



The Digital Age in Literary Education

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This chapter discusses how global rise of digital technologies (ICT) has been changing the face of literature and, consequently, the processes of literary education at contemporary schools. The problem is discussed specifically with regard to children's literature (here understood as a sum of literary texts intended to readers who are younger than 16 years).

The outline of the study roughly moves along the following 4 points: new age – new literature – new reader – new education. In all of them, the novelty is related to the development of digital technologies and their involvement in and impact on all areas of human life. After the term digital age is explained briefly, the concept of digital literature is introduced with attention paid to the related terminological ambivalence and possibilities of classifications of new genres of digital children's literature. Drawing on both the literary communication theory and latest research results of cognitive sciences, the paper then proceeds to discuss the hypothesis that digital literature both calls for and reflects on a new type of the reader who needs a new set of reading skills. In the last part, the paper summarizes various approaches to the application of children's digital literature in literature classrooms, as well as considers some new responsibilities facing contemporary literature teachers.



The Digital Age

The term “Digital Age” is used to mark the time period in history which began with the mass use of the Internet (late 1980s) and for which the common use of various digital technologies (computers, internet, email, electronic games, digital photos and videos, etc.) in nearly all areas of life has become substantial. It can be also referred to as the “information age”, or “computer age”. The area of culture – including literature – is no exception. As a result of this, Manovich claims that contemporary culture is “encoded in digital form” (2001, p. 70).

Digital literature

Digital technologies have influenced literature on all levels: it transformed the way literature is produced, received, and reviewed, which leads to the birth of new – “born-digital” - literary forms and new reading media (Hammond, 2016; Kirchof, 2017, n.p.). In some aspects, the transformation has been quite radical, or as Heick (2012, n.p.) expressed it, *“for staunch traditionalists, digital poetry likely challenges their definitions for what poetry should be, looking more like a maddening, interactive website or irreverent game than the violent emptying of Wordsworth's soul”*. Combining traditional verbal texts with multimedia elements led to the expansion of brand new forms and genres, many of which caused important shifts in the theory of literary communication (e.g. hypertextual communication) and the ways in which readers can perceive a literary text.

Forms of digital literature

- a) **digitized literature:** entails “texts that exist originally in printed form and that are then as transferred for the virtual environment with programs such as PDF or EPUB” (Kirchof, 2017, n.p.);
- b) **digital literature:** is a sum of “digitally originated literary texts” (Unsworth, 2006). It “uses words, images, colours and sound” (Gamble & Yates, 2008, p. 173). Nelson (2011, n.p.), who concentrated only on poetry, adds: “In the simplest terms Digital Poems are born from the combination of technology and poetry, with writers using all multi-media elements as critical texts. Sounds, images, movement, video, interface/interactivity and words are combined to create new poetic forms and experiences” (Nelson, 2011, n.p.). To some degree, readers’ interaction is required. Digital literature brought a radical change into



the traditional idea of the reader as a passive recipient of an artistic text (example: imagine a story about a forest with illustrations. If the reader clicks on the picture, the objects in the picture start moving, animal characters start talking, or children can hear just “sounds of forests” for deeper sensual involvement. The text itself can be “talking” when the reader moves the mouse over it).

c) e-literature (electronic literature): is “digital born”, not digitized, but “a first generation digital object created on a computer and – usually – meant to be read on a computer” (Hayles, 2007, p. 4). It requires computation at every stage of its life – for its creation, preservation, and display. As Strickland (2009, n.p.) has it, “there is no way to experience a work of e-literature unless a computer is running it”. E-literature is not intended to be confined in a printed form. It is not static but necessarily interactive. It does not expect a passive reader, quite opposite, it requires an active and interacting reader because, quoting Strickland again, “to read e-works is to operate or play them (more like an instrument than a game, though some e-works have gamelike elements).” To continue the running, the reader is usually asked to press a key, click somewhere or move some object on the screen, not necessarily, but sometimes solving simple logical tasks. In some cases, the reader becomes co-author of the text when he selects or determines the order of some elements or decides about the story compositions (for example, readers may be asked to choose from several alternatives and determine what the literary character should do. The story line is then changed accordingly).

