

EDUCATORS' ASSESSMENT OF DIGITAL RESOURCES FOR PRESCHOOL RUSSIAN LANGUAGE LEARNERS

ALBINA KAYUMOVA*
Kazan Federal University

GULNARA SADYKOVA
Kazan Federal University

ABSTRACT: Nowadays, parents and educators see the exponential growth of digital resources that target very young language learners including emerging bi- and multilinguals. Little do we know, however, about how educators use digital resources in the classroom. This study aimed at examining educational practices of early childhood educators working on speech development of bilingual children aged 3 to 7. Thirty-four educators working in bilingual kindergartens and preschools in Russia were recruited to complete a questionnaire. The study results demonstrated educators' positive view over the digital resources as tools for emergent bilinguals. Multimodal and interactive features of digital tools were assessed as the most effective. Common patterns among study participants were found in the teaching practices employed. While most educators showed readiness to let children work with digital technology independently, they still saw electronic resources as tools that simply amplify educator-child interaction leaving the crucial role of knowledge mediators to the educator.

KEYWORDS: digital resources, bilingual education, language learning, early childhood education

* Para correspondencia, dirigirse a: Albina Kayumova (alb1980@yandex.ru).

*EVALUACIÓN DE LOS EDUCADORES DE LOS RECURSOS DIGITALES PARA ESTUDIANTES
PREESCOLARES DEL IDIOMA RUSO*

RESUMEN: Hoy en día padres y educadores ven el crecimiento exponencial de los recursos digitales que se dirigen a estudiantes de idiomas muy jóvenes, que incluyen los bilingües y multilingües emergentes. Sin embargo, sabemos muy poco de cómo los educadores utilizan los recursos digitales en el aula. Este estudio tuvo como objetivo examinar las prácticas educativas de los educadores de la enseñanza temprana que trabajan en el desarrollo del habla de niños bilingües de años 3 a 7. Treinta y cuatro educadores que trabajan en guarderías y preescolares bilingües en Rusia fueron reclutados para completar un cuestionario. Los resultados del estudio demostraron una visión positiva de los educadores sobre los recursos digitales como herramientas para los bilingües emergentes. Las características multimodales e interactivas de las herramientas digitales se evaluaron como las más eficaces. Se encontraron patrones comunes entre los participantes del estudio en la enseñanza en las prácticas empleadas. Si bien la mayoría de los educadores se mostraron dispuestos a dejar que los niños trabajen con la tecnología digital de forma independiente, todavía veían los recursos electrónicos como herramientas que simplemente amplifican la interacción educador-niño dejando el papel crucial del conocimiento para el educador.

PALABRAS CLAVE: recursos digitales, educación bilingüe, aprendizaje de idiomas, educación temprana

1. INTRODUCTION

Young learners of today have used digital technologies since their babyhood (Common Sense Media, 2017). Recent statistics show that in technologically developed countries young children have much exposure to media devices and services. Ofcom (2019) reports that 52 % of 3-4 year olds go online for 9 hours a week and 36 % play digital games for over 6 hours a week; at the age of 5-7 five percent of children own their own cell phones and 42 % have their own tablets.

Parents and educators see the exponential growth of digital resources that target children of preschool age. Some of these resources are meant for young language learners. Scholars and educators, however, express concern over the educational value of some mobile and computer applications for children: their design and features may have little resemblance to worthy cognitive tools (Kazanci and Okan, 2009). In a study of fifty most popular mobile language learning applications for children and adults, Heil *et. al* (2016) found that these commercially-available programmes do not enable users to learn and teach languages in contextualized and meaningful way as promoted by the communicative language teaching (CLT) approach; tasks and activities are generally focused on isolated memorization of vocabulary, rarely provide corrective feedback and are unable to individualize the learning process.

