Exploring Digital Tools

Amber Young

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Dr. Harrison

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Miro

When I first opened Miro, I was immediately drawn to the clean, visual layout of its collaborative whiteboard. After creating an account, I started by adding sticky notes, connecting arrows, and color-coded frames to map out a sample lesson plan for GED reading comprehension. The drag-and-drop tools made it simple to cluster ideas, and I used templates like “Mind Map” and “Flowchart” to organize instructional routines. I invited a colleague via link sharing to test the collaboration feature, and we were able to work together in real time, adding digital sticky notes and commenting on each other’s sections. What stood out most was how intuitive it was to zoom, group items, and rearrange visuals, ideal for visual learners. The major advantage for my context is its ability to help teachers visually plan blended learning rotations or track student goals. However, the downside is that Miro requires stable internet, which can be limiting in facilities with restricted access. For adult learners, especially those transitioning from paper-based to digital tools, Miro could be used offline for concept mapping or group brainstorming during professional development. Overall, the platform enhanced my ability to visualize processes and structure lessons collaboratively.

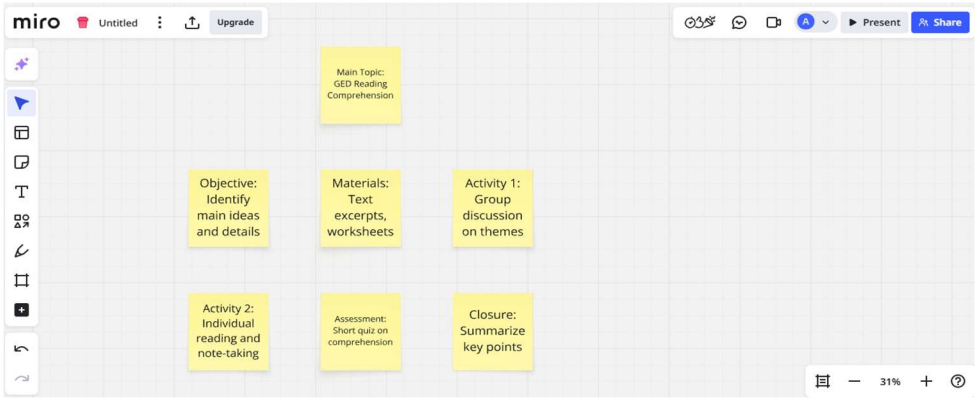

Figure 1. Sticky Note Organizational Chart in Miro

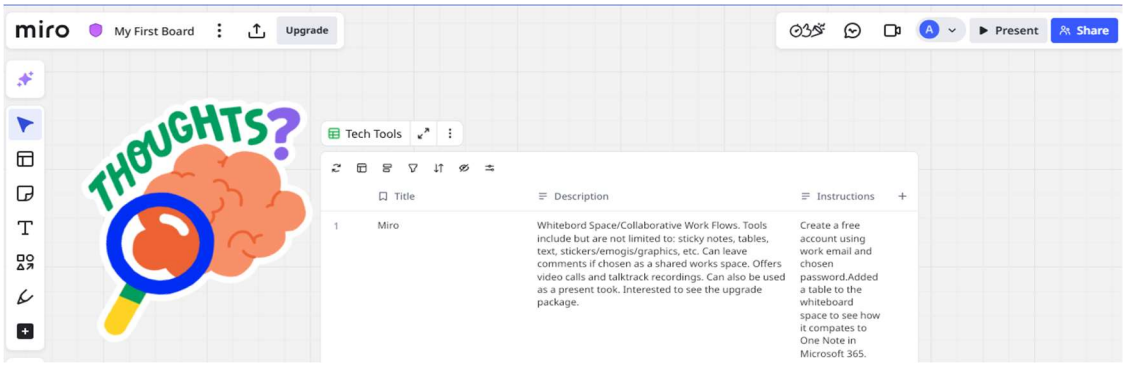

Figure 2. Table Comparison for Digital Tool in Miro

Desmos

Exploring Desmos was a refreshing experience because it immediately bridged mathematical theory and visual learning. I began by accessing the Desmos Graphing Calculator and inputting basic linear equations, observing how instantly the graphs updated. From there, I experimented with sliders, which allowed me to demonstrate how changes in slope and intercepts affect graph shape, something adult learners often struggle to conceptualize. The platform was responsive and easy to navigate, with built-in activity libraries that allow teachers to assign interactive tasks. I tested one of the “Marble Slides” activities, which gamifies functions, and found it to be highly engaging for reinforcing algebraic relationships. Desmos’s main advantage is its ability to make abstract math visible and interactive without the need for software downloads. A limitation is the reliance on internet connectivity, though teachers could project activities for whole-class instruction. For my adult learners preparing for the TABE or GED, I could use Desmos for group graphing challenges or guided discussions on interpreting data. It transforms math from a static worksheet into a dynamic visual experience, which aligns perfectly with blended learning approaches.

