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Universal design for learning in multilingual contexts: Unlocking potentials

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Summary: This article examines using Universal Design for Learning (UDL) to enhance English language development in multilingual learners, focusing on implementing technology. By providing insights into effective UDL implementation, it aims to support educators and practitioners in empowering Multilingual Learners (MLLs) to achieve language proficiency and academic success. Drawing on previously published research, we explore the benefits and challenges of UDL implementation for MLLs in ESL/EFL contexts, offer potential strategies for UDL and technology integration, and provide a practical example with CommonLit integration.

Keywords: Universal Design for Learning, UDL, English Language Learners, ELLs, Multilingual Learners, Educational Technology

Introduction

With a focus on scientific understanding of human learning, the universal design for learning (UDL) has been developed to be a comprehensive framework to enhance and optimize teaching and learning experiences for individuals of all backgrounds. The promise of the framework is to foster flexibility and responsiveness to learners' variability that can optimize teaching practices and facilitate learning for all students (CAST, 2018; Meyer et al., 2014; Rao, 2019). By addressing the primary barrier within instructional environments, the inflexible, "one-size-fits-all" curricula that many teachers are required to cope with (CAST, 2011, p.4), the UDL framework gives a blueprint for developing instructional objectives, materials, and assessment techniques that make learning experiences accessible to all students, thus reducing the need for individual accommodations that address learner variability.

Within this framework, three overarching principles help educators provide choices, scaffolding, and flexibility to facilitate the learning process. These are to provide:

1. multiple means of engagement,
2. multiple means of representation, and
3. multiple means of action and expression (CAST, 2018).

Each of these principles focuses on a particular aspect of learning to accommodate the broadest possible spectrum of students without needing future adjustments (Meyer et al., 2014). Therefore, the implementation of these principles promotes learning experiences that are multi-dimensional, multi-sensory, meaningful, and engaging. To achieve the goal of implementing these three principles, the framework is supported by nine guidelines and 31 checkpoints (CAST, 2018; Meyer et al., 2014; Rao, 2015).

The first principle, engagement, supports how students get motivated and stay engaged during learning activities. It guides teachers to create a learning environment where students interact flexibly with content. Varying the kind and degrees of challenges for students can help with engagement and keeping students' attention in the classroom. For example, one of the guidelines under this principle is recruiting students' interests before diving into the content of the lesson. One way for teachers to achieve this is by offering learners choices on things like selecting a topic, projects, etc. This approach can help learners to develop self-determination and agency, and help them feel connected to their learning. The second principle, representation, looks at how the teacher presents information. One way this could be done is by adding visual aids, and/or changeable font size (as will be shown later). Once this

principle is implemented, learners will have various information presentation methods, such as written and spoken languages, videos, and images (CAST, 2018; Kieran & Anderson, 2019). Lastly, the principle of action and expression helps teachers provide learners with ways to demonstrate what they know and are capable of in multiple ways (CAST, 2018; Evmenova, 2018). Similarly, it allows teachers to foster the development of executive functions and communication (CAST, 2011). For instance, teachers can integrate technology and use multiple media in learning tasks that help students monitor their progress, plan strategically, and respond to tasks in different ways or formats (an example is provided later). This principle also considers materials and assessments, and their accessibility for students to interact with these at ease regardless of their variability (CAST, 2018).

Although the UDL framework is most frequently associated with meeting the needs of students with disabilities and other diverse learning needs, the framework's principles can also provide a robust framework for enhancing Multilingual Learners' (MLL) learning experience. On most occasions, traditional approaches to language instruction may not be sufficient for MLLs, who come from diverse linguistic and cultural backgrounds (Torres & Kao, 2019). In recent years, however, UDL has gained attention for its potential to enhance language development for MLLs since it shifts the focus from viewing students as disabled or unable to learn to the understanding that the curriculum may be hindering their access to content (Meier & Rossi, 2020).

By providing multiple means of engagement, representation, action, and expression, UDL can support the individual needs of multilingual learners by diversifying instruction and increasing the understandability and accessibility of content for these students. Teachers employing the UDL principles can benefit from greater flexibility and personalization in their instruction, thus creating an inclusive and supportive learning environment for all students, regardless of their background or learning abilities, which can ultimately help them improve their English proficiency.

UDL and Multilingual Learners

Multilingual learners are students who are identified as English Language Learners (ELLs) but are consistently exposed to multiple languages (WIDA, 2020). Because of their cultural and linguistic diversity, MLLs may receive and analyze information differently, which could result in barriers to learning (Rose & Meyer, 2020; Torres &

Kao, 2019). To optimize MLLs' learning experiences, teachers should ensure that new content is perceptible, clear, and comprehensible (Torres & Rao, 2019). Similarly, educators should provide ample opportunities for MLLs to receive input, produce output, and participate in interactions while also providing feedback as often as possible (Torres & Rao, 2019).

Considering the importance of language development (LD) for MLLs' academic success, teaching practices should take into account language proficiency in assessment and lesson design. From this perspective, the UDL framework can help teachers predict and plan for MLLs' needs and help reduce learning barriers (Torres & Kao, 2019). When multiple means of engagement are included in the instruction, MLLs are more likely to build skills, sustain their interest, and deepen their understanding and retention of new content. Linking MLLs' background knowledge is not only beneficial to learning but helpful in promoting language learning.

Likewise, varying the ways of presenting new information while integrating content and language in instruction can help MLLs assimilate new knowledge (Torres & Kao, 2019). Furthermore, incorporating multiple ways to express knowledge is critical for MLLs since their English language proficiency may limit how much of what they know they are able to clearly demonstrate. Fostering interactions in the target language can help MLLs produce and interact with language successfully. All things considered, the progressive scaffolds UDL proposes for learning enhances strategic learning and language development.