Concerns with the use of digital technologies in early childhood education have been also expressed by child advocacy groups and health organizations,

as well as by some parents and educators. Non-interactive, passive and excessive exposure to digital screens have been linked to behavioral issues, decreased academic performance, socialization and language development problems, and other negative impacts (NAEYC, 2012). However, while research findings are not unanimous in supporting or objecting to the integration of digital technology into childhood education, evidence suggests that thoughtful and developmentally appropriate application of quality digital resources can enhance classroom and provide engaging, interactive and enjoyable learning opportunities for young learners (NAEYC, 2012; Drigas and Kokkalia, 2014; Kokkalia *et. al.*, 2017).

Researchers' interests have also been drawn to the interactions of digital technology with young language learners including bi- and multilingual children. Segers and Verhoeven (2003, 2005) examined native and immigrant children in the Netherlands and found that computer-assisted language learning had a positive effect on vocabulary acquisition, rhyming, and grapheme knowledge. Multimodal features of digital learning objects have been described as amplifying content material, supporting speech development and motivating learners to stay on task (Meskill, 2007; Kayumova and Sadykova, 2019). Moreover, studies show that for young learners it is very important when interactions with digital screens are designed as playful and pleasurable activities carefully and thoughtfully orchestrated by, in Vygotsky's term (Vygostky, 1978), a *more knowledgeable other*, i.e. by educator (Edwards, 2016; Meskill, Sadykova and Kayumova, 2020; NAEYC, 2012;) or parent (See, Madhubala and Koo, 2019). Little do we know, however, what educators do in the classroom to assist speech development of young bilingual learners and what features of digital resources educators find most valuable for their teaching purposes.

2. METHODOLOGY

This study aims at examining educational practices of early childhood educators working on speech development of bilingual children aged 3 to 7. The following research questions guided data collection and analysis stages:

1. How do educators use digital (electronic) resources in the Russian classroom for speech development of preschool children?
2. What elements of the digital (electronic) resources do early childhood educators find most effective?

The study was conducted in one of the multiethnic regions of the Russian Federation –in the Republic of Tatarstan. Tatars are the second largest ethnic group in Russia (after Russians) living side-by side with Russians and other ethnicities in the Volga Region and in some other parts of Russia, including Siberia. Being a part of the Turkic language family, Tatar is used as a major means of communication by most Tatar families living in Tatar villages and by some families who live in urban areas or in mostly Russian environment. While the government of Tatarstan makes efforts

to preserve and develop Tatar, the number of its speakers continues to decline. Even though Tatar is a state language (along with Russian) in the territory of the republic, it is not the medium of instruction in most schools and universities, though some kindergartens, preschools and schools have adopted bilingual education programmes.

The participants of the study (N = 34) were kindergarten educators who work with children aged 3 to 7 in state-funded kindergartens and preschools with bilingual (Russian-Tatar) program of education. The curriculum of such preschool organizations includes classes and activities aimed at developing oral competence in Russian. The participants were recruited during a professional development training focused on the integration of digital learning objects (electronic resources) into educational programs for bilingual children learning Russian as their second native language.

To collect data, participants were requested to complete a paper-based questionnaire consisting of close-ended and open-ended questions. For the purposes of this study two sections that included 8 questions related to the use of digital (electronic) resources in the classroom and educators preferences for elements of these resources were analyzed quantitatively. Some of the questions referred to a particular digital resource – *Live Fairytales*TM (Zhivyye skazki), which is a state-funded online Russian language school for 3-5 year old children. This resource, which is located at <http://skazki.pushkininstitute.ru/>, was used by most of the participants of the training and therefore they were aware of its features. Those participants who had not used this resource were able to answer the questionnaire items referring to another digital learning object they integrate into their teaching practices.

The research design was based on the sociocultural theoretical framework developed by the Russia psychologist Lev Vygotsky and his followers (Vygotsky, 1978; Kozulin *et. al.*, 2003). In the Vygotsky's educational theory human cognition and learning are seen as social and cultural phenomena rather than as individual. He focused on the crucial role of *the more knowledgeable other* (an educator, parent or peer), who assists the child in his/her interaction with the environment and enables the child to progress as he/she functions within the zone of proximal development. If these resources were considered within Vygotsky's view of learning, digital learning objects could be seen as learning tools that serve as mediators of knowledge. This concept of the mediational role of educators and digital resources was used to design the items for the questionnaire used as a major data collection tool of this research, as well as for further discussion and interpretation.

