Transition to Literacy Features for AAC Users Learning to Read: Current Evidence and Applications

Formative Literacy Skills

Sight word recognition Recognizing a full written word on sight
Phoneme segmentation Breaking down a spoken word into the composite sounds (e.g., hearing "cat" and knowing it is made up of the sounds /k/ /ae/ /t/)
Sound blending Combining letter sounds into a single word (e.g., hearing the sounds /k/ /ae/ /t/ separately, and being able to blend them together to form "cat")
Letter-sound correspondence Matching a written letter to the sound it makes (e.g., seeing the written letter *c* and knowing that it makes the /k/ sound)
Decoding Sounding out words by identifying their letter sounds, then blending those letter sounds together (e.g., reading the written word *cat* by knowing those letters make the sounds /k/ /ae/ /t/ and then blending them to form the word "cat")

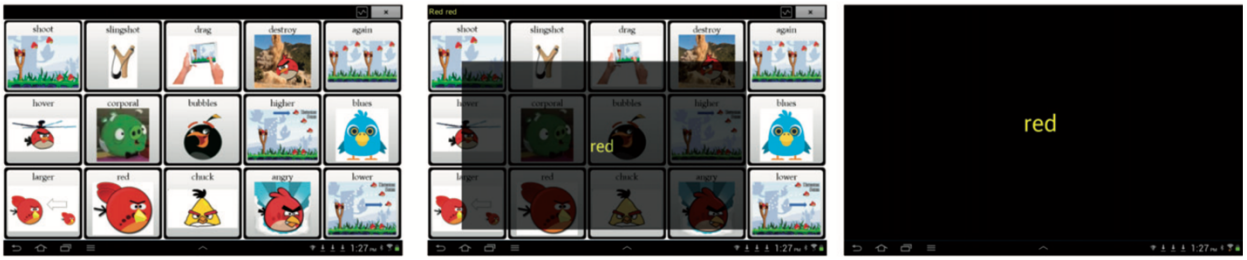
Transition to Literacy

Sight Word Feature	Uses motion to draw attention to the full text word, pairing it with the visual representation of the concept and the spoken word.
Decoding Feature	Uses motion and luminance to draw attention to the text word, including the individual letter sounds (grapheme-phoneme pairings) and the full text word, pairing it with the representation of the concept, the spoken letter sounds, and the full spoken word. Can be used for full word decoding or adapted for initial phoneme segmentation

T2L Sight Word Feature

Visual Scene Display

Grid



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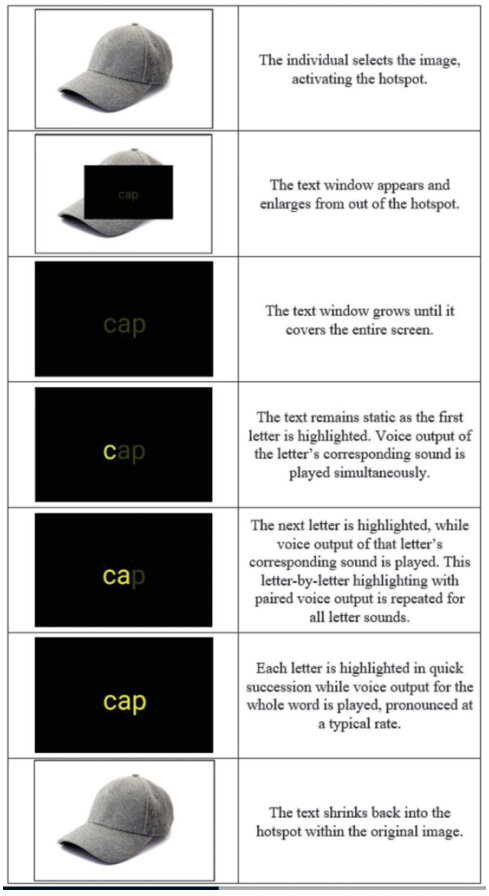
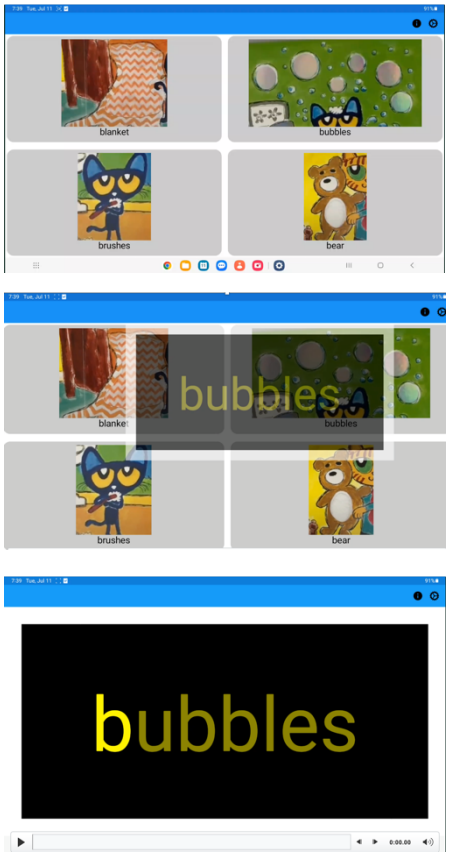
T2L Decoding Feature