The flexible and adaptable nature of UDL lends itself particularly well to supporting the unique language development needs of culturally and linguistically diverse students. Therefore, applying the principles of UDL to language instruction can help educators ensure that all students have equal access to high-quality education and that the learning experiences are tailored to meet their needs and abilities. On that account, technology integration can be one way to implement the UDL framework. Technology can be a powerful tool for implementing UDL since it allows for greater flexibility and personalization in instruction (see Table 1 for more examples). However, successfully integrating technology and UDL requires careful planning, training, and support.

Technology Support

When considering the use of technology, there are some critical points to keep in mind. First and foremost, to

effectively implement technology into a classroom, it is important to ensure teachers and students have access to the technology itself (e.g., computer, notebook, etc.) in order to develop their digital skills. Another key factor is to use checkpoints to achieve the main guidelines. This can help ensure that the technology is being used in a way that supports best practices and avoids potential pitfalls.

Another important consideration is whether achieving the desired outcome without using technology is possible. In many cases, simpler solutions may be just as effective, or even more so. Additionally, it is crucial to recognize that UDL does not necessarily equate to the use of technology. While technology can certainly support UDL principles, it is not the only way to implement them. Finally, it is important to understand that no single technology will cover all guidelines and checkpoints. Table 1 shows some educational technologies that may support UDL implementation in classrooms with the best suitable guideline for them.

Digital Tools for Engagement	Digital Tools for Representation	Digital Tools for Action and Expression
Messaging applications Google Hangout Remind	**Digital Graphic Organizers** Poppet Chart of online Graphic Organizers	**Online and mobile apps** UDL Book Builder StoryJumper Book Creator
Online Checklists Example created in Google Forms	**Literacy Support App** Voice Dream Reader	**Multimodal presentation tools** Voicethread, Educreations, Explain Everything
Online bulletin board Padlet	**Text-to-Speech** Newsela	**Infographics** Adobe Spark Piktochart Easel.ly
Video Sharing FlipGrid	**Text Customization** CommonLit	**Story creation and animation** Puppet Pals Toontastic

Table 1: Samples of education technology for each UDL principle adopted from "Technology and UDL," Rao, K. and Torres, C., 2020. https://schoolvirtually.org

Since no single technology supports all UDL principles, guidelines, and every checkpoint, it is important for teachers to carefully evaluate tools and use them to maximize their benefits while minimizing potential risks. The following is one way to evaluate a technology that may help support some of the UDL principles, guidelines, and/or checkpoints.

CommonLit Example

CommonLit is a platform built on a foundation of over 2,000 high-quality texts to offer free reading passages for grades 3–12, and which is complemented by aligned interim assessments, growth-oriented data, and expert-led teacher development. While it is not meant to meet all principles, it does a good job of serving each of them. What follows are examples of how CommonLit can be used to implement the three principles of the UDL framework.

Provide Multiple Means of Engagement

CommonLit offers engaging content that meets learners' interests by providing various topics and genres (see

Genres

- Allegory
- Autobiography
- Biography
- Drama
- Essay
- Fable
- Fantasy
- Fiction
- Folktale
- Historical Document
- Historical Fiction
- Informational Text
- Interview
- Legal Document
- Letter
- Literary Theory
- Magical Realism
- Memoir

- Myth
- News
- Non-Fiction
- Opinion
- Parable
- Philosophy
- Poem
- Political Theory
- Primary Source Document
- Psychology
- Quotation
- Religious Text
- Satire
- Science Fiction
- Short Story
- Skill Lesson
- Speech

Figure 1: CommonLit list of topics and genres

Figure 1). Learners have the autonomy to select any topic, making finding a topic that matches their interests effortless. Additionally, CommonLit offers learners opportunities to self-regulate their learning by providing comprehension-check questions throughout the reading, which allows them to assess their understanding and reading strategies.

Provide Multiple Means of Representation

CommonLit is a helpful tool that provides multiple means of representation, including pictures to enhance understanding, a text-to-speech tool for audio support,

built-in definitions, and footnotes (see Figure 2). While CommonLit does not provide scaffolding for reading, teachers can use the tool to activate background knowledge, highlight big ideas and critical features, and guide information processing and visualization. Teachers can do so by inserting questions to scaffold content and ensure it is understandable. These questions can be inserted throughout the reading to check for prior knowledge and to assess comprehension. By using CommonLit and incorporating scaffolded questions, teachers can support students in accessing and comprehending complex texts.

Provide Multiple Means of Action and Expression

Although CommonLit only partially meets the criteria for the category, it provides alternative options such as digital highlighting and annotating of readings. It also offers a variety of question types for students to express and communicate their ideas, including short answers and multiple-choice questions. To meet this criterion more fully, teachers must create and customize these questions to fit the needs of their learners. Additionally, CommonLit provides a feature for monitoring learning progress by collecting all student answers, reading levels,

Figure 2: A screenshot of CommonLit reading screen

highlights, and annotations. The generated report is an essential tool for students to reflect on their progress and develop lifelong learning skills. Overall, despite not satisfying all the category criteria, CommonLit offers a range of options that support student learning and development.

Final Thoughts

Implementing the UDL framework, with the support of technology, can significantly benefit multilingual learners in terms of their language development and overall educational experience. By offering multiple means of engagement, representation, and action and expression, UDL can help and guide teachers to meet the diverse needs of these learners and promote their academic success. Furthermore, the application of online technology can provide educators with powerful tools for implementing UDL principles and enhancing the accessibility and effectiveness of language instruction. By leveraging the power of UDL and technology, educators can help empower MLLs to achieve their full potential and become successful, engaged members of our increasingly diverse society.

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