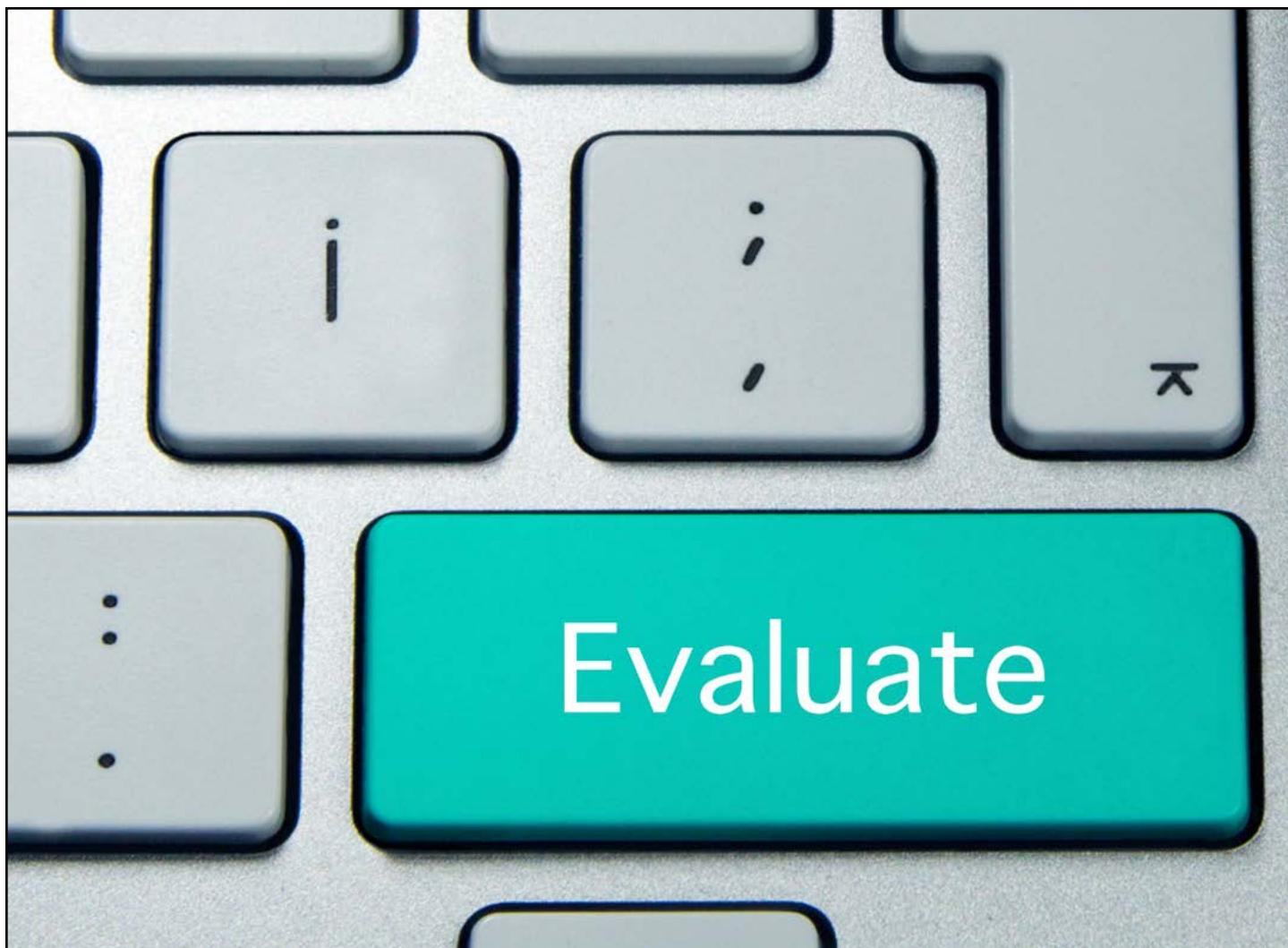


Section III
The Study



Selection criteria sought to include free and for-profit providers that represented a large segment of the online lesson market, all grade levels, and all content areas. The online vendors each provide educational content in one of four primary areas (English language arts, science, mathematics, social studies).

Some online vendors develop and deliver the entire curriculum while others provide supplemental lessons, materials, and tools. While all K-12 grades were represented, not all online vendors developed products across the K-12 environment. Some, instead, specialize in particular grade level areas.

Researchers conducted a sampling process to identify a representative sample of a lesson that was specific to the vendor's unique content, and also grade-level specific. This ensured an appropriate sample for representative purposes.

