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Visual Notes as a Teaching and Learning Tool in the Classroom

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Abstract

Our classrooms are diverse at so many levels and students are calling for more inclusive and engaging tools to learn and work. Visual notetaking is a powerful tool that has the potential to improve classroom inclusion by making lectures and presentations more accessible to students. This article explores three different ways of using visual notes in the learning process and aims to advocate for visual notes as a tool to help diverse learners better understand and connect with the content presented in class, and empower them to more effectively study, collaborate in groups, and present their work.

Increasingly during the last decades, art has been used deliberately as a tool to foster understanding, with the intent of changing social attitudes and practices (Barrett, 2007; Barone, & Eisner, 1997; Leavy, 2017; Sullivan, 2010). Research shows art has been employed in generalized learning and knowledge sharing for millennia (e.g., Margolis & Zunjarwad, 2018), and recognizes its potential as a tool for “meaning-making, empowerment, multisensory communication, and expressive power” (p. 219). No surprise, as visual thinking is present in everyday modern life. Barrett (2007) used art to externalize knowing (p.121), to engage students, and as

a tool to disseminate findings. Chemi and Du (2018) describe visual methods as “transferable material,” and propose art as an excellent means of promoting skill transferability. I argue visual notes are a helpful tool for making connections between old and new knowledge, showing clear connections between ideas, organizing and summarizing information into a single cohesive picture, and fostering meaning-making.

Visual notes are drawings that use a combination of text and images to convey key points from presentations, or class lectures, created in real-time while actively listening to content. Key to visual notes is a balance between image and text, so that the meaning of icon remains clear long term. Visual notes are spatial (never linear), group themes together, and show connections between topics (e.g., figure 1). Visual notes enable educators to question hegemonic norms in curriculum design (Cahnmann-Taylor, 2017), reflect on assumptions of how learning happens, and explore blind spots in both subject matter and student understanding. Further, visual notes facilitate students’ understanding and retention of complex topics, encourage communication and knowledge dissemination, and increase access to information. This paper aims to create awareness of the impact visual notes can create in the classroom and the current need to use tools like this to make learning more accessible to diverse learners.

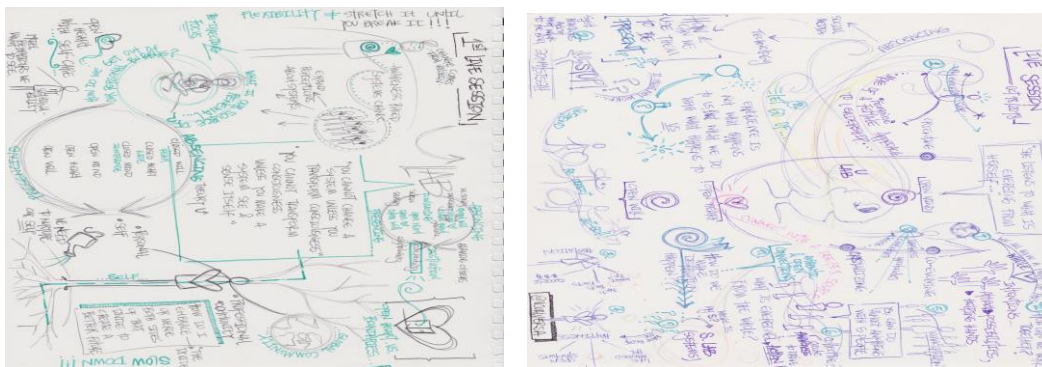


Figure 1. Generative Scribing.

However, visual notes as a tool for learning and presenting largely remain absent from the literature, and some researchers (e.g., Chemi & Du, 2018; Leitch, 2006) are calling for further study of these methods. Our classrooms have changed, and so should the way we teach and approach learning. I do not dismiss traditional, text-based methods; “text-based reasoning has, naturally, been crucial to intellectual activity” (Petrucchi, 2011, p. 276). Instead, I encourage the use of visual notes to complement

traditional approaches. Visual notes, like all creative methods (e.g., pictures, improv, photovoice) provide access to new ideas and perspectives and are a way of developing fun and cooperative approaches to learning. Visual notes have potential in education and deserve a place in everyday classrooms.

POSITIONALITY STATEMENT

The current paper is an extension of my online workshop, *Visual Notes in the Classroom* (Gutiérrez Mejía, 2022), part of *Conversations that Include*, an online interactive initiative hosted by Concordia University designed to facilitate inclusive classroom practices and exercises through peer-to-peer interaction. *Visual Notes in the Classroom* provided a space to explore and question the viability of including visual notes in educators' day-to-day practice. The current paper reflects on both the research that informed the workshop, and my observations following the workshop.