Due to the fact that many variables must be taken into consideration, and because there are more similarities than differences, clean borders between digital literature and e-literature cannot be defined unambiguously. Therefore, some authors keep using them synonymously, or they use either of them to cover both phenomena. In this paper, both types are marked by an umbrella term of “digital literature”. Other terms (electronic literature, e-literature, e-lit, computer literature, online literature, virtual literature, cyber literature, ergodic literature, etc.) will be used only if necessary in quotation marks with no intention to bring in new or to distinguish their different meanings.



To keep the definition of the basic concept of the study clear, we adopt the characterization of children's digital literature by Prieto (2016) who defines its 3 key traits:

- a) **it is coded:** it involves a code processed in the computer
- b) **it is interactive:** it requires a bilateral cooperation of both the reader and the text;
- c) **it ruptures discursive linearity:** in contrast to traditional printed monomodal literature, digital literature opens up to multidimensional, multimodal and heterogeneous non-linearity.

Kinds and genres of digital literature

Kinds and genres of digital literature not only span nearly all the types known in the printed literature, but also contain some new ones unique to digital technologies.

Analogically to traditional literature, digital literature can be further divided into three kinds:

- a) **digital prose** (digital narratives, hypertexts, audiobooks, etc.),
- b) **digital poetry** (visual and kinetic poetry, Flash poems, etc.),
- c) **digital drama** (including interactive drama and animated comics).

As regards the media used and readers' senses involved, genres of digital literature may be divided also into:

- a) **verbal digital literature:** includes e-books, multimedia linear stories, and hypertexts that work only with a medium of verbal texts or, if other elements are incorporated, a verbal component remains a dominant element of the work (for more, see Glazier, 2014);
- b) **graphic and visual literature:** combines verbal and visual elements, the latter ones being dominant for readers' perception (for more, see Glazier, 2014). To see some examples of visual digital poetry visit *A Showcase of Visual Poetry* (BBC, n.d.);
- c) **audial literature:** combines verbal texts and sound elements (audiobooks, audial poetry, etc.);
- d) **kinetic literature:** consists of digital texts which have the ability to change their form in time and space, e.g. letters and words move after clicking on them,



or the text changes its form and appearance after each reading. More sophisticated effects include: a running text with changeable pace of movement, freezes, replays, time lapses, time scans, stretching and shrinking texts, stroboscopic flashing etc. (for more, read Glazier, 2014).

- e) **3D literature:** combines various effects of visual and kinetic literature, e.g. rotating, rolling, flipping, zooming, scaling, or stratifying individual letters or blocks of text. It questions some reading stereotypes, e.g. the text may be composed in the form of a cube with several “layers” of text, which allows reading from front to back, or reading overlapping texts. The process of “layering” the text brings into contact whole blocks of texts which create new “word clusters” or “sentence clusters” which, consequently, may invoke new meanings.

Understandably, cotemporary theory of digital literature offers more classifications. For instance, Hayles (2007), considering mostly the technological aspects of their creation, defines the following genres of digital literature:

- a) **Hypertext fiction:** the term marks literary texts which break the traditional linear composition by including external hypertextual links which have become the distinguishing feature of the genre. Contemporary hypertext fiction (and hypertext literature in general) incorporates a much wider scale of navigation tools and schemes, including interface metaphors (for more, read also Glazier, 2014).
- b) **Network fiction:** is very close to hypertext fiction, but in this case hypertext links are interrelated and create a networked text of its own, or, as Ciccorino (2007, p. 7) has it, it is digital fiction that “makes use of hypertext technology in order to create emergent and recombinatory narratives”.
- c) **Interactive fiction:** is built upon continual interaction between the reader and a programme. It is very close to hypertext and network fiction, but it partakes of a more significant game aspect (Monfort, 2003). To run on a screen, it requires active participation (including physical responses) of the reader (clicking, touching, moving a mouse in a space, etc.).
- d) **Locative narratives:** integrate virtual narrative with real-world locations, or as Hayles (2007, p. 8) has it, it is “short fiction delivered serially over cell phones to location-specific narratives keyed to GPS technologies”. For example,



to read a digital story set in a particular city, readers need to move around the city because they can receive parts of the narrative only in respective places (located by GPS or another location technology).