The difference in data sample numbers is attributable to variances in the online vendor's purpose and product

offerings (e.g., full curriculum vs. supplemental products, grade content areas, variety of products, overall number of products offered). Once the primary content areas offered by each vendor were identified, researchers further divided these areas into sub-content areas. In order to randomly select lessons for evaluation, researchers created a content map and determined the number of lessons offered across the major content areas, then determined an appropriate sample size across the major and sub-content areas. After an appropriate sample size was determined, lessons from each category were randomly selected for evaluation. The vendor overview table offers a breakdown of the number of lessons sampled as well as the primary grade and content area that the online vendor serves.

Vendor Overview

The following number of lessons was sampled for each Vendor.

Vendor 1—478 lessons sampled

Vendor 1 offers numerous free, fully online, primarily video-based products for learners of any age. The most extensive content is in mathematics and related topics. Other topics include science, economics and finance, arts and humanities, computing, and test preparation. Grades K-8 are the primary audience.

Vendor 2—108 lessons sampled

Vendor 2's products are designed for small groups or entire schools, with a strong focus on grades 3-8. Content focuses on reading and math with additional middle and high school components including writing, social studies, and science.

Vendor 3—91 lessons sampled

Vendor 3 provides blended and fully online products for grades K-12. Curriculum includes math, science, English, social studies, world languages, and electives.

Vendor 4—87 lessons sampled

Vendor 4 focuses on math and science products for grades 3-12.

Vendor 5—182 lessons sampled

Vendor 5 offers a suite of products for K-8 students and multiple courses for 9-12 students. K-8 products include English language arts, history, math, science, music, art, and world languages. High school products include courses in English, mathematics, science, history and social sciences, and world languages.

Vendor 6—169 lessons sampled

Vendor 6 provides a comprehensive K-12 curriculum in blended and fully online formats. Subject areas include mathematics, literacy, health and science, social studies and history, arts and music, technology, and English.

For each vendor, researchers identified primary content areas from which to sample. Once the primary content areas were identified, researchers further divided these areas into sub-content areas (if science was chosen as a primary content area, sub-content areas could include

topics such as biology, chemistry, and physics). In order to randomly select lessons for evaluation, researchers created a content map and determined the number of lessons offered across the major content areas, then determined an appropriate sample size across the major and sub-content areas. After an appropriate sample size was determined, lessons from each category were randomly selected for evaluation.

