

**Section V**  
**Conclusion**



**This report provides objective research on the appropriateness of K-12 online content used in blended and fully online K-12 classrooms. Looking beyond physical and sensory accessibility considerations, the Center employed the UDL framework to**

assess how lessons align with the cognitive and learning demands of struggling learners and those with disabilities. After reviewing hundreds of lessons findings conclude that the lessons sampled align poorly to the principles, guidelines, and checkpoints of the UDL framework. Findings indicate that the foundations of these online learning products may be only marginally individualized to the specific learning needs of students with disabilities. While the data suggest limited alignment to the UDL framework, it is difficult to determine the added supports provided to students by teachers, parents, and other personnel as part of their overall experience.

Key findings across the vendors are summarized, using the three UDL principles and nine guidelines as the structure for the summary. For each vendor, an overview (including supported grade and content areas) and a review of UDL framework alignment is provided.

### **Vendor Overview**

Each vendor develops online lessons and related digital content for the K-12 classroom. The overview provides an introduction to the primary focus (grade level and content area) of each vendor. Defining the vendor's primary purpose allows for better appreciation of and guidance for understanding the findings and their

interpretation in light of UDL alignment. Vendors were selected to be representative across all grade and content areas and include a mixture of supplemental and fully online K-12 products.

## **Principle One: Provide Multiple Means of Representation**

The highest level of (reviewed) lesson alignment was to UDL principle 1. It is not surprising that digital materials that could be customizable—offering alternative video and audio options for the learner—showed greater alignment to Principle 1. The majority of the vendors scored some points under guideline 1, which provides options for perception. UDL guideline 1 and the corresponding checkpoint (customizing the display of information) align with accessibility standards, so this finding may not actually be as oriented to UDL principles as it is to meeting accessibility requirements. While this requires further investigation, concerns remain regarding the limited vendor scores for lessons providing multiple options for comprehension. Student access to materials through alternative formats is important, but learning from the materials based on existing knowledge, making connections, and the ability to generalize and transfer information to other lessons is vital.

## **Principle Two: Provide Multiple Means of Action and Expression**

Analysis of principle 2 and guidelines 4, 5, and 6 found that students have limited options to navigate lessons and express what they know. The primary means for navigation were sequential throughout a structured lesson, requiring the student to click from page to page—similar to traditional work with texts. For majority of lessons reviewed, traditional assessments were typical, with multiple choice and brief essay responses serving as the primary option for expression. There was no readily available evidence of features or supports that offered options for executive functions. Of specific concern was the lack of prompts and embedded scaffolds that could reduce difficulty and effort on the part of the struggling learner. The nature of the digital lessons and features that exist in other web-based platforms (e.g., Chrome extension that offer embedded supports) were often absent. Across vendors, however, were available features permitting users to self-monitor illustrations for student progress.

## **Principle Three: Provide Multiple Means of Engagement**

K-12 online learning offers the promise of personalized experiences that engage learners through interactive digital experience. Information available on each reviewed vendor website reinforces this, suggesting experiences meant to motivate and engage the student to enhance persistence and course completion.

Findings indicate, however, limited options to heighten attention and engagement through the digital online lessons. Instead, lessons reviewed appeared to offer static demand in lesson difficulty while limiting the degree of freedom that would indicate an acceptable performance on the part of the student. The significant majority of lessons reviewed did not offer embedded coaches or digital agents that could model the instructional process or further support the learning experience. The feedback feature in many lessons did not differentiate to manage student frustration or offer scaffolds or similar supports, but offered the same feedback to all learners.

## **Next Steps**

The review of more than 1,000 online K-12 lessons suggest that progress is needed in creating learning experiences applicable to the learning needs of struggling learners and those with disabilities. This initial research helps determine the current state of online learning in respect to its alignment to the principles of UDL and its appropriateness to meeting the learning needs of those with disabilities. This report also serves to illustrate how the UDL Scan Tool can be used by educators and parents to better understand the nature and appropriateness of available online lessons and related digital materials.

The Center makes the UDL Scan Tool available (at no cost) for use by developers, educators, and others via the Center's website (see <http://centerononlinelearning.org/>).

While this review of online K-12 lessons identifies existing strengths and challenges related to UDL alignment, the Scan Tool, when used in combination with other accessibility tools, should help determine how online learning can be developed in order to ensure the needs of all learners are being addressed.

**Section VI**  
**References &**  
**Additional Reading**

## References

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