- e) **Installation pieces:** are multimodal artistic works using various electronic tools to create the illusion of 3D texts the reader might be involved („incased“) in.
- f) **Codework** – plays with and integrates two semiotic systems: human-only language and machine-readable code. Hence its other name: “poetry for (AI) machines”.
- g) **Generative art** – is the product of either generating a text according to some randomized scheme or rearranging pre-existing texts (for more detailed definition, see Bootz, 1999). In a generative work, the reading process can result in “an unpredictable output that neither author nor reader can preview”. Which means that when the reader reads the same story (with the same beginning), it can finish in countless endings generated randomly by the programme with a genetic code.
- h) **Flash poems:** are short, impromptu written technology-based poems (for more, read Ciccoricco, 2007).

Unsworth (2005, n.p.) in his ground-breaking book *E-literature for Children: Enhancing Digital Literacy Learning* limited the scale of digital literature genres intended for children’s readers only to three groups: digital narratives, digital poetry, and e-comics.

Within the category of digital narratives, she further distinguishes 5 genres:

- a) **e-stories for early readers:** usually combine verbal text with audio and visual support and hyperlinks to help very young readers to comprehend a verbal text and acquire correct pronunciation,
- b) **linear e-narratives:** in their form these are narratives very similar to traditional narratives in print (very often illustrated) but instead of paper they are displayed on a computer or any other digital screen,
- c) **e-narratives and interactive story contexts:** these are e-narratives (like those in the previous category) with an elaborated context secured by an additional access to other digital materials, e.g. setting of the story is illustrated in the map; literary characters are provided with their “profiles” complete with



- photos and short biographies; or factual information incorporated into the story are linked for more details and explanations to encyclopaedias, news, etc.;
- d) **hypertext narratives**: frequently purely verbal (without visuals) focusing on the text structure created by hyperlinks;
- e) **hypermedia narratives**: are stories which contain numerous hyperlinks to other text and media (both visual and audio materials).

Digital poetry is in Unsworth's work divided into two genres:

- a) **e-poetry**: includes dynamic, multimodal poems without any physical involvement of a reader (no interactivity);
- b) and **digital poetry**: requires reader's active participation and interactivity (Unsworth later refers to this type of poetry, quite confusingly, as hyperpoetry).

And finally, when defining **e-comics**, he distinguishes it from animation. **E-comics** are seen as "comic strips that appear on screen and are composed of essentially still images with speech balloons. Although some contain some minimal dynamic images, no use is made of hyperlinks" (Unsworth, 2005, n.p.).

(When studying Unsworth's classification, it should be kept in mind that his book was published twelve years ago and since then the digital literature has changed significantly - new technologies such as iPad have been introduced, as well as many new communication platforms).

In her study "The Impact of New Digital Media on Children's and Young Adult Literature", Kümmerling-Meibauer (2016) discusses 3 new genres of children's literature:

- a) **cell-phone novels**: are literary works originally written on cell phones and spread to readers via text messaging. A cell-phone novel consists of very short chapters (70-100 words) due to the limits on characters for one SMS. Today, the creative principle transformed other popular communication canals which led to the birth of new, similar-in-form genres, such as Twitter novels, Instagram novels, etc.).
- b) **transmedia storytelling**: is related to the situation where a story can be accessed across various media and platforms, e.g. printed verbal texts, webpages, mobile applications, games, and movies,



c) **fanfiction**: a rapidly growing genre where children take upon themselves combined roles of readers, active reviewers and authors of cross-writings.

New genres of digital literature have been emerging in a rapid pace, among them **facebook fiction, blog fiction, twitterature, e-mail novels, touchscreen stories**, chatterbots, and it will require some time to analyse them and evaluate their potential.

