to encourage them to speak up and voice any questions that were at least peripheral to a lesson's topic. She credited the opportunities VTS created for students to share information with the class with "[letting] them feel like they are experts and like they're not floundering" (I1). These occasions provided the reinforcing experiences that Rogers deemed necessary in order for people to develop the trust in themselves required for self-actualization [62].

4.4.3. Cross-case analysis

Yenawine [64] describes VTS as a "facilitated discussion that can encourage individual expression, productive group interactions, and the development of appreciation for diversity." It is therefore not surprising that participants in both cases viewed VTS as a useful tool for engaging in meaningful dialogue with their students. One of the main benefits of using VTS in terms of communication was that it made participants across cases more active listeners. When students saw that their teacher was listening to them, it helped strengthen the student-teacher relationship.

4.5. Theme 5: Speaking humanistically

4.5.1. Case 1: Traditional case findings

In a humanistic educational setting, the teacher helps students gain clarity without defining right and wrong for the student or passing judgment on the student's process [65]. As part of a typical VTS training program, participants would have been taught to achieve this end goal by using a neutral tone while paraphrasing and linking student remarks. Many participants recalled pausing to ask their students for clarification when repeating their words back to them and doing so without passing judgment on the remark or acknowledging the remark as correct or incorrect but rather as one possibility among many [1].

Indeed, becoming aware of multiple possible answers seemed to help Miora's students expand their own thinking. Miora recalled her students saying things such as, "I kind of think right now I'm disagreeing with myself," which she interpreted as evidence that they felt comfortable enough to change their thinking based on additional input from peers. This is an example of how speculative language created a learning environment in which

students were not trying to guess the right answer, but rather were focused on constructing meanings for themselves, thereby taking responsibility for their learning as Maslow and Rogers advise [24].

Kathy believed that conditional language prompted a growth mindset among her students by continuously opening the potential for different points of view and a deeper way to address the learning objective (I2). When students were not engrossed with finding the correct answer but instead were encouraged to explore multiple options, they were free to think creatively and participate in embodied learning [66]. Elisenda observed this broadening of perspectives among her students as well and added that by using conditional language, she was inviting her students to explain where their line of thought was coming from, which gave them the opportunity to reflect on their own thinking (I2). As students responded to the Elisenda's paraphrasing and provided evidence to support their assertions, they were taking responsibility for their learning, one of the projected outcomes of a humanistic education as outlined by Rogers [59].

Owen deemed conditional language an essential component for student meaning-making because it helped students filter through multiple solutions to a problem instead of accepting a single, "canned" answer (I2). Sabina remarked that paraphrasing her students' comments with conditional language helped them appreciate different points of view and enabled them to make connections to other students with similar thoughts. She explained, "you can see some of the light bulbs go on, like, 'Oh, they said that too. That's what they meant!'" (I2). Maritza concluded that introducing students to many possibilities through conditional language was "the short play," whereas coming up with the right answer was "the long play" (I2). In other words, teaching students how to think and learn, rather than to simply follow a path to a particular conclusion, was her immediate objective. These participants described experiences using VTS to help their students learn how to learn, a key characteristic of what Rogers envisioned as an educated person [26].

Participants in this study often became so comfortable with using conditional language in VTS sessions that it migrated into everyday use in both their professional and personal conversations. Nelly, Valerie, Nuria, Elisenda, Skye, and Bajda each commented on using conditional language in non-academic or personal situations (I1 & I2). Valerie noticed that the use of conditional language helped remind her that other perspectives exist besides her own, which helped her be more open to other possibilities (I2). Elisenda found that even when casually chatting with students, she was paraphrasing and asking follow-up questions that resulted in their opening up more to her (I2). Bajda noticed herself saying things like, "So what I hear you saying is..." even in personal conversations, and she believed speaking this way helped her remain more neutral and objective in conversations (I2). Using conditional language paved the way for empathetic listening and understanding, a quality championed by Rogers as one that facilitates learning [26].

