

Evaluation of eSkill's Assessment Development Process and Summary Documentation for the Content Validity of Assessments Created Using This Process

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Purpose: To provide a summary of eSkill's content creation process and to describe and document the content validity of the assessments developed using this process.

This will be accomplished via the presentation of the following:

1. About eSkill
2. Establishing Content Validity: The eSkill Content Development Process
3. Summary

1. About eSkill

Rather than relying on interviews and impressions of an applicant's résumé, companies can place qualified and talented individuals into critical jobs more effectively by using formal assessments that measure the required knowledge and skills.

An innovator in professional skills assessment technology since 2003, the eSkill Corporation provides online testing for applicant screening and staff training to thousands of companies worldwide. With easily customized tests that cover computer skills — including simulations for Microsoft Office® and Digital Literacy Skills that realistically test actual on-the-job performance tasks, as well as hard and soft skills for all major industries — eSkill has developed into a global leader in employment-related skills testing.

eSkill's expertise lies in three major areas:

- Providing clients with a **flexible** and **customizable online skills testing platform** that includes a web-based eSkill Editor for creating custom test questions;
- **Ongoing subject development** and validation of content test items to support current hiring trends and requirements;

- **Consulting services** to clients who require the integration of eSkill online assessments into existing internal HR systems, for a seamless deployment of recruiting and talent management functions.

The eSkill application provided clients with a systematic method of evaluating many qualifications and technical skills for a wide variety of business roles. In addition, most subject areas can be used in conjunction with training and development programs, if desired.

The eSkill system allows clients to combine questions from different subjects into a single test, since the assessment of applicants for a specific job may include only one subject or may require many different subjects and skills. In this way, a hiring professional can methodically build a rigorous test that accurately reflects important work objectives. For example, one position may require advanced PHP programming skills, while another position may require PHP and HTML programming skills, plus an advanced level of English writing skills. In either case, clients can present a job candidate with a single test and login protocol.

eSkill's main areas of innovation are:



Flexibility and customization

Our customizable test platform allows clients to easily combine and customize questions from multiple subject areas into a single job-based test, or they may deploy their own test content through our platform. Our modular eSkill library features over 5,000 combinable subjects and subtopics across a wide range of disciplines to fit many business needs. Infinite test creation possibilities are available. We also offer over 600 Standard Tests, with global percentiles scoring. Questions cover a variety of skill levels, ranging from Beginner through Expert levels. Multiple question formats, including multiple choice, true/false, fill-ins, typing, simulation, and open questions allow clients to further customize question content.



Interactive Simulations

Our state-of-the-art HTML5 simulation tests require no downloads or special browser configurations to take. A modern user interface allows for screenshots, dialog boxes, or audio files to be added to test questions. These simulations model real work environments and allow for multiple correct answers. We've developed simulations for Multi-tasking, Digital Literacy, Customer Service, and the MS Office Suite (Microsoft Word®, Excel®, Outlook® and PowerPoint®). Using our years of simulation crafting experience, we can also work with our clients to create custom simulation tests that replicate the programs and visual tasks a team would perform at their company.



eSkill Editor

The eSkill Editor is an eSkill application designed to enable clients to create and edit their own test questions. With the help of this tool, clients can author their own questions from scratch, convert paper versions of company or industry-specific skills tests into online eSkill assessments or edit existing eSkill questions to adapt them to their most specific testing needs.



Results reports

Allow clients to examine the smallest details of test-takers' answers. eSkill reports are broken down by percentiles and correct answers to provide a thorough score analysis, and clients can even compare the results among several tests.



Seamless Integration

eSkill fully integrates into any existing applicant database, Applicant Tracking System, or Learning Management System with an available API. Compatibility with mobile devices that have a 320px minimum screen resolution provides test-takers with additional accessibility.



Personal and Responsive Client and Candidate Support

Each client gets a dedicated U.S.-based assessment expert (Client Success Manager) to help design their ideal tests and implement their assessment process per best practices. eSkill offers 24/7 support to both clients and test takers.