3. New literature calls for new ways of reading

As stated in previous parts of this study, digital literature is, in some aspects, the product of very new creative processes which involve new technologies and convey, again in some aspects, an entirely new nature of a literary text and literary communication. Does it mean that this new literature need a new reader as well?

We agree with Hayles (2007, p. 1) who argues that the “practices, texts, procedures, and processual nature” of digital literature require “new critical models and new ways of playing and interpreting the works”. She then continues: “Readers come to digital work with expectations formed by print, including extensive and deep tacit knowledge of letter forms, print conventions, and print literary models. Of necessity, electronic literature must build on these expectations even as it modifies and transforms them. At the same time, because electronic literature is normally created and performed within a context of networked and programmable media, it is also informed by the powerhouses of contemporary culture, particularly computer games, films, animations, digital arts, graphic design, and electronic visual culture. (...) Electronic literature tests the boundaries of the literary and challenges us to re-think our assumptions of what literature can do and be” (Hayles, 2007, p. 4). For instance, Strehovec (2008, 2014) in this context adds that reading digital literature calls for the ability of readers to put the text in forefront as a physical object that stimulates all senses.

Strickland (2009, n.p.), too, in her essay “Born digital” claims that “e-poetry is a poetry requiring new reading skills.” The need for these new reading skills is explained by Pokrivčák & Pokrivčáková (2002, p. 98), showing that in reading non-linear or hypertextual digital texts the reader generates rich and theoretically endless net of free associations, which is the literary reception of a very different type than the traditional linear one. The reader who is invited to look for and play



with various textual connotations, “is developing a new mode of reading: non-hierarchical, de-centralistic, subversive, and relativising.”

Another important change triggered by the rise of digital literature is its close interconnection with **new social conditions**. Strickland (2009, n.p.) clarifies: “Reading is being redefined in cultures that use programmed and networked media: a surfing, sampling, multitasking kind of reading is often elicited online, while in some online and video games, a problem-solving, focused, remembering attention is required. Deep, focused attention is what print readers are trained to have, but attention itself is being reshaped, becoming a mix of deep and hyper, or focused and mobilized.”

In summary, digital literature calls for the reader who is open to new ways of reading and more importantly, playing with a literary text. It requires the reader who is more active in his (even physical) responses and who is explicitly taking decision about his reading processes, which institutes a qualitatively new and unique relationship between a text and a reader. To the extent that the reader becomes a legitimate co-author of the text he is reading.

Knowing this, the rapid advance of digital literature triggered an unusually severe and polarized discussion among literary scholars and educators. While one group advocates digital literature fiercely, proving it is more dialogic (in Bakhtin’s perspectives) and thus democratic than strictly linear and sequential printed texts (Riffaterre, 1994; Landow, 2006, Pokrivčák & Pokrivčáková, 2001, 2002a, 2002b), the opposite group (backed up by latest findings of contemporary cognitive sciences) argue that increased requirements of sensual processing and decision making impair reading performance (DeStefano & LeFevre, 2005). Edwards & Hardman (1999) in this context warn about “lost-in-hyperspace” phenomenon caused by human working memory overload. However, they also conclude that once readers learn and get used to how to navigate, read and process hypertexts, their levels of reading comprehension may be even higher.

The discussion also reflects on the differences between younger and older generation, whom Prensky (2001) famously called “digital natives” and “digital immigrants”.

It may be then assumed that digital literature would be more natural to children’s readers who would be less prone “to be lost” in digital non-linear literary worlds. However, Fesel at al. only very recently proved that “there is no



consensus on positive or negative effects of hypertext reading on reading comprehension” (2015, p. 136).

Children’s digital literature at schools

Regardless the ongoing intense and contradictory research results, digital literature has become an integral part of children’s lives and cannot or at least should not be ignored by their literature teachers.

In this last part of the study, based upon the analysis of research studies, instructional essays and free-access lesson plans created by teachers all around the world, we summarized the ways in which digital literature is involved in contemporary literary education.