3. RESULTS

This section describes and analyzes the answers to the questionnaire completed by the participants. The results are clustered into two subtopics according to research questions.

1.1. The use of digital (electronic) resources for speech development of very young emerging bilinguals

Six questions of the survey aimed at examining how educators use digital (electronic) resources in the Russian classroom for speech development of emerging bilinguals. A 5.0 scale was designed to measure participants level of agreement with six statements developed based on the literature review within Vygotskian theoretical framework. First the participants were asked to agree or disagree with the following two statements: “I give clear instructions in the target language at the beginning of *Live Fairytales*TM session” and “I model how to do interactive tasks”. The absolute majority of the respondents (83 %) agreed or strongly agreed with these statements (see Fig. 1-2). Apparently, educators give clear instructions before children start to interact with the electronic resource and demonstrate how to do an interactive task, thus serving as more knowledgeable others (Vygotsky, 1978) and helping children to interact with the environment.

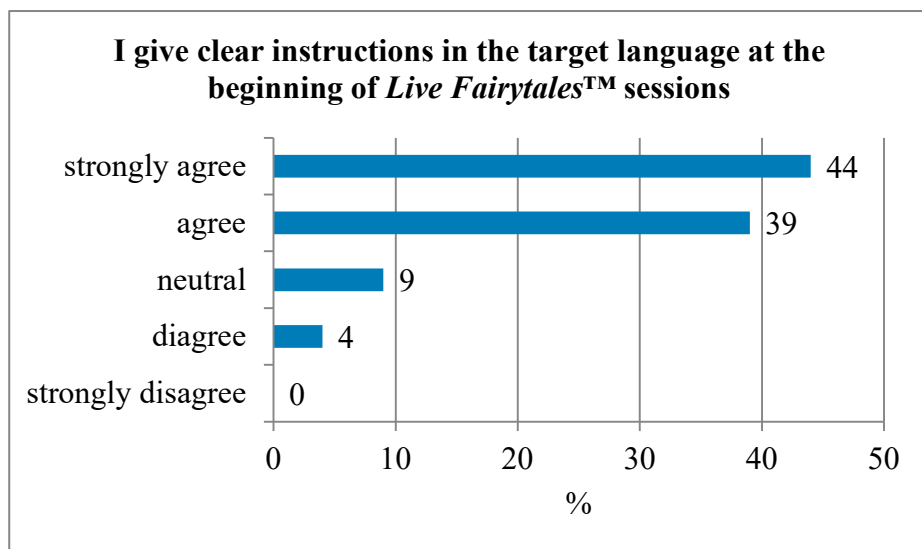


Fig. 1. Responses to Statement #1 “I give clear instructions in the target language at the beginning of *Live Fairytales*TM sessions” (%)

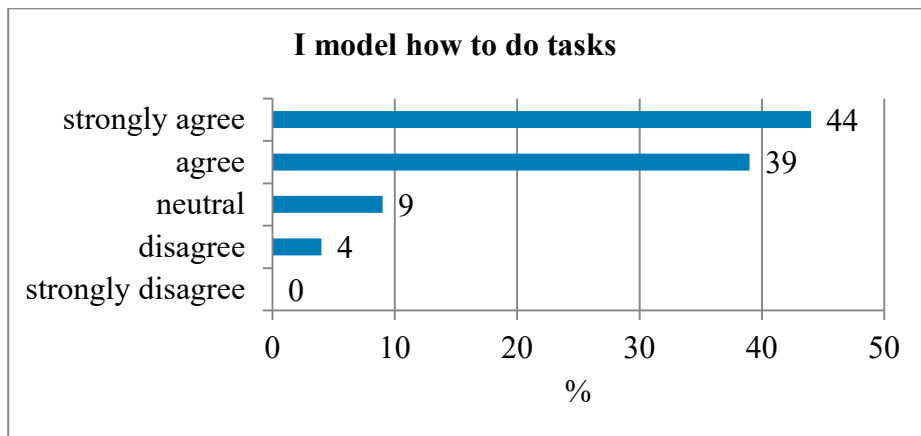


Fig. 2. Responses to Statement #2 “I model how to do tasks” (%)