4.5.2. Case 2: Non-traditional case findings

The conditional language used during both cases use of VTS was intended to provide students with opportunities to incorporate their own life experiences into their learning and to explore multiple possibilities [1]. Helen saw this dynamic happen in her classroom and noted that VTS helped her understand the conditionality of right and wrong answers. She explained that she had come to view most information as context-based, which led her to view learning as a personal experience that occurs within each student's individual context (I2). Luci said the absence of a

definitive answer left space to see the other side of any argument and to accept any vision of life (I1). The use of conditional language and acceptance of multiple views created a safe space for students to discover themselves and feel validated. The role that neutrality and conditional language played in creating a learning environment where all students felt valued was evident in the experiences of non-traditional participants. Luci remarked that acknowledgment as opposed to praise set a different tone in the class: "You tend to praise good students or proficient students, but less proficient students, maybe they get this sensation of, 'I'm not doing well'" (I2). Lanser postulated that students who are not praised might think their ideas were not good and withdraw from the class conversation as a result (I2). Denise observed this in her class, noting that when she praised a student for an idea, other students tended to believe that was the only correct thought, so their thought must be wrong (I1). Replacing praise of student comments with paraphrasing created opportunities for students to see themselves as contributors to the learning environment, which bolstered self-esteem. Luci saw evidence of this when she noticed that shy students in her class were more likely to participate when they knew that the answer was "not black and white." Self-esteem is required for self-actualization [24], the end goal of humanistic education.

Like their counterparts in the traditional case, participants in the non-traditional case became so comfortable using conditional language that it translated into both their general teaching practice and their personal lives. Laurel noticed that using conditional language in VTS sessions taught her to think conditionally, and that resulted in more divergent thinking. She saw this extend to her students; as they became more aware of critical thinking, they began asking themselves, "What comes next?" (I2). Eileen reflected that she did not even think about using conditional language anymore; rather, it just became a natural part of any discussion she had with her students (I2). Paraphrasing and conditional language granted Carey the opportunity to make sure she and her students understood one another and to let her students know she valued their opinions (I2). This feeling of being valued in class linked the practice of VTS directly to one of Rogers's educational goals for the fully functioning student by reflecting how VTS helped students develop trust within themselves and bolstered their self-esteem [62].

4.5.3. Cross-case analysis

Yenawine [1] explains that the conditional language used during paraphrasing was meant to establish a culture of contemplation and divergent thinking among students. Participants in both cases found that both they and their students became more open to different ways of seeing things. Participants in the traditional case mentioned ways they transferred the use of conditional language to teaching different subjects and the space it created for learners at different levels to contribute to class discussions. Participants in the non-traditional case spoke more about the space conditional language created for students who might normally be hesitant to speak up in class. In both cases, participants acknowledged that conditional language use had spilled over into conversations in their personal lives and other aspects of their professional lives.

4.6. Discussion and implications

In humanistic education, teachers transition into the role of facilitator and harness the natural curiosity of their students, using it

to teach students how to learn as opposed to meeting a learning target [26]. Students are viewed as whole beings to be accepted and supported by the teacher-facilitator on their individual journeys to self-actualization [24]. The teacher-facilitator presents their true self to the class and likewise sees the whole student, treating each child as significant and valuable [26]. The end goal of humanistic education is learning that changes the student from within, a means of self-discovery that stays with the student throughout their life [24].

The VTS skills of validating student voice, elevating student vocabulary, and linking and framing student remarks found in the data of both cases in the current study all relate to Maslow and Rogers' vision of humanism [24]. In Rogers' humanistic therapy sessions, the client's words were echoed back to them by the therapist for further contemplation and reflection. The participants in a VTS session provided these same opportunities when repeating a student's thoughts back to the student for everyone to hear. The participants further validated the learner by linking the student's comments to those of other classmates and providing context within the conversation. The participants provided support for the student when applicable by restating the student's observation in more complex or refined language [1]. During the sessions, the participants listened carefully to each observation to reiterate the response back to the speaker. Rogers [59] advocates for this sort of deep listening when he noted that when students feel that they are truly being heard and not judged, they will begin to feel freer to express themselves openly.