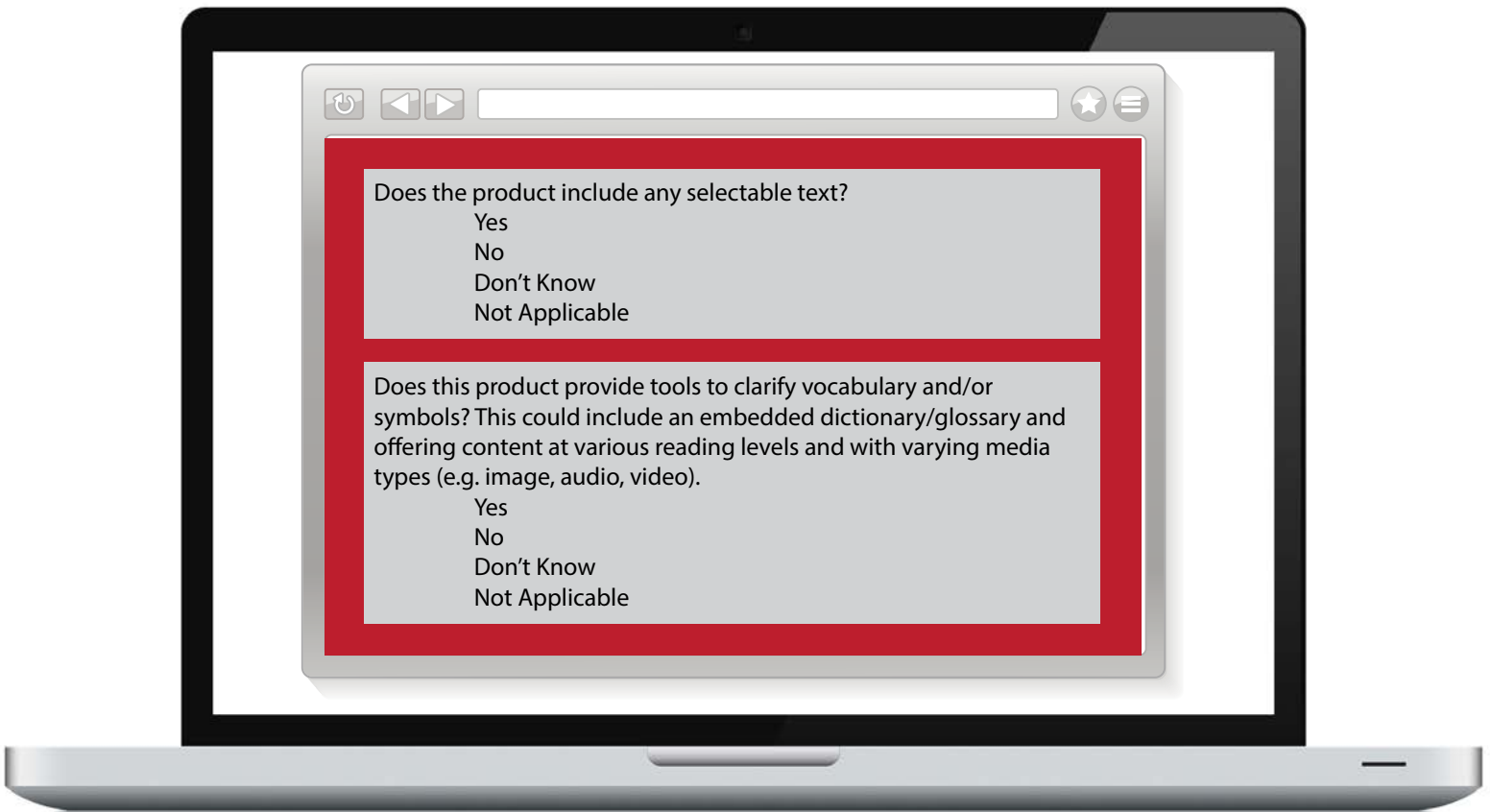
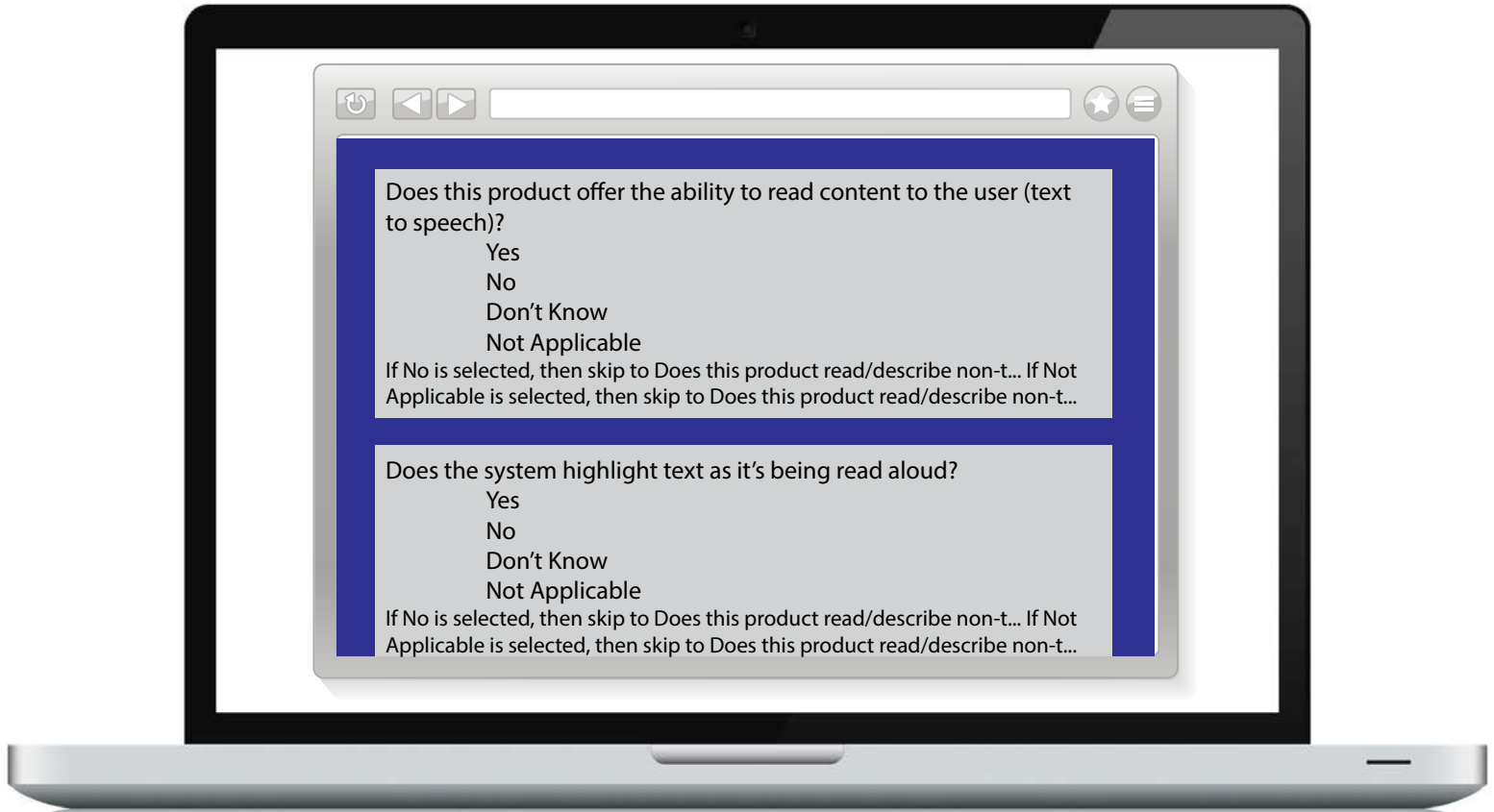
Procedure—Scoring