My research is inspired by my own experience. I started using visual notes as an ESL graduate student, as I sometimes struggled to keep up with classes and notetaking. I soon realized I was more present, more able to listen to my professors, when I took visual notes. Sullivan (2010) suggests that "the researcher carry around their own frames of reference, and inevitably make their interpretations in accordance with this" (p.103) and I am aware that my experience may tint my perspective. From the moment I started using mind maps and doodles to take notes in class, I experienced an increase in the quality of my attention, intention, and presence in class (echoed by Scharmer, 2018). Reviewing my visual notes after a class gave me a sense of relief, an overall view, and a better understanding of the order of concepts and their connections to previous topics.

Since that initial experience with visual notes, my work has intended to develop evidenced-based innovative approaches using visual notes and tools to help students be involved in their learning and work and improve students' feelings of value, contribution, and engagement in the classroom or on their teams. My research sessions are conducted with graduate students and explore different concepts and experiences. Designed under the umbrella of arts-based research (ABM), my studies align with previous research investigating ways of encouraging pluralism and diversity (Chemi & Du, 2017). I also employ a participatory action research (PAR) framework (Chevalier & Buckles, 2013), an approach that

involves participants in the design, data collection, and analysis processes, and then evaluates the impact (Gutiérrez Mejía, forthcoming).

Resistance towards drawing is ever pervasive; however, the images that have the greatest impact on me, or on research participants, are not the most beautiful, nor are they the most complex. My research delves into the impact of diversity in visual tools, group work with visual tools, and the effectiveness of visuals in promoting more efficient conversations and/or deeper learning reflections.

VISUAL NOTES: POTENTIAL CONTRIBUTIONS TO THE CLASSROOM

Given the innovative nature of visual methods, the temptation may be to incorporate them into classroom teaching as one of many quick and easy classroom tools. However, casual use of visual methods is a disservice long term because a purposive visual methods practice can make a powerful impact (Willis, 2011). Scharmer (2018) argues that visual notes activate the social field—“the quality of relations that give rise to patterns of thinking, conversing, and organizing, which in turn produce practical results” (p.13). Wouldn't we all like to see those patterns, use those patterns, to produce practical results in any classroom or team we are part of? The current paper discusses some recurrent themes that have surfaced through my research and workshops: that visual notes help students better understand and remember complex topics, help educators disseminate knowledge, and make information more accessible.

Visual notes help students understand and remember complex topics

Research has continuously found that our brain processes images faster than text. The brain recognizes and understands concepts more easily through visuals than through text because, as opposed to rational learning experiences, images encourage an embodied and holistic experience of meaning making and are always sharable (Taylor, 2008). Using images as a form of inquiry enables students to link to new to previous knowledge. When practiced in a collaborative way, image-based inquiry may generate renewed understanding and perception of core topics (Broussine & Beeby, 2008), and allow students to develop non-rational, non-logical capabilities and self-knowledge (Sutherland, 2013, p. 26).

Research shows a “correlation between increased short-term memory retention and the use of various kinds of knowledge mapping techniques”

(Renfro, 2017, p. 96). Willis (2011) found that visual notes required students to classify information, inviting them to reflect on concepts and their causes. By maneuvering information on the page, students made decisions on where to place pieces of information, and how much space to give to each. In the process, learners ranked key concepts in order of importance and, by using connectors, containers, and arrows, explore connections and flow among themes and topics of study. The use of visual notes may activate Heron's fourfold process of knowing, specifically the voice of critical inquiry (1992, in Willis, 2011, p. 482), helping students see connections and the whole when they are struggling to bring the pieces of their learning together. Classroom methods involving visual notes may further help teachers better understand student's comprehension of key themes, informing better support for students' learning of complex ideas.

Scharmer (2018) states that lasting change is guided by the heart. Having a space for emotional reactions in the classroom is key, since emotions play an important role in precipitating change and crafting meaningful experiences to create participants' capacity to take action and attain sustainable results (Stringer, 2014). My last workshop with graduate students (Gutiérrez Mejía, forthcoming) focused on thinking *WITH* images instead of thinking *ABOUT* images. Participants reported a shift in perspective—from logical and brain-guided to more authentic and heart-guided—when they involved images in reflecting on a challenge faced during their studies. Willis (2011) describes narrative approaches “as a useful pedagogic strategy to arouse a part of the human heart and mind” (p. 483). Isn't that what we are aiming for? To awaken in our student's passion and positive feelings towards learning?