VTS protocol further aligns with the humanistic premise that students be met where they are and accepted as such without judgment [24]. This is reflected in the expectation that the participants responded to VTS session students in a neutral way. The participants checked in with their students to verify that they had properly understood them, but they made no judgments about students' observations on the topic being discussed [1].

The findings of this study suggest implications for learning institutions hoping to create a more humanistic environment for students and staff. Legislation such as No Child Left Behind and Race to the Top in the United States in addition to other international exams have increasingly led to a focus on teaching students how to take exams as opposed to teaching them how to learn [1, 67–69]. Even the seemingly innocuous act of writing lesson plans has been identified as one that detracts from teachers' likelihood to acknowledge students as individuals [70]. Over time, attention to what is being learned has superseded attention to the learner. Stiggins and Chappuis [69] argue that a focus on testing, which began with college admissions tests in the 1940s, only intensified into the 21st Century with the addition of state and national standardized assessments in K-12 contexts. With the pressure for schools to demonstrate student achievement through these standardized tests, the assessment focus has shifted from learning to learn, to learning to test [69]. Humanism, with its core values on student-centered learning and genuine acquisition of skills and knowledge [24], could provide a counterbalance to the current assessment-driven educational model. VTS, as a vehicle for teachers to gain humanistic teaching skills, could be implemented in learning institutions hoping to return the heart of teaching to actualizing the potential of the learners.

VTS, or another humanistic approach to learning, might also be implemented to assist students experiencing trauma (such as the effects of the COVID-19 pandemic) to acquire the regulatory and resiliency mechanisms necessary to cope with their current reality. In assessing the emotional fallout among students from the COVID-19 pandemic and social unrest ensuing from the continued violence against people

of color, Pica-Smith and Scannell [71] compiles a list of suggested strategies to support students. Their suggestions were not dissimilar from the tenets of humanistic education. For example, they recommended that teachers share their own vulnerability with their students because recognizing a shared lived experience would promote students' ability to cope and regulate their own emotions.

Teachers presenting their authentic self reflect Rogers's assertion that the teacher should share their whole and genuine self with the class so that their students could feel comfortable doing the same [26].

Pica-Smith and Scannell [71] also advise teachers to create authentic connections with their students by learning about each one as an individual. The personal connection between teacher and student further relates to humanism and VTS—humanism calls for teachers to get to know their students to guide them toward self-actualization [24], while VTS provides an opportunity for teachers to get to know each of their students through class conversations centered on a work of art [1] or other content focus. Educational institutions pursuing a humanistic approach to teaching could include staff training in VTS as part of a comprehensive professional development plan.

5. Limitations and Conclusion

There are several limitations to this study. The researchers had no control over the environments in which the participants were teaching, who they were teaching, how they were teaching, or what they were teaching. Conclusions drawn from the results of the study are not generalizable beyond the study population and may not apply to educators outside of the VTS community. However, educators interested in teaching more humanistically may find value.

This multi-case study was explorative in nature, and at the outset, a connection between VTS and humanism had not been made. This research explicitly connects VTS with humanistic education. A follow-up study investigating teachers' perception of their humanistic tendencies within their VTS practice could elucidate to what extent these tendencies are innate habits or conscious efforts.

Conflicts of Interest

The authors declare that they have no conflicts of interest to this work.

Data Availability Statement

Because of participants' privacy reasons, data are not publicly available.

Author Contribution Statement

Christina Connors: Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration.
Jody S. Piro: Conceptualization, Methodology, Software, Validation, Formal analysis, Resources, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration.

References

- [1] Yenawine, P. (2013). *Visual thinking strategies: Using art to deepen learning across school disciplines*. UK: Harvard Education Press.