The following section details how eSkill has developed its modular subject library and provides a description of eSkill's ability to meet the demand for content validity required for hiring.

2. Establishing Content Validity: The eSkill Content Development Process

The most effective and appropriate method of judging the quality of a hiring tool is to determine how accurately it assesses the knowledge, skills or abilities required for success in a specific job or role in an organization. This accuracy is called "content validity," as defined by industrial/organizational psychologists, legal precedence, and most hiring professionals.

In the case of eSkill's assessments, the critical questions are:

- 1. Do eSkill's tests relate to job requirements?**
- 2. Do they accurately measure what they are intended to measure?**

The Equal Employment Opportunity Commission (EEOC)'s [*Uniform Guidelines on Employee Selection Procedures*](#), originally released in 1978, detail the federal government's position on developing and using hiring methods that avoid discrimination against protected groups. As such, they define the types of strategies that may be deployed to establish the validity and appropriateness of specific hiring tools.

eSkill upholds the guidelines of the EEOC, as well as the regulations comprised in the Americans with Disabilities Act (ADA) and the Age Discrimination in Employment Act (ADEA), plus other anti-discrimination guidelines. For more information on this topic, please click [here](#).

The Office of [*Federal Contract Compliance Programs \(OFCCP\)*](#), specifies the laws and regulations of nondiscrimination that must be followed by employers who do business with the federal government. eSkill is OFCCP compliant, by respecting these principles:

- Do not discriminate against applicants or employees;
- Ensure that applicants are treated fairly during the testing process, without regard to race, color, religion, sex, or national origin.

The eSkill application is screen reader accessible. Therefore, people with disabilities can access most of our test questions. Our application, however, does not meet all the criteria in Section 508 of the Rehabilitation Act

eSkill utilizes a content validity strategy to demonstrate and underscore the rigor of the content available in its subject library. Basically, this validation approach evaluates how well the knowledge, skills and behaviors being assessed in a test or hiring system match the same knowledge, skills and behaviors required for the job.

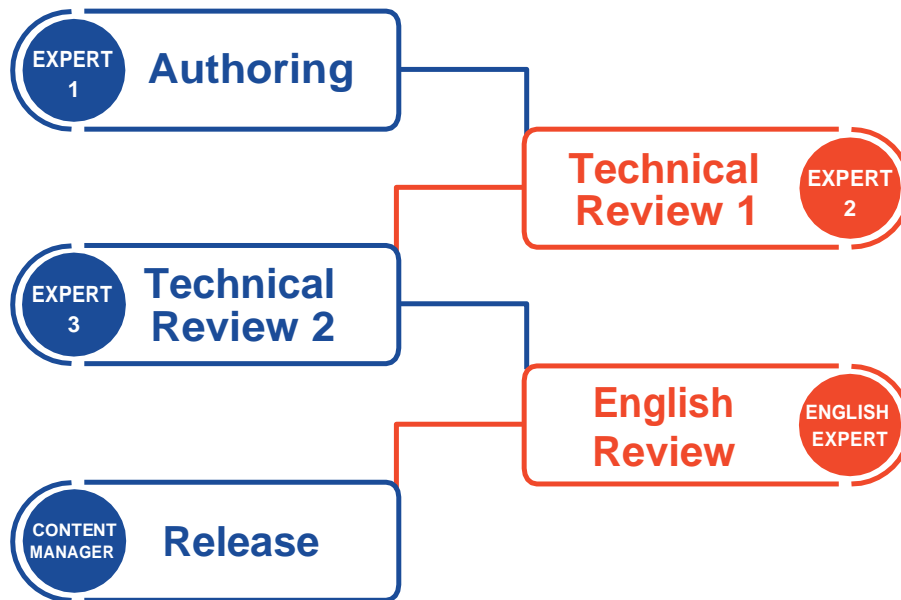
Put another way, the material used to hire people should mimic the tasks required on the job as much as possible. Content validity demands that the questions asked of applicants must be job relevant. At eSkill, establishing the job relevance, and, thus, the content validity of the subject library, involves several key steps.