Incorporating digital literature into classes can be divided into 4 broader areas:

- 1) Adapting/digitizing printed literature** via digital tools
- 2) Responding to literary texts** (both printed and digital) via digital tools (including social networks)
- 3) Re-creating literary works** (both printed and digital) via digital tools
- 4) Creating original digital literature**

1) Adapting/digitizing printed literature via digital tools

- **Creating hyperlinked versions:** learners read their favourite (originally printed) literary text, now in doc, and add their own hyperlinks to other literary or non-literary texts, picture dictionaries, or encyclopaedias (for more see Vasileiou (2011) who documents creating a hypertext edition of Eliot’s *The Waste Land*; for technical procedure read Harris, 2011; Pallo, 2017).
- **Making audio books:** When reading longer literary texts, learners can read the text aloud (one by one) and record themselves to create a collective audiobook. They can choose from many easy-to-use digital tools such as *Audacity*, *Audioboo*, *AudioPal*, *Podomatic*, *SoundCloud*, *Shoutomatic*, *Vocaroo*, *Voki*, *Voxopop*, *Voices*, and many other ones. The activity may be exceptionally effective in foreign language classes when learners have the opportunity to practice speaking in a foreign language in both a new and meaningful (product-oriented) way (for more information on this language-educational aspect of creating learners’ recordings consult Pokrivčáková, 2015, pp. 53-56).



- Learners can also create **literature-focused podcasts** of shorter literary texts (by using any tool from the previous paragraph) and broadcast them on the classroom webpage, blog, Podcast Alley or any other platform (for more details see Hanson-Smith, 2009; for methodological inspiration and technical procedures consult Tulley, 2017).
- **Creating video books:** learners can adapt the printed text into the form of a videobook, too. They may use *Windows Movie Maker* or *iMovie*. The website *Perform a Poem* offers tips on creating and recording children's performances of literary texts with a video camera.
- **Creating modern (multimedia) adaptations:** learners are allowed to "accommodate" the chosen literary text to their "modern tastes". For instance, they can take a traditional fairy tale (originally in print) and "digitize" it by rewriting it into electronic form, adopting the text itself by using various fonts, text colours, page colours, framing, or by adding illustrations, animations, sound recordings, short video sequences, etc.

2) Responding to literary texts (both printed and digital) via digital tools

- **Digital text annotation:** when reading a digital or digitized literary text, learners are asked "to mark" the text. For instance, they can underline in different colours the parts they find most interesting, most entertaining, or most boring (they may add smile faces icons). They may add their notes comments, questions, or insights. Later, they can share and discuss them with classmates.
- Another way they can learn how to express their own opinions and how to learn about opinions of other people is to join **literature-focused social networks** individually or as a class. Some examples of such networks are: *Goodreads*, *LibraryThing*, *Red Lemonade*, *Pottermore* and many others (for more information read Parrott, 2017; Wiseman & Wagler, 2017).
- The class can **write their own blog** responding to reading literature and include their own original literary texts, as well. They may choose from many tools, such as *Blog*, *Weebly*, *Wix*, etc. (for more see Cimermanová, 2011, p. 39-40; Lewis, 2014, pp. 63-65; Hanson-Smith, 2009; Reimer, 2017).
- **Working on multimedia projects** instead of traditional written assignments such as writing reading journals or book reviews (for inspiration, see Hughes,



2017; Kinchen Smith, 2017). The task may have the form of electronic portfolios as well (Lewis, 2004, pp. 101-104).

