Transforming language development for MLLs with UDL and Toontastic 3D

ESTEPHANIE S. LÓPEZ CONTRERAS

This review discusses Toontastic 3D as an educational tool to support multilingual learners (MLLs). The Toontastic 3D app helps to promote communication skills, English language development for MLLs, and content learning. The app is evaluated using a Universal Design for Learning (UDL) framework. The review concludes with a summary of Toontastic 3D's features and suggestions for its use in the classroom.

Keywords: MLLs, multilingual learners, English language development, UDL, Universal Design for Learning, technology-enabled learning

Toontastic 3D

Among the many available educational apps, Toontastic 3D, launched by Google Education in 2017, is a multimedia storytelling app that offers a fun and user-friendly platform for students to bring their stories to life by presenting three-dimensional animated characters and environments. Toontastic 3D can help promote English language development in multilingual learners (MLLs), support multiple literacies, and provide multiple means of engagement, representation, and action and expression. It all depends on how a teacher decides to use the app.

In Toontastic 3D, students create a background and movable characters and then narrate their stories or reports. Students can record their voices and choose music and sound effects to make their stories more engaging (see Figure 1). This free app works with iOS and Android devices, including phones, tablets, iPads, and Chromebook computers. However, it is not available for desktop computers or web browsers. Toontastic 3D contains no ads, works offline, and does not require an account or login, making it easier for teachers to use in their classrooms.

Once students have completed their project, it will be automatically saved in the app’s library. But the user can...
also export the project and share it with others. Once students export the story, it will be saved to the device’s photo library. They can then send their stories using a messaging app, upload them to social media, or attach them to an email. Figure 2 shows an example of how a story is saved and where the export option is found.

While Toontastic 3D is intended for grades 1-6, specifically for Language Arts and Science (Google Education, n.d.), it can also be used in other subject areas and upper grades because it does not have pre-set disciplinary content. Similarly, the app is meant for storytelling, but there are no limits to the purposes it can be used for. Some examples include preparing biographies by creating settings and backgrounds that match the character’s story, creating dialogues with their peers by recording each other’s voices, and creating book reports or summaries through the different options of story creation the app offers. Figure 3 shows the story creation main menu.

**Toontastic 3D and Universal Design for Learning**

Rooted in neuroscience and education research, Universal Design for Learning (UDL) uses digital technology to create learning environments that foster flexibility and responsiveness to learners’ variability (Rao, 2019; Torres & Rao, 2019). By intentionally incorporating choices, scaffolds, and supports in pedagogical practices, UDL aims to make the learning experience accessible to all students, thus reducing the need for individual accommodations. UDL posits three overarching principles—multiple means of engagement, representation, and action and expression—to provide equitable opportunities for all students to achieve high standards from the beginning (CAST, 2018; Meyer et al., 2014).

From a UDL perspective, Toontastic 3D adheres to these UDL principles by overcoming some challenges inherent in traditional learning, particularly in regard to those faced by learners from culturally and linguistically diverse backgrounds. Toontastic 3D provides meaningful activities that allow students to use the target language. Additionally, students learn at their own pace and in a manner that suits their preferences, freeing up teachers to help students manage emotional responses during language learning. Toontastic 3D meets the UDL principles in the following ways:

**Multiple means of engagement**

Toontastic 3D can enhance student engagement by providing choices in context and tools for learning. Traditionally, students would create stories with pen and paper or using a preset technological tool, whereas Toontastic 3D gives options for characters, colors, sounds,
settings, and backgrounds to best match students’ creations. It can also promote relevance, value, and authenticity in classroom activities through personalization (CAST, 2018) as learners make choices about story types and length, characters, music, and animations. Additionally, it supports effort and persistence in collaborative work, encourages peer interactions, and can also promote timely feedback if the activity completed in the app is, for example, shared among students and they write comments on each other’s creations. Creating narratives using this app can foster imagination and promote active participation, too.

**Multiple means of representation**

In the UDL framework, representation has to do with how students perceive and comprehend content presented to them (CAST, 2018). Toontastic 3D is one example of providing options for representation since it offers alternatives to auditory and visual information, and it helps illustrate information through media. The app can also help students process information and vocabulary items and enhance overall comprehension. Moreover, it can help make cross-curricular connections, such as applying language skills to a science project.

**Multiple means of action and expression**

This UDL principle refers to the ways in which students can demonstrate what they know and have learned (CAST, 2018). Although Toontastic 3D has many advantages, the app may not be ideal for students with some physical disabilities since it does not provide alternatives for those who are visually impaired or hard of hearing. However, it can be a beneficial alternative for multilingual learners and students with learning disabilities as it offers an alternative for task response and provides scaffolds for practice and performance. The app can also support planning and strategy development since it offers templates for composing stories or reports (CAST, 2018). This can help students understand the task, the sequence they need to follow, and the steps they need to complete. Toontastic 3D can also support executive functions when students provide feedback to each other and reflect on their completed project.

**Toontastic 3D and English Language Development**

**Supporting grammatical development**

Although the app does not support grammatical accuracy per se, teachers can include grammatical accuracy as part of the focus of the task or include it as part of the rubric. For example, teachers can request students narrate stories using past tenses or make predictions using future tenses. What the app does allow the user to do, however, is to express themselves. Therefore, in the narration, students need to produce an understandable idea or argument for the audience to comprehend.

**Supporting language skills**

Toontastic 3D supports students’ oral fluency skills by promoting comprehensible pronunciation, prosody, phonemic awareness, fluency, and the ability to organize and sequence language during the narration. The app also supports listening comprehension as students can listen to their recordings as often as needed, and all instructions are given orally. Conversely, the app does not support reading skills as there is minimal text, and instructions are not captioned. The same happens with writing. Because it is intended for oral communication, the app does not have a function for writing. Hence, writing skills are not explicitly supported. However, teachers can plan complementary activities to support reading comprehension and writing skills by asking students, before they begin their narration in the app, to write out notes for the story’s plot and for delivery and then having peers read and respond to these. This process allows learners to expand their working vocabulary and learn from each other.

**Final Words**

Although the app supports multilingual learners’ English language development, teachers should consider some of its limitations before using it in their classrooms. For example, while the app is very user-friendly and intuitive, it requires some modeling since it does not include instructions to follow while students work on their creations. In addition, since learners have to narrate the story at the same time that they move the characters, it may take time for some to become adept at doing both at once. However, the advantages of Toontastic 3D—that it works offline, does not require learners to create an account or log in, and does not have preset content—outweigh the downsides, making it a good app for classroom implementation.

Finally, Toontastic 3D is a good option for MLLs and UDL implementation since it promotes language development through listening and speaking practice in a supportive and engaging environment. At the same time, the app supports the UDL framework by offering multiple means of engagement, representation, and action and expression. Students can use various characters, settings, sounds, and animations to create their stories, keeping them engaged and allowing them to demonstrate their knowledge in fun and innovative ways.
References


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