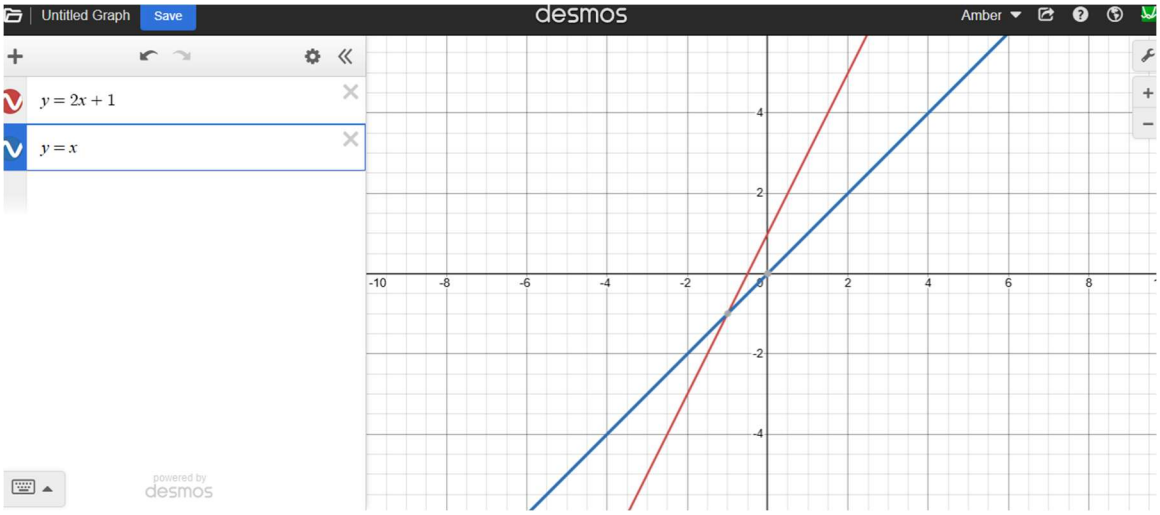

Figure 3. Basic Equation Graphing in Desmos

GeoGebra

Testing GeoGebra felt like stepping into a full math lab. I downloaded the offline app, which was an advantage for restricted network environments. I began by constructing simple geometric figures: triangles, circles, and transformations, to explore how the tools operated. I then tested algebraic input by linking equations to shapes, observing how parameter changes affected visual outputs. GeoGebra's integration of geometry, algebra, and calculus tools allows learners to visualize math as a living, adjustable system. The app interface was slightly more complex than Desmos at first, but once I navigated the toolbars, it felt extremely powerful for deeper math instruction. One distinct advantage is that GeoGebra allows offline access, meaning students or teachers can use it even in connectivity-limited classrooms. However, the learning curve is steeper for first-time users. In my instructional context, I could see this being used for one-on-one tutoring, where learners manipulate equations to understand concepts like slope, area, or symmetry. The ability to create interactive simulations offers hands-on exploration for adult learners who need to see "why" something works rather than just memorizing formulas.