- [2] Albert, C. N., Mihai, M., & Mudure-Iacob, I. (2022). Visual thinking strategies Theory and applied areas of insertion. *Sustainability*, 14(12), 7195. <https://doi.org/10.3390/su14127195>
- [3] Housen, A. C. (1997). Eye of the beholder: Research, theory, and practice. In *Aesthetic and art education: A transdisciplinary approach*, 1–30.
- [4] Miterianifa, M., Ashadi, A., Saputro, S., & Suciati, S. (2021). Higher order thinking skills in the 21st century: Critical thinking. In *Proceedings of the 1st International Conference on Social Science, Humanities, Education and Society Development*, 1–10. <http://dx.doi.org/10.4108/cai.30-11-2020.2303766>
- [5] Bachmann, C. (2022). Theory and practice of visual thinking strategies in secondary education. *Educational Forum*, 34, 105–123. <https://doi.org/10.34862/fo.2022.8>
- [6] Smolkowski, K., Strycker, L. A., Anderson, L., Marconi, P., & Abia-Smith, L. (2020). The visual thinking strategies approach to teaching argument writing: A professional development model. *The Elementary School Journal*, 121(1), 100–124. <https://doi.org/10.1086/709984>
- [7] Clark-Gareca, B., & Meyer, T. (2023). Visual thinking strategies for English learners: Learning language through the power of art. *TESOL Journal*, 14(2), e698. <https://doi.org/10.1002/tesj.698>
- [8] Ishiguro, C., Takagishi, H., Sato, Y., Seow, A. W., Takahashi, A., Abe, Y., . . . , & Kato, E. (2021). Effect of dialogical appreciation based on visual thinking strategies on art-viewing strategies. *Psychology of Aesthetics, Creativity, and the Arts*, 15(1), 51–59. <https://doi.org/10.1037/aca0000258>
- [9] Agarwal, G. G., McNulty, M., Santiago, K. M., Torrents, H., & Caban-Martinez, A. J. (2020). Impact of Visual Thinking Strategies (VTS) on the analysis of clinical images: A pre-post study of VTS in first-year medical students. *Journal of Medical Humanities*, 41(4), 561–572. <https://doi.org/10.1007/s10912-020-09652-4>
- [10] Nolan, S. (2022). VTS in the English language classroom in Sweden: Visuality, paraphrasing and collective thinking in support of language learning. *Educare*, (4), 127–144. <https://doi.org/10.24834/educare.2022.4.6>
- [11] DeSantis, K., & Housen, A. (2001). *A brief guide to developmental theory and aesthetic development*. USA: Visual Understanding in Education.
- [12] Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. USA: Harvard University Press.
- [13] Lee, A., Cronin, S., & Gibbon, F. (2021). Visual thinking strategies for speech and language therapy students. *All Ireland Journal of Higher Education*, 13(2), 1–22. <https://doi.org/10.62707/aishej.v13i2.573>
- [14] Chisolm, M. S., Kelly-Hedrick, M., & Wright, S. M. (2021). How visual arts-based education can promote clinical excellence. *Academic Medicine*, 96(8), 1100–1104. <https://doi.org/10.1097/ACM.00000000000003862>
- [15] Curva, F., Milton, S., Wood, S., Palmer, D., Nahmias, C., Radcliffe, B., & Youngblood, T. (2005). *Artful citizen project: Three-year project report*. USA: Curva and Associates.
- [16] Poirier, T. I., Newman, K., & Ronald, K. (2020). An exploratory study using visual thinking strategies to improve undergraduate students' observational skills. *America Journal of Pharmaceutical Education*, 84(4), 7600. <https://doi.org/10.5688/ajpe7600>