VISUAL NOTES HELP IN COMMUNICATION AND KNOWLEDGE DISSEMINATION

Currently, more importance is placed on communication, and less time is available to devote to it. Visual notes help students and educators communicate quickly, effectively, because visuals make messages clear and easy to remember. Icons carrying meaning and ideas across linguistic barriers, making a message more accessible, and taking concepts beyond the classroom. Visual notes facilitate knowledge creation and knowledge transfer (Renfro, 2017; Scharmer, 2018), when used to make things visible to the notetaker and to others.

VISUAL NOTES MAKE INFORMATION ACCESSIBLE

While I advocate for visual notes as an effective way to disseminate knowledge, I also believe students who experience the process get the most out of it; their active participation plays a role in creating collective knowledge. The innovative nature of a visual notetaking approach piques students' interest and keeps their attention. While linear text and other forms of communication are powerful, they do not represent the entirety of cognitive processing nor of educational learning (Petrucci, 2011), which visual notes do because they link students' mind, heart, and body, creating a more wholistic learning experience. "The more we understand about human cognition, the clearer it becomes that... arts can play a major role in teaching diverse subject matters" (Fiske & Macrae, 2012, p.15). Traditional pedagogy has centred on linear formats that go against the way we perceive things. It makes sense to use tools that go along with the way we reason, remember, and understand the world.

Visuals reduce the language demand on English as a Second Language (ESL) students and increase understanding of the topic by making knowledge visible. In fact, not only ESL students, but all students benefit from visual representations of knowledge. Linear text and other forms of communication are powerful and needed, but they do not cover the entire cognitive and/or pedagogical map (Petrucci, 2011, p. 276). Art, however, has the potential to reach a broader audience, including those in underprivileged spaces, and has the power to create awareness, provoke resistance, and awake emotions (Bagley & Castro-Salazar, 2012). I see Arts-based methods (ABM) as a tool accessible to anyone, not only those with arts training. ABM as a method aims to: make information more accessible and comprehensible to the general public; question what constitutes as research and knowledge (Fiske & Macrae, 2012); and link head and hand Scharmer (2018); which offers alternatives to traditional classroom practices.

In my practice, I have used visuals to increase inclusivity when working with groups with learning disabilities, hearing impediments, or those learning (in their) second language. However, being inclusive in my illustrations remains a challenge when I take visual notes. Often in visual vocabularies, women are represented with a skirt and long hair—I myself do not feel represented by that visual. Leavy (2015) highlights the power of art to challenge stereotypes, alter unequal powers, and expose oppression. Deep underneath most ABM research and practice is a fundamental desire for social impact, for knowledge to be more inclusive

and accessible, for language and images to represent broader audiences (Cahnmann-Taylor, 2017). Visual notes are not left-to-right, top-to-bottom page. Instead, they disrupt traditional ways of working, teaching, and learning to make meaningful connections between ideas. They have the potential to change some students' relationship to learning entirely.

Scharmer (2018) postulates that visuals are a pedagogical way to engage our senses, and notes that the more involved learners are, the more involved the senses become. While challenging the status quo is always met with reluctance, and the use of visuals will be limited in the beginning, every image shared sparks an opportunity for new possible forms (Holbrook, 2010).

CONCLUSIONS

The current paper outlines just some of the benefits of using visual notes in the classroom. However, the real impact of visual notes is not determined by the final drawing, but by the quality of student participation in learning, the potential for students to see their ideas brought to life, and the evolution of the visual as learning progresses. Visuals spread concepts beyond the confines of the classroom, linking cognitive and physical processes in order to increase quality of attention, intention, and capacity to be present in the moment (Scharmer, 2018). They also push "linear thinkers to consider their topics from different perspectives... to eventually reach a higher level of integrated knowledge" (Renfro, 2017, p.97). The benefits of visual notes in the long term surpass the effort required to learn and integrate them in the classroom. Ideas and perspectives potentially lost by students are far too valuable to not take a chance on visual notes in the classrooms.

Classroom teaching has shifted from full exclusionary practices towards a simplistic 'diversity' checklist approach, still ignoring deeper issues surrounding, for example, the influence of culture and background on learning, oppressive methods in the classroom, or diverse cognitivism, all which impact access to knowledge and learning. We should create spaces to reflect on the reality of classrooms, not only with peers, but with the students who live and breathe the consequences of each new approach to teaching. "If the purpose is to break the frames, we have arbitrarily set around the ways we know, the form should also break the frame" (Markham, 2005, p. 822). We should continue to push boundaries and use tools that give teachers and learners the freedom and flexibility to

challenge status quo. Going through the process of including visual notes in the classroom might be a step further towards more inclusive classrooms. Change begins with small positive modifications that create ripple effects within the entire system.

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