The results to the next statement –“I let my students explore an interactive task without prior instructions (autonomously/free activity)”– were slightly different. The ratio of the respondents who completely agreed or agreed with this statement has changed compared to the answers given to the previous two statements. Results show that even though the respondents give their students the opportunity to work with electronic resources on their own, they may do so either infrequently or with some cautions. This assumption is also partially based on the increased number of the respondents who chose the ‘neutral’ option (see Fig. 3).

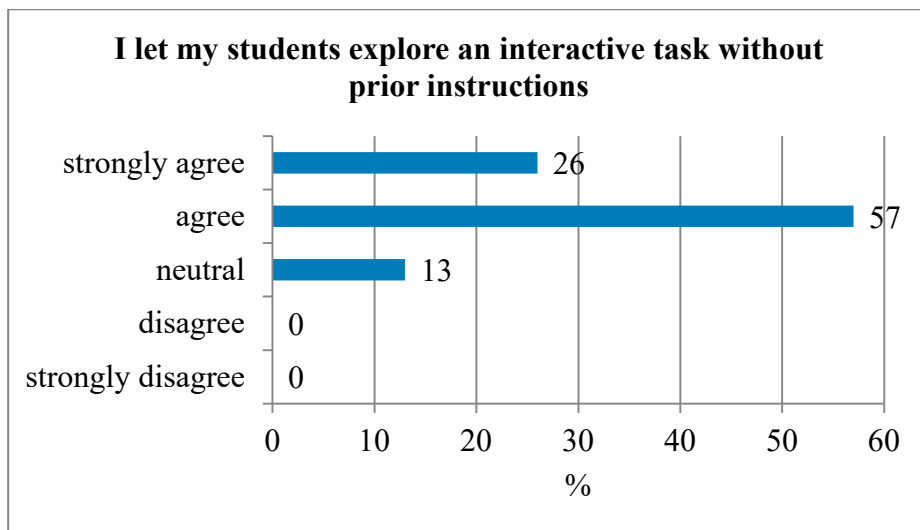


Fig. 3. Responses to Statement #3 “I let my students explore an interactive task without prior instructions” (%)

The next statement –“I often interact with my students in the target language related to the subject”– aimed at exploring the significance of *educator-child* interaction when performing activities around digital learning tools. Most of the respondents (87 %) agreed or completely agreed with the statement (see Fig. 4). There were no respondents who did not see the value of frequent interaction on the subject matter with young learners.

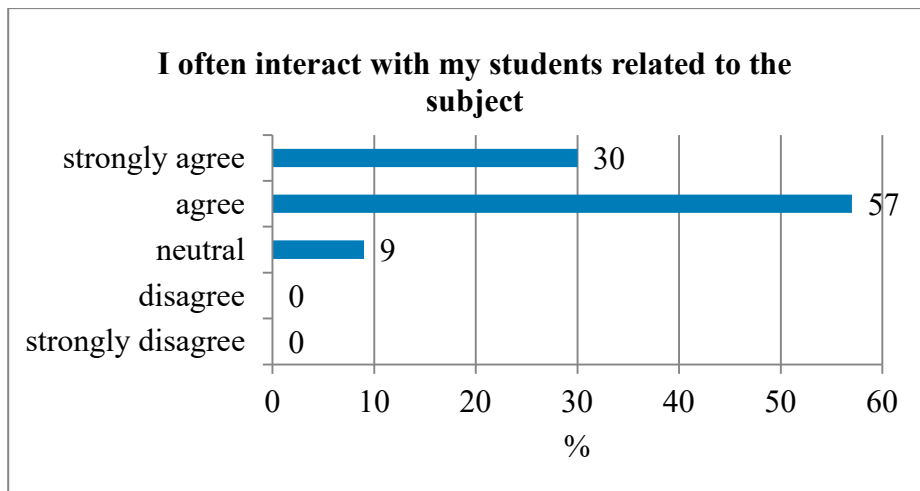


Fig. 4. Responses to Statement #4 “I often interact with my students related to the subject” (%)