- [17] Zuhai, A. R., & Hassan, F. A. (2021). The effect of the strategy of visual thinking networks in developing the conceptual comprehension of the students of the Department of Art Education in the subject of general teaching methods. *Turkish Online Journal of Qualitative Inquiry*, 12(7), 8908–8934.
- [18] Ferrara, V., Shaholli, D., Iovino, A., Cavallino, S., Colizzi, M. A., della Rocca, C., & la Torre, G. (2022). Visual thinking strategies as a tool for reducing burnout and improving skills in healthcare workers: Results of a randomized controlled study. *Journal of Clinical Medicine*, 11(24), 7501. <https://doi.org/10.3390/jcm11247501>
- [19] Choi, J., Lee, S. E., Choi, S., Kang, B., Kim, S. H., Bae, J., . . . , & Son, Y. J. (2022). Integration of visual thinking strategies to undergraduate health assessment course: A mixed-method feasibility study. *Nurse Education Today*, 113, 105374. <https://doi.org/10.1016/j.nedt.2022.105374>
- [20] Lynch, D. (2022). Integrating visual thinking strategies in social work education: Opportunities for the future? *The British Journal of Social Work*, 52(3), 1643–1661. <https://doi.org/10.1093/bjsw/bcab121>
- [21] Bellaera, L., Weinstein-Jones, Y., Ilie, S., & Baker, S. T. (2021). Critical thinking in practice: The priorities and practices of instructors teaching in higher education. *Thinking Skills and Creativity*, 41, 100856. <https://doi.org/10.1016/j.tsc.2021.100856>
- [22] Adams, M., Foutz, S., Luke, J., & Stein, J. (2006). *Thinking through art Isabella Stewart Gardner museum school partnership program year 3 preliminary research results*. Retrieved from: <https://vtshome.org/wp-content/uploads/2016/08/3Gardner-Museum-Thinking-Through-Art.pdf>
- [23] Ishiguro, C., Sato, Y., Takahashi, A., Abe, Y., Kakizaki, H., Okada, H., . . . , & Takagishi, H. (2021). Comparing effects of visual thinking strategies in a classroom and a museum. *Psychology of Aesthetics, Creativity, and the Arts*, 15(4), 735. <https://doi.org/10.1037/aca0000326>
- [24] DeCarvalho, R. J. (1991). The humanistic paradigm in education. *The Humanistic Psychologist*, 19(1), 88–104. <https://doi.org/10.1080/08873267.1991.9986754>
- [25] Zajda, J. (2021). Constructivist learning theory and creating effective learning environments. In J. Zajda (Ed.), *Globalisation and education reforms: Creating effective learning environments* (pp. 35–50). Springer. https://doi.org/10.1007/978-3-030-71575-5_3
- [26] Kirschenbaum, H., & Henderson, V. L. (1989). *The Carl Rogers reader*. USA: Houghton Mifflin Harcourt Publishing Company.
- [27] Hamzah, L. M. B., Majid, S., Yusof, N. M., & Hussien, S. B. (2024). The impacts of democratic learning environment on students' self-enhancement: A case study in a Malaysian Public University. *Asian Journal of University Education*, 20(1), 197–205.
- [28] Hanley, T., Winter, L. A., & Burrell, K. (2020). Supporting emotional well-being in schools in the context of austerity: An ecologically informed humanistic perspective. *British Journal of Educational Psychology*, 90(1), 1–18. <https://doi.org/10.1111/bjep.12275>
- [29] Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 89(3), 411–419. <https://doi.org/10.1037/0022-0663.89.3.411>
- [30] Sadoughi, M., & Hejazi, S. Y. (2021). Teacher support and academic engagement among EFL learners: The role of positive academic emotions. *Studies in Educational Evaluation*, 70, 101060. <https://doi.org/10.1016/j.stueduc.2021.101060>

