

Assignment 1, Task 1



Khan Academy Web Evaluation

Site Title: Khan Academy

Site URL: <https://www.khanacademy.org/>

Site Contact: [Help Desk](#), or [Support Community](#)

Overview

Purpose of Site

“A personalized learning resource for all ages.” The purpose of this website is to provide videos, articles, practice exercises, and a personalized dashboard to “empower learners to study at their own pace in and outside of the classroom.”

Target Audience(s) of Site

The site produces content targeted towards students mostly aged 5-20. While there are great resources for teachers, the majority of Khan Academy’s content is for students to facilitate their own learning.

Content (general categories) included

The general categories of this site are:

- Learners
 - Math (14 Courses)
 - Science & Engineering (12 Courses)
 - Computing (5 Courses)
 - Arts & Humanities (7 Courses)
 - Economics & Finance 6 Courses)
 - Test Prep (5 Courses)
 - College, Careers, & More (4 Colleges)

- Teachers
 - Add Class Roster
 - Find Learning Resources
 - Build Lesson Plan
- Parents
 - Add Child
 - View Child Learning Info
 - Find Courses

Techniques employed (e.g. sound, interactivity, animation, color, etc.):

This site's personalized dashboard is one of its greatest features. After discovering the set of courses selected by each student and recording the data about that student's learning patterns and weaknesses, it customizes its display to produce a recommended "learning path" for each student. With the use of progress bars, a token system, sound effects and benchmark tests, the site makes learning more intrinsically engaging by reinforcing positive behavior and providing a clear path to content mastery. The display system tries to remove clutter by using a lightbox for articles, instructional videos, and practice problems. A "Reddit-style" comments forum can be accessed for every instructional video and practice problem, allowing students to ask questions and respond to each other's concerns with moderator support. The color palette uses lighter pastel hues to produce a sleek, minimalist, and encouraging feel.

Methods

Evaluation Instruments:

We used the following two website evaluations for this report:

- Website Motivational Analysis Checklist (WebMAC) Professional © (v. 2.0)
- Content Validity Scale ©

The WebMAC contains 32 questions that investigate the interface, clarity, usefulness, professionalism, and perceived reliability of the website in question. For each survey question, respondents are tasked with indicating the degree to which they agree with a statement about that

site. The results range from zero (“strongly disagree”) to three (“strongly agree”). If a particular question does not apply to the website because it concerns an item or mechanic that is not present, then the respondent may indicate between zero (“the site would have benefitted from this”) to two (“the site would is better for not including it”). In review, the options for each of the 32 questions are as follows:

For Relevant Questions (WebMAC):

Strongly Disagree	Disagree	Agree	Strongly Agree
0	1	2	3

For Irrelevant Questions (WebMAC):

It Would Improve With This Item	This Item Does Not Apply	It Is Better Without This Item
0	1	2

The Content Validity Scale © was much simpler, requiring only that the respondent answers 10 questions about the apparent credibility and objectivity of the website. They indicated the degree to which they agreed with the given statements, selecting between 1 (“Strongly Disagree”) and 5 (“Strongly Agree”).

How the Data was Analyzed

The 32 questions from the WebMAC evaluator are scored and added to a rubric which shows their assessment of four main qualities. These four ideas (SMOE) indicate the degree to which the website is:

- *Stimulating*
- *Meaningful*
- *Organized*
- *Easy-To-Use*

These scores could be further consolidated into two (2) categories - scores from the “stimulating” and “meaningful” categories could be combined to indicate the *Value (V)* of the website, while the “organized” and “easy-to-use” scores could be combined to measure the site’s *Expectation for Success (XS)*. The scores are then plotted to look for key trends.

Description of the Evaluators

Khan Academy was evaluated by three people:

The first evaluator is a Master’s student in instructional design from Syracuse University in Syracuse, NY. He is ambitiously invested in understanding the role that technology will play in the innovation of educational practice, and has a about 500 hours of experience designing and editing websites.

The second evaluator is 4th-year software engineering major from Baylor University in Waco, TX. She is specializing in software development with a focus on project management, and wishes to use her programming and design skills to create impactful software for a variety of fields. She has a great deal of experience coding for and designing the front end for websites.