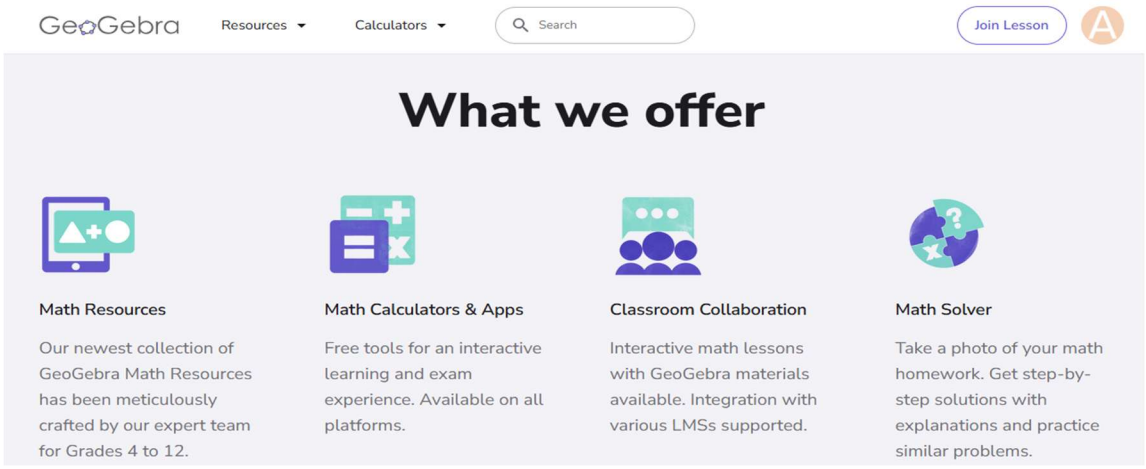

Figure 4. Resources Offered in GeoGebra

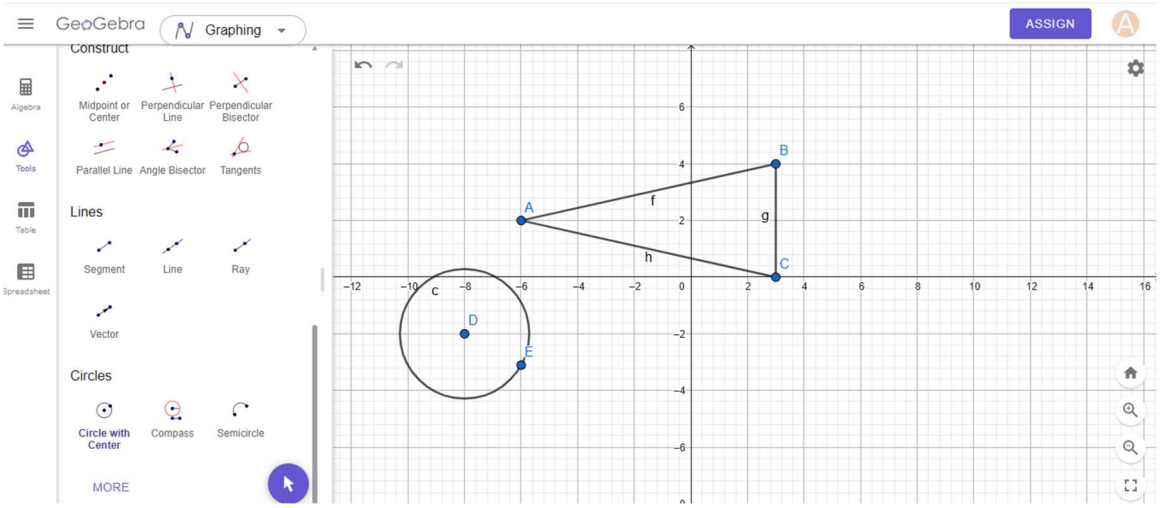

Figure 5. Graphing Shapes in GeoGebra

Claude

My experience using Claude AI's platform centered around leveraging it as a digital co-teacher rather than a replacement for instruction. After creating a free account, I uploaded a sample GED writing prompt and asked Claude to generate example outlines and rubrics tailored to adult learners. What impressed me was the clarity and relevance of the suggestions as it provided structured writing frames that aligned with TABE writing

expectations. I also asked Claude to simplify a reading passage for different Lexile levels, and it produced accurate versions that maintained meaning while lowering complexity. A significant advantage is that Claude produces text with a natural, conversational tone, making it easier to adapt for adult learners. However, its disadvantage lies in potential overreliance; teachers must still verify content accuracy and ensure alignment with instructional goals. In my context, I would use Claude for lesson brainstorming or to model revision processes with students. Unlike general AI tools, it stays on task when prompted clearly and offers transparency about its reasoning. Used responsibly, it can save teachers time while maintaining instructional integrity.