Statement #5 (“I provide tasks for my students to assess their learning”) focused on the importance of teacher assessment in the classroom that integrates digital tools. The majority of the respondents (74 %) agreed or completely agreed with the statement (see Fig. 5). This shows that most educators supplement electronic resources with tasks that allow them to assess students’ knowledge. However, we received the largest number of ‘neutral’ responses to this statement (22 %), which could be an indication that some early childhood educators do not see an urgent need to provide assessment activities in addition to those that are already integrated into the digital resource.

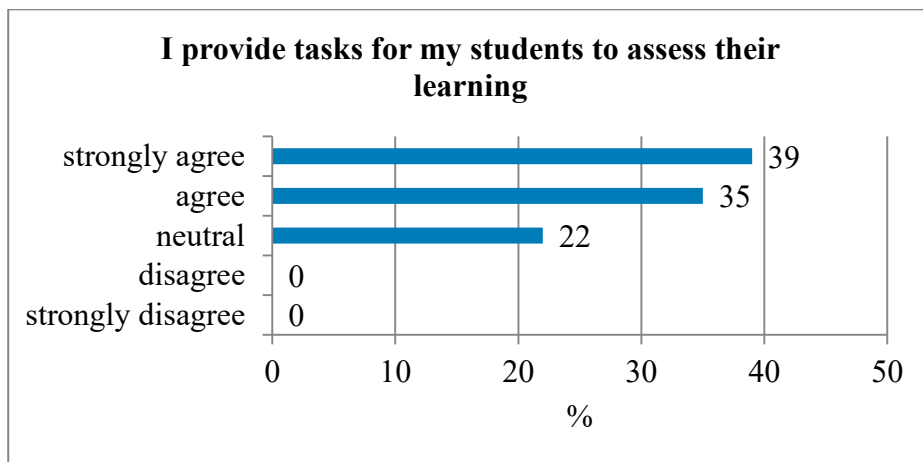


Fig. 5. Responses to Statement #5 “I provide tasks for my students to assess their learning” (%)

a. Assessing the value of elements of digital (electronic) resources

Previous research shows that not all digital educational technology are designed equally effective in terms of their value as learning and teaching tools (Kazanci and Okan, 2009; NAEYC, 2012). Commercial applications for young learners often carry little educational value and may be ineffective when used by educators. To assess what elements of the digital resources educators find effective, the questionnaire asked the respondents to continue the sentence “I think that the most effective elements of electronic resources are...” Study participants were also provided a space to add and comment on their own effective elements.

The analysis demonstrated that illustrations and digital heroes were ranked as the most effective elements of electronic resources for very young learners: 100 % of the respondents shared this point of view. Audio materials and interactive tasks received 96 % of favorable responses, followed by a scoring system and cultural components (83 %) (see Fig. 6).