- **Creating animations:** learners read a chosen literary text and create short animated dialogues between its literary characters. They can either adopt the existing dialogue from the literary text, or they can create their own original dialogues (e.g. “create a dialogue between The Little Red Riding Hood and her mother after the girl is saved from the Wolf’s stomach). Learners can choose from various easy and children-friendly digital tools such as GoAnimate, Animoto, etc. (c.f. Stefani, 2017).
- **Creating digital literary maps:** learners read a text, or part of a text, and create a digital map of its spatial setting. For instance, they may create a map of real places (e. g. Sherlock Holmes’ London), or fictional places (the map of Narnia). They may tag and pin artefacts on Google Maps or they can choose any other digital format (for various methodological aspects, see Crowther, 2017; Valdez, 2017; Vankova Bozhankova, 2014).
- **Literary geocaching:** originally an outdoor recreational activity in which participants use any navigational technology to hide and hunt for little “caches” or “treasures”. This activity may be very motivating and satisfying when reading a legend related to a concrete historical place. Learners have to move around the place (or the museum), and find various realia mentioned in the legend (for more about the technological aspects of the activity, see Mathews, 2017).
- **Creating digital archives** may be another highly effective, but also challenging and time-demanding activity intended to enable learners to see literature from various perspectives. Following the examples of *The Rossetti Archive* (which collects scans of every known work including manuscripts, poems, paintings, sketches, and translations by Dante Gabriel Rossetti, as well as any critical work and secondary source related to Rossetti’s legacy), or *Holmesiana* which collects anything related to Sherlock Holmes stories, learners can create their own or classroom museums of favourite writers or literary characters (for more details on creating and managing digital archives, consult McGann, 2009; Swafford, 2016; Weingarten & Frost, 2017).



- Participating in **virtual literary worlds**: learners can participate in literary life via virtual worlds. They can create their own avatars and participate in the already established virtual worlds (e.g. *Second Life*). They may use also other virtual tools such as *Theatron* (online) which is a set of interactive 3D models of present and past theatres. There were studies (e.g. Cohen, 2011) documenting classes where Shakespeare tragedies were taught via installing a virtual play production in the virtual Globe Theatre (via *Theatron*). The resulting products made by learners may have a form of virtual plays, virtual tours, alternative reality games, or virtual museums (for more details on virtual literary worlds, see also Quijano, 2017; Webb, 2012).

3) Re-creating literary works (both printed and digital) via digital tools

- **digital word games**: help learners understand better how language works, how letters and words affect one another, and that one little change can cause a very important difference. Learners can, for example, copy a favourite nursery rhyme, change the rhyming words, and see how the meaning of all the text has been changed.
- **magnetic poetry**: learners read a literary text and then by using various digital tools, e.g. *Word Mover*, *MagneticPoetry*, *MagPo*, create their own poetry or stories by moving words of the existing text.
- **fanfiction**: learners can rewrite a well-known literary text from the perspective of a different narrator, add some extra scenes to the story, finish the story by telling what will happen after the canonical story has ended. Learners can create so-called cross-stories, too, freely mixing up plot, characters or motives from more literary texts. Learners' fanfiction can be published on specialized portals (*Fanfiction*, *KidFanfiction*, *ArchiveofOurOwn*) where they will find many valuable models to follow as well.

4) Creating original digital literature

- a) **Writing interactive poetry: learners** can learn and practice poetry's special characteristics when composing their own poetry with help of various digital tools (Poetry Idea Machine, WritingwithWriters, various games at Read Write Think - acrostic poems, Line Break Explorer, diamante poems, etc).



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- b)** Collaborative writing of a literary text in the form of **wiki stories**: this technique allows the whole group of learners work as a team and cooperate on creating an original literary work (for more, see Cimermanová, 2015; Hanson-Smith, 2009; Laflen, 2017; Rodrigo, 2017)
- c)** **Creating blog narratives**: learners write their original literary pieces and publish them on the blog either individually or in a series of collective narratives (for more, see Cimermanová 2015; Hanson-Smith, 2009; Reimer, 2017).
- d)** **Writing Twitter literature (Twitterature)**: learners write a collective literary work via Twitter network. The limited number of words the author needs to accept for one tweet creates a special dynamic atmosphere of this genre (for more, see Johnson, 2017; Kunze, 2013; Parks, 2017).
- e)** **Writing visual literature**: learner may practice visual poetry or stories by using digital tools such as *PowerPoint*, *Animoto*, *Keynote*, *Prezi*, *Tagxedo*, *Wordle*, and so on. To integrate verbal texts with pictures or videos, tools such as *PicLits*, *iDevice*, *Phonto*, *PicLits*, or *VisualPoet* can be used.