Visual Scene Display



Grid



	Go Visual (Attainment Company)	Dedicated Devices (Saltillo)	Snap Scene (Tobii Dynavox)	Scene and Heard Pro (Therapy Box)
Single Word Recognition	Yes	Yes	Yes	Yes
Initial Phoneme Segmentation				Yes
CVC Word Decoding				Yes
Advanced Decoding				Yes

More information on current Transition to Literacy projects under the RERC on AAC: https://rerc-aac.psu.edu/research/r2-aac-literacy-decoding-technology/

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Research Evidence

Caron, J., Light, J., & McNaughton, D. (2020). Effects of an AAC app with transition to literacy features on single-word reading of individuals with complex communication needs. *Research and Practice for Persons with Severe Disabilities*, *45*(2), 115-131.

Caron, J., Light, J., Holyfield, C., & McNaughton, D. (2018). Effects of dynamic text in an AAC app on sight word reading for individuals with autism spectrum disorder. *Augmentative and Alternative Communication*, *34*(2), 143-154.

Caron, J., Light, J., & McNaughton, D. (2021). Effects of a literacy feature in an augmentative and alternative communication app on single-word reading of individuals with severe autism spectrum disorders. *Research and Practice for Persons with Severe Disabilities*, *46*(1), 18-34.

Holyfield, C., Pope, L., Light, J., Jakobs, E., Laubscher, E., McNaughton, D., & Pfaff, O. (2023). Effects of an AAC Technology Decoding Feature on Single-Word Reading by Individuals with Down Syndrome and Limited Functional Speech. *American Journal of Speech-Language Pathology*, *32*(3), 1195-1211.

Holyfield, C., Light, J., Mcnaughton, D., Caron, J., Drager, K., & Pope, L. (2020). Effect of AAC technology with dynamic text on the single-word recognition of adults with intellectual and developmental disabilities. *International Journal of Speech-Language Pathology*, *22*(2), 129-140.

Holyfield, C., Pope, L., Light, J., Jakobs, E., Laubscher, E., McNaughton, D., & Pfaff, O. (2024). Effects of an AAC feature on decoding and encoding skills of adults with Down syndrome. *Augmentative and Alternative Communication*, *40*(2), 140-154.

Holyfield, C., Caron, J., Light, J., & McNaughton, D. (2019). Effect of video embedded with hotspots with dynamic text on single-word recognition by children with multiple disabilities. *Journal of Developmental and Physical Disabilities*, *31*, 727-740.

Mandak, K., Light, J., & McNaughton, D. (2020). Video visual scene displays with dynamic text: Effect on single-word reading by an adolescent with cerebral palsy. *Perspectives of the ASHA Special Interest Groups*, *5*(5), 1272-1281.