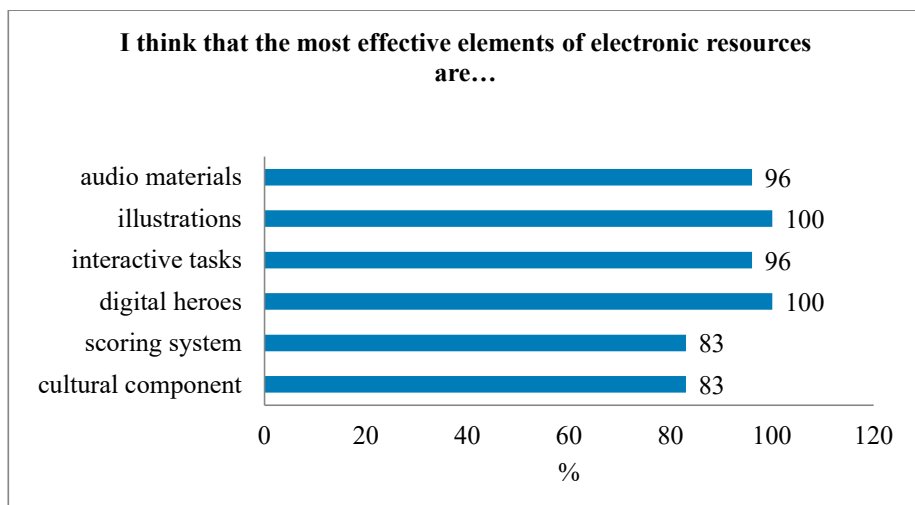


Fig. 6. Rating of the elements of interactive electronic resources (%)

The review of an open-ended question revealed that most respondents see the need to amplify the positive effect of digital resources with songs, dances, or other tasks involving physical activities. They believe that these activities diversify classes and provide learners with a short break from screen interaction.

The responses to the open-ended question about the educational potential of electronic resources for very young children (such as *Live Fairytales*TM) revealed that the participants were unanimous in their positive view over the effectiveness of such resources. Educators described digital resources as tools that “develop memory, attention and mind”, arouse children’s curiosity, integrate cultural components, and enable children “to acquire knowledge with the help of interesting games”. The respondents praised *Live Fairytales*TM and similar electronic resources for helping the teacher make the class more engaging and dynamic and facilitate cooperation between learners.

4. DISCUSSION

The study demonstrated common patterns in the use of digital (electronic) resources in the Russian classroom for speech development of emerging bilinguals aged 3-7.

Participants of the study, most of whom (N = 28) were early childhood education specialists with experience over 5 years (including 8 educators with experience over 20 years), see digital resources as tools that amplify educator-child interaction. When starting working with the digital resource, educators usually provide clear instructions on the task and then generally model how to complete the activity thus performing as *more knowledgeable others* (Vygotsky, 1978). They see their mediating role in child’s interaction with the content knowledge as very significant and support the need for their frequent interaction in the target language related to the subject. This speaks for

the educators' strong belief in the importance of educator-child interaction even when a digital resource may partly take the teaching responsibilities on itself. This aligns with our previous findings based on class observations and interviews with early childhood educators (Meskill, Sadykova and Kayumova, 2020) that demonstrated a crucial role of teachers as mediators of knowledge in child's interaction with digital screens. Our current findings also support the view of those who do not oppose to the exposure of very young learners to digital screens but rather advocate for the thoughtful and reasonable child-digital technology interaction. As said in a joint position statement of the National Association for the Education of Young Children and Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College, "developmentally appropriate practices must guide decisions about whether and when to integrate technology and interactive media into early childhood programs" (NAEYC, 2012: 5).

The findings of this study also speak for the educators' readiness and willingness to design a learning environment that enables children to work independently. The questionnaire results suggest that most educators who participated in this research allow children to freely explore activities that require child's autonomous interaction with a digital resource. If the quality of the digital tool and the level of its interactivity allows, this seems to be a wise decision on behalf of the educators. Giving the child control over their learning has been described as empowering (NAEYC, 2012). Studies also show that young children are able to productively use digital tools for learning purposes (Bus, Takacs and Kegel, 2015; Meskill and Mossop, 2000; Smeets and Bus, 2014) and that their engagement level increases when the content is presented on screen (Meskill, Sadykova and Kayumova, 2020; Wohlwend, 2017). Thus, not using such a screen effect would be counterproductive.