- [31] Treve, M. (2021). Study of humanistic education: Concerns, implications, and applications. *Turkish Journal of Computer and Mathematics Education*, 12(11), 6303–6310.
- [32] Bas, G. (2011). Teacher student control ideology and burnout: Their correlation. *Australian Journal of Teacher Education*, 36(4), 84–94. <https://search.informit.org/doi/10.3316/informit.327124573824690>
- [33] Opdenakker, M. C., & van Damme, J. (2006). Teacher characteristics and teaching styles as effectiveness enhancing factors of classroom practice. *Teaching and Teacher Education*, 22(1), 1–21. <https://doi.org/10.1016/j.tate.2005.07.008>
- [34] Lavy, S., & Naama-Ghanayim, E. (2020). Why care about caring? Linking teachers' caring and sense of meaning at work with students' self-esteem, well-being, and school engagement. *Teaching and Teacher Education*, 91, 103046. <https://doi.org/10.1016/j.tate.2020.103046>
- [35] Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research*, 77(1), 113–143. <https://doi.org/10.3102/003465430298563>
- [36] Hod, Y., & Ben-Zvi, D. (2018). Co-development patterns of knowledge, experience, and self in humanistic knowledge building communities. *Instructional Science*, 46(4), 593–169. <https://doi.org/10.1007/s11251-018-9459-z>
- [37] Ferguson, D. L., Hanreddy, A., & Draxton, S. (2011). Giving students voice as a strategy for improving teacher practice. *London Review of Education*, 9(1), 55–70. <https://doi.org/10.1080/14748460.2011.550435>
- [38] González-Sanz, M., Wilson-Daily, A. E., Feliu-Torruella, M., & Ibanez-Etxeberria, A. (2023). What type of learning methods do pupils prefer in museums and at school? Elementary school pupil's perceptions of visual thinking strategies as applied at the Barcelona Picasso Museum. *Sage Open*, 13(4), 21582440231209690. <https://doi.org/10.1177/21582440231209690>
- [39] Weinstock, M., Assor, A., & Broide, G. (2009). Schools as promoters of moral judgment: The essential role of teachers' encouragement of critical thinking. *Social Psychology of Education: An International Journal*, 12(1), 137–151. <https://doi.org/10.1007/s11218-008-9068-9>
- [40] Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology*, 105(3), 579–595. <https://doi.org/10.1037/a0032690>
- [41] Mielkov, Y., Bakhov, I., Bilyakovska, O., Kostenko, L., & Nych, T. (2021). Higher education strategies for the 21st century: Philosophical foundations and the humanist approach. *Revista Tempos e Espaços em Educação*, 14(33), e15524. <http://dx.doi.org/10.20952/revtee.v14i33.15524>
- [42] Nickel, K. L. (2022). Growing literacy skills with visual thinking strategies on virtual art museum tours. *Literacy Practice and Research*, 47(1), 3.
- [43] Paul, A., Mercado, N., Block, L., DeVoe, B., Richner, N., & Goldberg, G. R. (2023). Visual thinking strategies for interprofessional education and promoting collaborative competencies. *The Clinical Teacher*, 20(5), e13644. <https://doi.org/10.1111/tct.13644>
- [44] Keogh, F. M., Lee, A., & Gibbon, F. (2020). Visual thinking strategies: Experiences of an arts-based curriculum in an Irish University Medicine and Health Faculty. *All Ireland Journal of Higher Education*, 12(1), 1–24. <https://doi.org/10.62707/aishej.v12i1.408>
- [45] Stake, R. E. (2006). *Multiple case study analysis*. USA: Guilford Press.
- [46] Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). USA: Sage Publications.
- [47] Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). USA: McGraw-Hill.
- [48] Whitehead, D., & Whitehead, L. (2020). Data collection and sampling in qualitative research. In D. Whitehead, C. Ferguson, G. LoBiondo-Wood & J. Haber (Eds.), *Nursing and midwifery research: Methods and appraisal for evidence based practice* (6th ed., pp. 118–135). Elsevier.
- [49] Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. USA: Sage Publications.
- [50] Carlson, J. A. (2010). Avoiding traps in member checking. *Qualitative Report*, 15(5), 1102–1113. <https://doi.org/10.46743/2160-3715/2010.1332>
- [51] Williams, M., & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review*, 15(1), 45–55.
- [52] Reyes, V., Bogumil, E., & Welch, L. E. (2024). The living codebook: Documenting the process of qualitative data analysis. *Sociological Methods & Research*, 53(1), 89–120. <https://doi.org/10.1177/0049124120986185>
- [53] Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. USA: Sage Publications.
- [54] Braun, V., & Clarke, V. (2023). Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a knowing researcher. *International Journal of Transgender Health*, 24(1), 1–6. <https://doi.org/10.1080/26895269.2022.2129597>
- [55] Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). USA: Pearson.
- [56] Saldaña, J. (2009). *The coding manual for qualitative researchers*. USA: Sage Publications.
- [57] Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. USA: Follett Publishing Company.
- [58] Maslow, A. (1968). Some educational implications of the humanistic psychologies. *Harvard Educational Review*, 38(4), 685–696. <https://doi.org/10.17763/haer.38.4.j07288786v86w660>
- [59] Rogers, C. R. (1977). Beyond the watershed: And where now? *Educational Leadership*, 34(8), 623–631.
- [60] Knowles, M. (1973). *The adult learner: A neglected species*. USA: Gulf Publishing Company.
- [61] Hod, Y., Bielaczyc, K., & Ben-Zvi, D. (2018). Revisiting learning communities: Innovations in theory and practice. *Instructional Science*, 46(4), 489–506. <https://doi.org/10.1007/s11251-018-9467-z>
- [62] Rogers, C. R., Lyon, H. C., & Tausch, R. (2014). *On becoming an effective teacher: Person-centered teaching, psychology, philosophy, and dialogues with Carl R. Rogers and Harold Lyon*. USA: Routledge. <https://doi.org/10.4324/9780203725672>
- [63] Patterson, C. H. (1977). *Foundations for a theory of instruction and educational psychology*. USA: Harper & Row.
- [64] Yenawine, P. (1998). Visual art and student-centered discussions. *Theory into Practice*, 37(4), 314–321. <https://doi.org/10.1080/00405849809543821>
- [65] Willers, J. C. (1975). Humanistic education: Concepts, criteria, and criticism. *Peabody Journal of Education*, 53(1), 39–44. <https://doi.org/10.1080/01619567509538047>