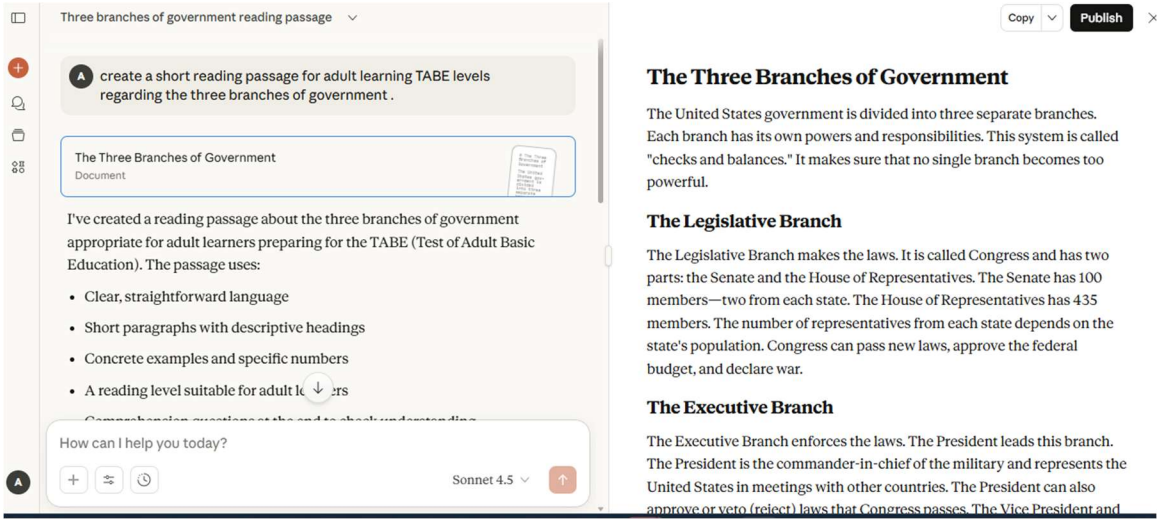

Figure 6. Reading Passage Creation in Claude

PhET Interactive Simulations

Of all the tools I tested, PhET Interactive Simulations provided the most hands-on, offline-friendly experience. I downloaded several simulations, including “Circuit Construction Kit” and “Balancing Act,” to use without internet access. After installation, I ran simulations in full-screen mode and tested how responsive they were on a basic laptop setup. The interface was intuitive and highly visual, allowing learners to manipulate variables like

mass, charge, or force in real time. The ability to demonstrate abstract scientific or mathematical principles through motion and cause-and-effect visuals is incredibly beneficial for adult learners who need to see concepts to understand them. One advantage is that PhET's content aligns well with TABE science and math competencies, making it adaptable for GED preparation. A minor limitation is that some simulations require Java or Flash, depending on the device, though the HTML5 versions worked flawlessly. I can see PhET being used in classrooms as a station rotation tool where students explore a concept hands-on before a follow-up discussion or written reflection. Overall, it's an engaging and accessible platform that builds curiosity and confidence in learners who may have struggled in traditional classrooms.

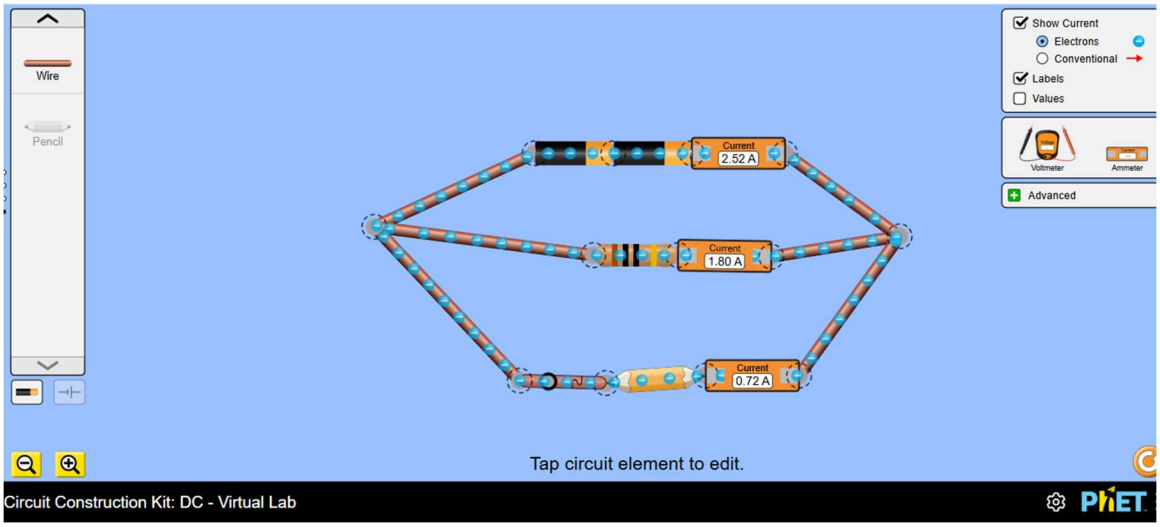

Figure 7. Circuit Construction Simulation in PhET

References

Anthropic. (2025). *Claude* [Large language model]. https://claude.ai

Desmos Studio PBC. (2025). *Desmos Graphing Calculator.* https://www.desmos.com

GeoGebra. (2025). *GeoGebra Mathematics App.* https://www.geogebra.org

Miro. (2025). *Miro Online Collaborative Whiteboard Platform.* https://miro.com

University of Colorado Boulder. (2025). *PhET Interactive Simulations.* https://phet.colorado.edu