# Final Paper

# IDN 530

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## The Project

My project for this course, to create an educational website using HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets), is a website entitled *Mental Math* Mastery and is about learning mental math skills and strategies. Math is used daily, throughout life, for everything from cooking a simple meal to budgeting expenses and still having fun. Most tasks require some element of mathematics, whether we are aware of it or not, even if one is merely playing a card game. The goals of my site are to demonstrate math as a tool that we already use, build learner confidence, and teach mental math strategies that can help learners complete daily mathematical tasks as needed, recognize errors, and gain steady employment.

## The Audience

The primary audience for the Mental Math Mastery website is young adults who want to improve their current circumstances and meet their own needs and possibly support dependents. I became aware of this need while working at my current volunteer position at my community's youth homeless support center. I have learned that gaining reliable employment is crucial for most homeless youth and that it is not possible to obtain housing security without this steady income. Homeless youth are often employed, but workers are frequently sent home and do not provide regular hours to gain stable income or benefits. Also, for young adults who are parents, steady employment enables them to care for their children. Since most jobs require at least some math skills, potential employers usually require candidates to complete a mental math test as part of the application process. Therefore, many of our disadvantaged youth request additional help from their mentors so that they can finish these pre-employment exams successfully, opening doors to a more reliable income. A website is available to youth around the clock and allows them to learn at their pace.

## The Design

The Mental Math Mastery website considers Adult Learning Theory, an essential factor since most mental math sites target elementary school children. Therefore, they are bright, colorful, and cartoonish, with extra-large fonts and address learners as "students" or "Third-Graders," etc. Adult learners using elementary sites instantly receive the message that the content is for children and should be attained during this time, so there must be something wrong with them since it hasn't yet. Research initially conducted by Malcolm Knowles in 1968 concludes adults learn differently. Adult Learning Theory expanded over the following decades and identifies specific differences in adult learners such as being self-directed, intrinsically motivated, requires ongoing feedback, and directly applies new learning in real-world settings. Mental Math Mastery embeds multimedia content such as images, text, supporting links, and videos to give learners options while offering material in alternate ways to support various learning needs.

Applied design theories and principles include appropriate fonts, colors, cognitive load reduction, intuitive navigation, simplicity, accessibility, and gamification. For Example, limiting color to blue with a white background provides high contrast for visibility and reduces cognitive load while increasing clarity. Color Theory states that blue evokes inspiration, honesty, wisdom, confidence, stability, and intelligence. These are messages intentionally chosen to influence user perception. Embedded YouTube videos have closed-captioning options and include animation, which is significant for increasing accessibility and demonstrating abstract concepts of mathematical problem-solving. Estimation allows learners to break away from the emphasis on accuracy and focus on process and strategy, a holistic approach leading to increased mathematical comprehension and success.

Continued site development is needed to attain the desired goals and outcomes of this learning website. It will be critical to incorporate animations and videos modeling new concepts and techniques for demonstration purposes. Additionally, adding games will increase learner engagement and motivation and provide the feedback necessary for continued growth and improvement.

## Closure

The Mental Math Mastery website is far from complete, but it is a solid beginning. Developing the site by instilling animation, providing relevant feedback, and other interactivity functions by incorporating Javascript language and using frameworks like Bootstrap will propel the site's engagement forward. In addition, building a continuation of content will scaffold evolving skills and bridge the attainment gap necessary for continued learner development and progress. The ultimate goal of Mental Math Mastery is to instill the desire for lifelong learning that leads to self-actualization. Therefore, relevant, meaningful content targeted to the learner will achieve intended outcomes.

As an Instructional Designer, I want to continue developing this site and launching it into the real world, making it accessible to the intended audience without cost to them. In addition, I want to maintain my current coding skills and build upon them by learning Javascript to increase animation gamification features. I have been exploring online learning options that are at no cost at this time. As a future employee, I will take the opportunity to attend professional training or courses offered, including attending coding boot camps, if the opportunity arises.