2.1. eSkill's Process for Establishing Content Validity

In building their database of questions, the founders and Content Department at eSkill have carefully selected the most common and relevant primary work skills as well as specialized technical knowledge areas. With the help of experts and clients alike, subject areas have been developed and organized around the most critical work skills required for success in today's workplace.

The test question development process encompasses a consistent and methodical approach to a topic area's assessment strategy.

We have a consistent method of developing test questions, which we have applied to each topic area and continue to apply as we produce new testing content. The content for each subject is created by subject matter experts who cover targeted areas, and it is then reviewed by an additional set of content experts and English language editors. The selection of the test content authors is rigorous and specific to each subject. Each of our content areas is created through a network of subject matter experts (SMEs) with extensive, current, and practical experience in the subjects they author and edit. Question-authoring candidates must pass a series of industry-related tests as part of their qualification process. The process for creating subjects is presented in the schema below.



When writing the questions, each author uses the following parameters (from eSkill's authoring guidelines):

- **Subject** - The subject it belongs to;
- **Subtopic** - The subtopic it belongs to;
- **Skill Level** - Its assigned skill level;
- **Type** - The type of question it is (multiple-choice, true/false, fill-in, open response);
- **Short Description** - Up to five words that specifically describe the question content;
- **Question Body and Answer Choices** - The actual text of the question, with references to images or audio files;
- **Correct Answer** – Indicated as one or more of the answer options, true/false, or the correct character strings;
- **Question Explanation** – Helps test administrators understand the questions and allows questions to be used as effective training materials; explanations can be 1-2 paragraphs long.

As mentioned above, questions can include images or audio files, and those related to a graphical interface usually include screenshots to provide a realistic visual context.

Simulation tests based on HTML5 technology fully immerse test-takers in an actual work environment or MS Office 2010® program environment as they fulfill tasks that prove their application knowledge.

A variety of question formats is important in creating and using a job-related assessment. For example, many critical work tasks may be completed successfully in different ways. Therefore, some questions utilize a multiple-choice format that allows for more than one option to be correct.

The review and editorial process is as rigorous as the initial question writing phase. First, each content area is assigned to an experienced question reviewer. Once the reviewer edits and approves a question, an e-Skill editor performs the final review and authorizes questions for inclusion in the eSkill database.

Our test development process ensures that we have constructed tests with an adequate number of valid content questions relevant to the specific job being filled.

2.2. User Selection of Assessment Content: Additional Evidence for Establishing Content Validity

Another way eSkill's system further establishes content validity is it allows clients to create their own customized assessments mapped directly to job skill requirements.

eSkill clients can draw from any part of our subject library content to build a complete test. First, users name their test and select the subject or group of subjects that cover the skills most necessary for success in the job or role. Once they do, the questions for all skill levels will be displayed by their short description. Then, test administrators can easily review each question option and choose the final set of questions for each test.

After creating a test, administrators can preview, take, or e-mail the test, and they always have the flexibility to adjust the test length and complexity by adding, deleting or re-ordering the questions.

Here are just some of the customizations available:

- Customize a test based on difficulty;
- Customize a test name;
- Customize the time per question or per test;
- Customize e-mail invitations sent to candidates;
- Shuffle questions for each test taker;
- Set the number of attempts allowed for each simulation question; and
- Provide a score notification when a candidate finishes a test.

As an example, the following question assesses HTML skills.

