Rebecca Adler Rebecca Adler PhD candidate Vanderbilt University department Psychology Human Development research focuses student self-regulation motivation particularly context mathematics currently working dissertation self-regulated studying hopes continue conducting research bridging theory practice working Rebecca enjoys singing volleyball painting post originally published cogbites website Cover photo Lum3n Pexels Think last time solve challenging math problem Perhaps felt overwhelmed ’ know start know substantial evidence suggesting students learn things like facts foreign languages practice testing 1 best learn mathematics students need procedural knowledge i.e. knowledge steps necessary solve problem conceptual knowledge i.e. knowledge domain principles study strategies best learning mathematics One study strategy helpful learning math study worked example worked example like one seen figure problem solution steps already worked Worked examples paired traditional problem-solving found effective helping students learn solve problems across multiple domains including mathematics physics engineering computer science Sometimes worked examples accompanied prompts students self-explain steps involved Image created Rebecca Adler worked examples help math learning first helps understand cognitive load theory states people think limited amount things time 2 people many things focus may difficulty focusing relevant information needed learning Studying worked example helps overcome difficulty highlighting relevant information typical experiment investigating worked examples students undergo learning phase test phase Depending student ’ assigned condition learning phase either consists alternating worked examples traditional problem-solving problem-solving like typical worksheet math teacher may given test math material covered learning phase general studied worked examples perform better test problem-solved Although many experiments showing worked examples effective technique math learning researchers Barbieri Miller-Cotto Clerjuste Chawla 3 wanted know effective worked examples actually answer question conducted meta-analysis technique statistically summarizes results multiple research studies topic Specifically analyzed results 55 studies investigated effects worked examples math learning Image Yan Krukau Pexels effective worked examples math learning