Appendix A. Our process of semantic thematic analysis followed Braun & Clarke’s (2006) steps. We describe how we identified patterns in drawings generated during biology classes.

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| **Phase** | **Purpose** | **Process** |
| 1 | To become familiar with the drawings | We gathered all our images of monastic drawings and organized by the course in which they were photographed. |
| 2 | Organizing data and finding meaningful groups | Initial analysis of drawings revealed that they were diverse in a multitude of ways: detailed or simple; colorful or black/white; realistic or abstract; conceptual or observational; supported with text or not; collaboratively or individually created; or created in response to a prompt or self-initiated. |
| 3 | Searching for themes: sorting, organizing, and collapsing themes. | We grouped drawings broadly within four initial themes: observational, realistic, conceptual, and abstract. We recognized the importance of further examining cultural drawings because interpretation depended on the artists’ explanation. |
| 4 | Reviewing themes: finding patterns and potentially creating a thematic map to establish whether themes describe the data in its entirety | Focusing on the theme of conceptual drawings, we found that some of the drawings revealed misaligned understandings with academic biology. We initially recorded these as “misconceptions,” but we acknowledged that these drawings were visualization of alternative explanations of phenomena. |
| 5 | Defining, refining, and naming themes | Focusing on the theme of conceptual drawings, we found that three of our themes were described in Quillin & Thomas’ (2015) typology: enhancing metacognition; revealing misconceptions; and visualizing quantitative data. Yet, one of our themes was novel: fostering cross-cultural discourse. |
| 6 | Using themes to explain the story of your study – selecting examples to support your claims | Hence, we concluded that, like writing-to-learn, conceptual drawings promote active learning in biology classes. Beyond this, however, conceptual drawings invite both students and teachers to engage in revelatory discourse. We selected examples to illustrate and explain each of our themes, presented as Active Learning and Cultural Relevancy. |