- [66] Yayuk, E., Purwanto, As'ari, A. R., & Subanji. (2020). Primary school students' creative thinking skills in mathematics problem solving. *European Journal of Educational Research*, 9(3), 1281–1295. <https://doi.org/10.12973/eu-jer.9.3.1281>
- [67] Pozas, M., Letzel, V., & Schneider, C. (2020). Teachers and differentiated instruction: Exploring differentiation practices to address student diversity. *Journal of Research in Special Educational Needs*, 20(3), 217–230. <https://doi.org/10.1111/1471-3802.12481>
- [68] Freeman, Q., Flores, R., Garzón, D., Gumina, D., Sambolín Morales, A. N., Silva Diaz, E., & Stamatis, K. M. (2020). Collaborating towards humanizing pedagogies: Culture circles in teacher educator preparation. *The New Educator*, 16(1), 86–100. <https://doi.org/10.1080/1547688X.2019.1671567>
- [69] Stiggins, R., & Chappuis, J. (2018). Using student-involved classroom assessment to close achievement gaps. *Theory into Practice*, 44(1), 11–18. https://doi.org/10.1207/s15430421tip4401_3
- [70] Clark, C. M., & Yinger, R. J. (1977). Research on teacher thinking. *Curriculum Inquiry*, 7(4), 279–304. <https://doi.org/10.1080/03626784.1977.11076224>
- [71] Pica-Smith, C., & Scannell, C. (2020). Teaching and learning for this moment: How a trauma-informed lens can guide our praxis. *International Journal of Multidisciplinary Perspectives in Higher Education*, 5(1), 76–83. <https://doi.org/10.32674/jimph.v5i1.2627>

How to Cite: Connors, C., & Piro, J. S. (2025). Visual Thinking Strategies as Humanistic Education: A Qualitative Study of Teachers Using VTS. *International Journal of Changes in Education*, 2(2), 66–79. <https://doi.org/10.47852/bonviewIJCE42022990>