Educators' assessment of the effective elements of digital resources supported previous findings that showed multimodality (i.e. multiple ways of presenting information) and interactivity as major features of digital resources valued by educators of young learners (Kayumova and Sadykova, 2019; Meskill, 2007). Digital heroes, i.e. virtual characters integrated into the storyline of the content, may serve as "learning buddies" that children accept as friends who help them explore the digital environment (Meskill *et. al.*, 2018). Along with interactive tasks and age-appropriate scoring system, they create game-like playful learning environment that engages young learners with the content. Audio and visual materials add to the appeal of the content and help the learner to comprehend and internalize it.

5. CONCLUSION

Our children, described as digital natives (Prensky, 2001), continue demonstrating their ability and desire to interact with digital technology including for the purposes of learning a second or foreign language (Cummins, 2008; Lohe and Elsner, 2014; Terrell, 2011). Considering the growing number of new learning applications that capitalize on children's strong attraction to game-based interactive digital tools, it is

essential for the educators to select the quality resources and carefully integrate them into the speech development programs.

Our findings, supported by studies of other scholars, speak for the importance of designing and implementing professional development training for early childhood educators who choose to create engaging and developmentally appropriate activities with digital tools. The main message of such training should be in the necessity to design such a learning space that would allow young learners to combine active interaction with physical environment and live mediators of knowledge (i.e. educators, parents, and peers) with free but purposeful exploration of digital learning environments.

6. ACKNOWLEDGMENT

The reported study was funded by RFBR according to the research project №17-29-09128.

7. REFERENCES

- BUS, A.G. Z.K. TAKACS, C.A.T. KEGEL. 2015. Affordances and limitations of electronic storybooks for young children's emergent literacy. *Developmental Review*, 35: 79-97. <https://doi.org/10.1016/j.dr.2014.12.004>
- COMMON SENSE MEDIA. 2017. The Common Sense Census: Media Use by Kids Age Zero to Eight 2017. Retrieved September 2, 2020 from <https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-kids-age-zero-to-eight-2017>
- CUMMINS, J. 2008. Technology, literacy, and young second language learners: Designing educational futures. In L. Parker (ed.) *Technology-mediated Learning Environments for Young English Learners*, pp. 61–98. New York: Lawrence Erlbaum Associates.
- DRIGAS, A. G. KOKKALIA. 2014. ICTs in Kindergarten. *International Journal of Emerging Technologies in Learning (IJET)*, 9(2): 52-58. <http://dx.doi.org/10.3991/ijet.v9i2.3278>.
- EDWARDS, S. 2016. New concepts of play and the problem of technology, digital media and popular culture integration with play-based learning in early childhood education. *Technology, Pedagogy and Education*, 25(4): 513-532. <https://doi.org/10.1080/1475939X.2015.1108929>.
- HEIL, C.R. J.S. WU, J.J. LEE, T. SCHMIDT. 2016. A review of mobile language learning applications: trends, challenges and opportunities. *The EuroCALL Review*, 24(2): 32-50. <https://doi.org/10.4995/eurocall.2016.6402>
- KAYUMOVA, A. G. SADYKOVA. 2019. Implementing a multimodal online program for very young learners of Russian: Educators' perspective. *Indonesian Journal of Applied Linguistics*, 9(1): 1-13. <https://doi.org/10.17509/ijal.v9i1.13323>
- KAZANCI, Z. Z. OKAN. 2009. Evaluating English language teaching software for kids: Education or entertainment or both? *Turkish Online Journal of Educational Technology*, 8(3): 30-38.
- KOKKALIA, G. A. DRIGAS, A. ECONOMOU, P. ROUSSOS, S. CHOLI. 2017. The Use of Serious Games in Preschool Education. *International Journal of Emerging Technologies in Learning (IJET)*, 12(11): 15-27. <http://dx.doi.org/10.3991/ijet.v12i11.6991>