Subject: HTML5

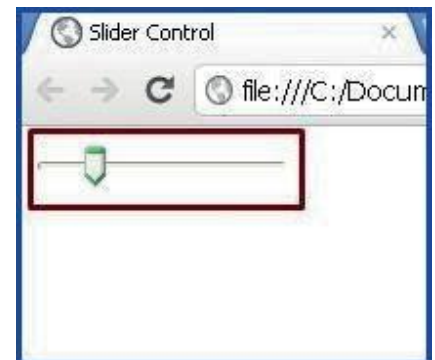
Subtopic: Data Elements

Skills Level: Intermediate

Type: Simple Select

Short description: Numbers as a Slider

Question body and options: Which of the following values of the type attribute should be written in the blank space of the input element `<input type="____" min="5" max="200" step="5" value="45">` in order to create a slider control, as shown in the following image?



- A. number
- B. range
- C. date
- D. URL
- E. search

Correct answer: B

Question explanation:

Option B is correct. In order to create a slider control in a webpage, use the range input type. There are some attributes that can be added to this type of input: min (the lower bound for the element's value), max (the upper bound for the element's value), step (the granularity of the input values), and value (the default value that is shown on the web page).

This question can be combined with other relevant knowledge areas, and the HTML skills assessment would identify the specific technical strengths and weaknesses of each job candidate.

In addition to software, web development, networking, and other information technology skill sets, many eSkill clients measure basic business and office skills necessary for success in the job, like English skills, Logical Thinking, Attention to Details, Basic Math, and more.

Beyond selecting and modifying standardized test questions, eSkill clients can choose simulations and open-ended questions to allow test-takers to give varied responses.

For example, if clients wanted to assess speed and accuracy in typing skills, they could choose a simulation:

- **Typing and Data Entry Simulation** - This question measures typing skills by words-per-minute and typing accuracy, using a text selection. A time limit is required.

Or, if clients want to collect detailed feedback from candidates, they could create an open response:

- **Open Response** - This question type works well for interviews or polls.

eSkill clients can also create their own questions using a variety of formats. When they do, each question format is displayed with a set of guidelines for question creation. For example, the following instructions are given when a client chooses to create a typing question:

Typing questions measure the words per minute (WPM), Keystrokes per Hour (KSPH), and Accuracy as the candidate types the reference text into the box provided. Each question has a set time limit (depending on the text length), which you can modify.

From the job **candidate's** perspective, guidelines and icons are displayed to facilitate the use of the eSkill application. The following instructions are given to inform a candidate about what to expect from a Typing question.

Your typing speed and accuracy will be measured by having you type your answers into a box. Your answers will be based on a provided reference text. Please note that you cannot cut and paste from the reference text. When a Typing question is reached, wait for the reference text to fully appear and then follow the directions on the screen. The time limit for the entire test does not apply to Typing questions, which are timed separately.

Overall, the parameters and depth of the eSkill library, along with eSkill's clear guidelines for creating customized content, allow eSkill clients to build assessments that match the requirements of an open position as thoughtfully, thoroughly, and realistically as possible.

It is important to note that eSkill does not conduct job analysis as part of the test construction process. We encourage our clients to perform the necessary job analysis to determine and document the specific skills required to perform the particular job for which they intend to use any eSkill test. eSkill's role is to provide test content that allows our clients to create specific assessments that directly match their requirements for a particular job, once they have determined a job's requirements.

3. Summary

eSkill has carefully developed and refined its assessments of key knowledge areas for a wide variety of employees and job-related tasks. The eSkill configuration allows an organization to effectively select individuals who can excel in their roles, according to their area of expertise.

eSkill's tests are designed to ensure consistency and accuracy in assessing applicants' skills. For example, if a candidate were to repeat a test recently taken, he or she would obtain a similar test score. eSkill's questions, topics, and subjects are given intuitive names that summarize the content precisely. A results comparison at the test level, which can be easily made using the two test reports, would show this.

Moreover, qualified candidates who have taken eSkill tests report that our job-related assessments featuring real-world tasks and knowledge appeal to them more than interviews or personality tests.

Overall, the eSkill system provides a foundation for a legally sound, strategic, data-based approach to sourcing, selecting, and hiring the best and the brightest job candidates.