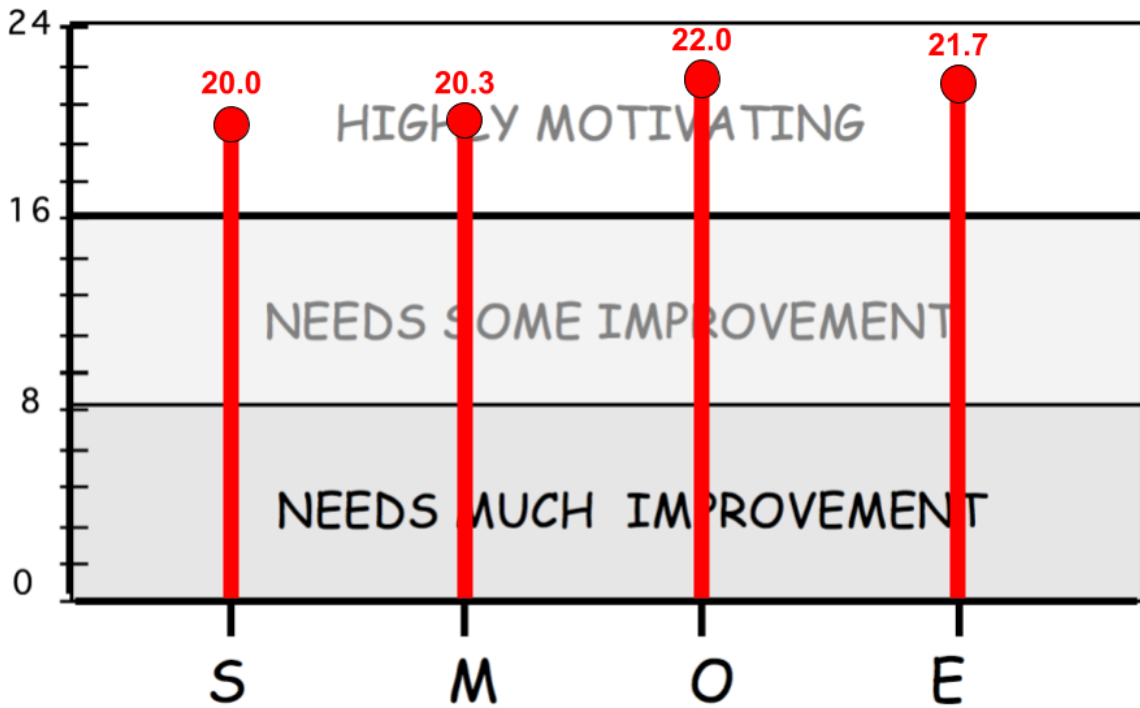
The final evaluator is a sophomore studying business at Baylor University in Waco, TX. While she has less experience designing or editing websites, she has overseen branding initiatives for student organizations in which she leads or participates.

Each evaluator was provided with a link to the Khan Academy website and a survey form that included each of the questions on the WebMAC and the Content Validity Scale. Each evaluator completed their review individually, in one sitting, and with the discretion to explore whatever part of the website they felt accurately represented what a student would experience if they were using the website. The scores were averaged together to produce the results shown below.

Results:

WebMAC Professional © Attribute Scores:

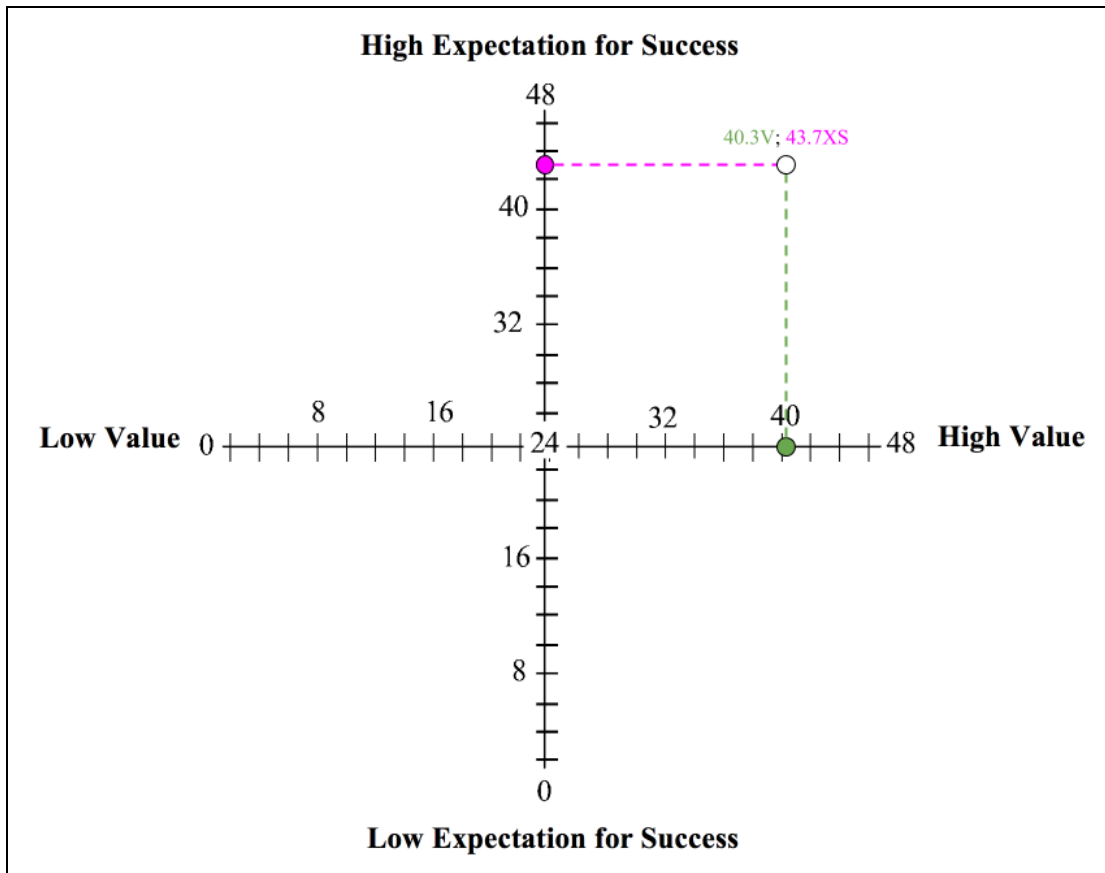
	How Stimulating	How Meaningful	How Organized	How Easy-To-Use
Mean Score	20.0	20.3	22.0	21.7



WebMAC Professional © Total and Value (V) & Expectancy for Success (XS) Subscale Scores:

	Value (V) (S + M)	Expectancy for Success (XS) (O + E)
Total Score	40.3	43.7

Plotting the Value (V) and Expectancy for Success (XS) on the Website Evaluator Graph:

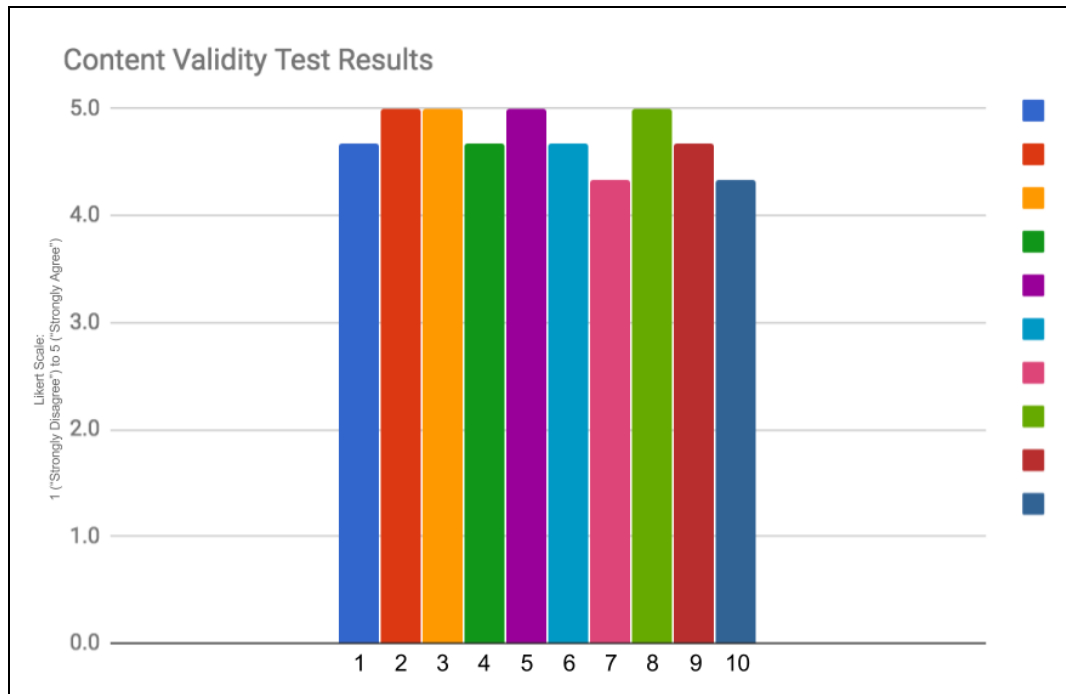


Content Validity Test © Scores:

The following chart lists the ten statements made by the Content Validity Test, along with the average response made by participants:

Statement	Mean Score
The source of information for this Website is credible.	4.7
There is a way to contact the author of this Web site, if necessary.	5.0
The factual information or content of the Web site seems accurate.	5.0
If the Web site presents concepts or principles in its domain (e.g. science, art), they are appropriately presented without confusing or missing information.	4.7
There are no typographical or spelling errors that could potentially cause the information at this Web site to be misunderstood.	5.0
The content is appropriate for the intended audience.	4.7
The links from this site appear to be credible.	4.3
This Web site appears to be free of bias.	5.0
The information at this Web site is current enough for the type of information it includes.	4.7
The links from this Web site appear current and unbiased.	4.3

These results are represented in the graph below:



Interpretation of Results:

Content Validity Test ©

The group demonstrated a high regard and trust in the credibility, validity, and objectivity of content on the Khan Academy website. While this is unsurprising given the apolitical and somewhat amoral nature of educational resource websites, this is still an indicator of the professionalism and focused attention with which Khan Academy’s developers created and reviewed their content. For an educational website used by children, this is an excellent sign.

WebMAC Professional © Results

Once again, Khan Academy’s website earned high marks across the board for its unique dashboard system, robust infrastructure, and intuitive navigation and content management. There are several reasons why they deserve this kind of praise.

How Stimulating

The website is hyper practical, pedagogically-sound, and imbued with reinforcement strategies which are specifically designed to increase user engagement and sustain longer sessions on their website. In addition, the use of Khan Academy's personalized dashboard means that students have a home base within which they can review their most relevant content and challenges. By shaping the student's path in this way, Khan Academy's website makes it even easier for student to engage with the most interesting content and explore additional content through the site's many cross-referencing links and activities.

How Meaningful

Khan Academy's mission is very clear: to enable students to access great free resources to support their learning. According to their site, the Khan Academy team recruits curriculum developers and standardized test writers to help ensure that their content is relevant and up-to-date in preparing students for particular tasks in higher education or in the real world. Students are reminded of how meaningful this is when they see the set of masteries they need to complete in order to be deemed proficient in a particular area. Reviewers of the site were able to instantly spot the value propositions posed by the Khan developers, and this resulted in high scores in the *meaningful* category.

How Organized

Once again thanks to the personalized dashboard, students (and teachers alike) are coaxed into a simple (though customizable) path of recommended learning modules and strategies that enables them to encounter content in the ways deemed best by curriculum developers. Simple drop-down menus and a powerful internal search engine make finding any article, video, or web page quick and easy. Content is organized into main subjects (Math, Science, History), then into courses

(Physics, Biology, AP Biology), and finally into units with unit tests. This makes finding appropriate content easy even without using the dashboard.

How Easy to Use

Students must simply click on the right arrow to navigate through a course, encountering content that is scaled to their difficulty and which provides feedback, hints, and demonstrations for everything students are to learn. All other options available to students are made clear in the header menu, and an extensive support menu with a troubleshooter search engine makes it easy to figure out specific solutions to problems. Reviewers appreciated how quick it was for them to figure out the entire framework of the website.

Recommendations:

- Consider providing modules which challenge students to think about how their studies will affect their career aspirations. Have them write down their goals and connect those goals with their current studies.
- Continue adding to the topics library, offering more courses and exercises on more subjects.
- Consider adding content that college students are more likely to use, rather than subjects usually studied by K-12 students.

Reflection on the Experience

Importance of website evaluation

Evaluating this website gave me the interesting opportunity to research what makes *programmed instruction* through a browser-based e-learning program so effective with Khan Academy. It is fascinating to see the unique features that Khan Academy uses in order to take advantage of essential instructional design principles and represent them without a physical instructor present.

Evaluating this website also allowed me to appreciate how small principles in web design can affect learning in online contexts, which is an important facet of learning.

Alternate criteria

In general, I believe that criteria tied to instructional design in a programmed context would apply much more thoroughly to Khan's website. I would look into Bloom's texts on programmed instruction as well as his thoughts on learning acquisition in order to form questions that can be used to assess Khan Academy's website's strengths and room for growth.

References:

Small, R.V. & Arnone, M.P. (n.d.) *WebCHECK*. Retrieved September 20, 2017 from <https://ischool.syr.edu/articles/news/view/arnone-and-small-launch-webcheck-evaluation-tool/>.

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