The randomly selected lessons were reviewed and evaluated by a single trained researcher. The researcher accessed a specific lesson, reviewed the entire lesson (noting specific features), and then completed the UDL Scan Tool. The UDL Scan Tool was housed in a Qualtrics file (<http://qualtrics.com/>) to easily provide the researcher with access to the data. Because the Qualtrics file required a response for each question or item, the file configuration ensured that the researcher scored each lesson completely and consistently.

The researcher was required to answer the 37 initial questions for each of the selected lessons. Each of these 37 questions are answered by an initial response of 'Yes,' 'No,' 'Don't Know,' and 'Not Applicable.' Each item was tied to a number, with 'Yes' indicating UDL alignment (score of 1), 'No' indicating no UDL alignment, (score of 0), and the remaining two responses indicating no score or requiring more information as the review continues. This latter element is critical in that the reviewer may initially score a 'Don't Know,' but a subsequent item might allow for clarity and a positive score specific to a checkpoint. Thus, while an item seeking information on one of the broad principles may score a 0, subsequent items that lead to a specific checkpoint might allow for a positive score for the checkpoint and related principle.

To allow for a nimble but accurate score, the UDL Scan Tool uses skip logic: If the information being sought in the particular question is not found within the online product, the reviewer selects the appropriate response (e.g., no) and then the tool skips to the next appropriate question. If the online product activates background knowledge, another series of questions with respective items appear to be scored. With this in mind, the initial 37 questions could expand to a total of 146 questions. Although the tool operates on a significant continuum, it can quickly and thoroughly determine whether an online product is aligned to UDL principles, guidelines, and checkpoints.

UDL Scan Tool Sample Questions



For each lesson, the UDL Scan Tool requires the completion of at least 37 items each with the scoring of a 'Yes,' 'No,' 'Don't Know,' or 'Not Applicable.' The researcher was instructed to answer 'Yes' if the feature was available (even minimally), 'No' if not available at all, and 'Don't Know' when in doubt. The 'Yes' would trigger the skip logic, which would provide another set of questions specific to that principle and guideline, often drilling down to the checkpoint. For example, if the researcher selected 'Yes' to indicate that the feature was included in the lesson, the researcher was directed to answer additional, follow-up items regarding the details of that feature. However, if the researcher selected 'No' to indicate that the feature was not included in the lesson, the researcher then skipped the follow-up items accompanying that specific feature and was directed to a separate item.

If the researcher selected 'Yes' and received follow-up questions, the researcher was instructed to choose 'Never' if the feature was never available to the user in the product, 'Sometimes' if the feature was available to the user across the product at least 50% of the time, and 'Always' if the feature was available to the user across the product all the time. The Tool also allows for the option to write in 'other' responses for elaboration.

Following the evaluation of all identified lessons, the data was accessed from the online survey platform, converted to an Excel spreadsheet, and downloaded into

SPSS predictive analytics software for analysis.

Conclusion

The purpose of the online lesson review described in this report was to provide objective information on the appropriateness of current K-12 online content used in today's blended and fully online learning K-12 class-room. Extending the examination beyond physical and sensory accessibility considerations, researchers employed the UDL framework to gain a further understanding of how lessons align with the cognitive and learning demands often facing struggling learners as well as those with disabilities. Taking into consideration respective grade and content areas, researchers found that, across six widely used vendors and the hundreds of lessons sampled, that current online lessons are poorly aligned to the principles, guidelines, and checkpoints that make up the UDL framework. These findings indicate that the essential foundations of K-12 blended and fully online learning may not be as individualized to the specific learning needs of students with disabilities. While data suggest limited alignment to the UDL framework, it is difficult to determine the added supports offered to students by their teachers, parents, or other support personnel.

The next section of this report summarizes key findings across six K-12 vendors of online content, using the UDL principles and primary guidelines as the structure for the summary of the findings.