- KOZULIN, A. B. GINDIS, V.S. AGEYEV, S.M. MILLER, S.M. (eds.) 2003. *Vygotsky's educational theory in cultural context*. New York, NY: Cambridge University Press.
- LOHE, V. D. ELSNER. 2014. Developing language awareness in primary school children with multilingual virtual talking books: First results of the pilot study. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 4(4): 29-45. DOI: 10.4018/ijcallt.2014100103
- MESKILL, C. 2007. English language learners and technology: Transforming teaching and learning. In L. Parker (ed.), *Technology-based learning environments for young English learners: In and out of school connections*, pp. 253-261. New York: Taylor and Francis.
- MESKILL, C. J. MOSSOP. 2000. Electronic texts in English to speakers of other languages classrooms. *Teaching English to Speakers of Other Languages Quarterly*, 34(3): 585-592. <https://doi.org/10.2307/3587747>
- MESKILL, C., G. SADKOVA N. ANTHONY A. KAYUMOVA G. GIMALETDINOVA. 2018. Online bilingual maintenance for young Russian learners through digital fairy tales. 2018 Annual Meeting of the American Educational Research Association, 2018 AERA Annual Meeting. <http://www.aera.net/Publications/Online-Paper-Repository/AERA-Online-Paper-Repository/Owner/256539>, last accessed 2020/02/15
- MESKILL, C. G. SADKOVA A. KAYUMOVA. 2020. Mediating Digital Screens with Very Young Emerging Bilinguals. *Bilingual Research Journal*, 43:2: 137-156. DOI: 10.1080/15235882.2020.1743383
- NATIONAL ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN AND THE FRED ROGERS CENTER FOR EARLY LEARNING AND CHILDREN'S MEDIA. 2012. Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8. Retrieved September 2, 2020 from https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/topics/PS_technology_WEB.pdf
- OFCOM. 2019. Children and Parents: Media Use and Attitudes Report 2018. Retrieved September 2, 2020 from https://www.ofcom.org.uk/data/assets/pdf_file/0024/134907/children-and-parents-media-use-and-attitudes-2018.pdf
- PRENSKY, M. 2001. Digital natives, digital immigrants. *On the Horizon*, 9(5): 1-6. <http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf>
- SEE, K.T. B.H. MADHUBALA A.C. KOO. 2019. Motivation of Parents Towards Reading Multilingual eBooks To Pre-School Children. *International Journal of Interactive Mobile Technologies (iJIM)*, 13(01): 20-36. <http://dx.doi.org/10.3991/ijim.v13i01.9060>
- SEGRS, E. L. VERHOEVEN. 2003. Effects of vocabulary training by computer in kindergarten. *Journal of Computer Assisted Learning*, 19(4): 557-566. <https://doi.org/10.1046/j.0266-4909.2003.00058.x>
- SEGRS, E. L. VERHOEVEN. 2005. Long-term effects of computer training of phonological awareness in kindergarten. *Journal of Computer Assisted Learning*, 21(1): 17-27. <https://doi.org/10.1111/j.1365-2729.2005.00107.x>
- SMEETS, D. A. BUS. 2014. The interactive animated e-book as a word learning device for kindergartners. *Applied Psycholinguistics*, 36: 1-22. <https://doi.org/10.1017/S0142716413000556>
- TERRELL, S.S. 2011. Integrating Online Tools to Motivate Young English Language Learners to Practice English Outside the Classroom. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, 1(2): 16-24. DOI: 10.4018/ijcallt.2011040102

- VYGOTSKY, L.S. 1978. Tool and Symbol in Child Development. In M. Cole, V. John-Steiner, S. Scribner, E. Soubelman (eds.), *Mind in society: The development of higher psychological processes*, pp. 19-30. Cambridge, Massachusetts: Harvard University Press.
- WOHLWEND, K. E. 2017. Toddlers and touchscreens: Learning “Concepts Beyond Print” with tablet technologies. In R.J. Meyer, K.F. Whitmore (eds.), *Reclaiming Early Literacy*, pp. 64-74. Mahwah, NJ: Lawrence Erlbaum.
- ZHIVYYE SKAZKI (Live Fairytales). Retrieved September 2, 2020 from <https://skazki.pushkininstitute.ru/>