Other issues concerning the use of digital literature in classroom

It is possible to agree with many previously mentioned authors that digital literature makes young learners better readers, writers and thinkers because it helps develop their textual, visual, and digital literacies. However, this may be true, or at least possible, only if adequate attention is paid to the quality of digital literature read by children.

Consequently, teachers' responsibilities do not end with allowing digital literature into the classes or with developing new reading skills of their learners. Donahoo (2012), for example, points critically to the fact that the rise of digital literature **challenges traditional models of publishing** when each book, each piece of literature, went through the hands of, and needed to be approved by, the author, the proof-reader, reviewers, language editors, technical editors, designers, and many others. Nowadays, anybody can write and publish a poem or a story online – though often with a questionable quality. And then anybody can read it as well. These facts have direct impact on the development of literacy skills and literary awareness of very young readers. “Just because a story is in digital book form does not mean it is going to be supportive of our children’s literacy, especially



in an environment where stories may not be even proofread” (Daniho, 2012, n.p.). In such situation, teachers are those people who need to act. Daniho (ibid.) continues: “Teachers expressed shock and dismay that a digital book could be published without passing through the traditional editorial filters. Once this concept was understood, educators quickly realized the ramifications of removing these filters and saw the need for those who select books for children to serve as the gatekeepers”.

Conclusion

The chapter focused on a fascinating area of children’s digital literature and the changes it has inspired in the pre-primary and primary EFL classrooms. It is a rapidly developing system, continually creating new forms, opening new possibilities, and crossing many boundaries. Both new communication technologies and children’s literature are subject to changes which are still ongoing. The gradual extension of digital literature and its forms and genres opens a new range of problems and questions which require interdisciplinary effort of researchers from various disciplines, beginning with literary scholars, through cognitive sciences to educational theories.

References

- BBC. (n. d.). *A Showcase of Visual Poetry*. Available from: <http://www.bbc.co.uk/arts/poetry/ondisplay/>
- Bootz, P. (1999). The Functional Point of View: New Artistic Forms for Programmed Literary Works. *Leonardo*, 32(4), 307-316.
- Bowers-Campbell, J. (2011). Take It Out of Class: Exploring Virtual Literature Circles. *Journal of Adolescent and Adult Literacy* 54(8), 557-567.
- Ciccoricco, D. (2007). *Reading Network Fiction*. The University of Alabama Press.
- Cimermanová, I. (2011). *Using Technologies in Teaching English*. Prešov: PU.
- Cimermanová, I. (2015). CALL and developing writing. In Pokrivčáková, S. et al.: *CALL and Foreign Language Education: e-textbook for foreign language teachers* (pp. 67-75). Nitra: Constantine the Philosopher University.
- Cohen, P. (2011). Giving Literature Virtual Life. *The New York Times: Humanitis 2.0*. (21. 03.2011). Available from: <http://www.nytimes.com/2011/03/22/books/digital-humanities-boots-up-on-some-campuses.html?ref=humanities20>



- Crawford, C. (2011). "Digital Poetry — Make Words Zoom and Fly Across the Room! *Scholastic*. Available from: <https://www.scholastic.com/teachers/blog-posts/christy-crawford/digital-poetry-make-words-zoom-and-fly-across-the-room/>
- Crowther, K. E. (2017). Visualizing Literary Arguments with Digital Mapping Tools. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 135-154). Boston & New York : Bedford & St. Martin's.
- DeStefano, D. & LeFevfe, J.-A. (2005). Cognitive load in hypertext reading: A review. *Computers in Human Behavior*, 23, 1616–1641. doi:10.1016/j.chb.2005.08.012
- Donahoo, D. (2012). *Improving Children's Literature in Digital Spaces*. Available from: https://www.huffingtonpost.com/entry/improving-childrens-liter_b_1675089.html
- Edwards, D. M. & Hardman, L. (1999). Lost in hyperspace: cognitive mapping and navigation in a hypertext environment, In McAleese, R. (Ed.), *Hypertext: Theory into practice* (pp. 90-105). Edinburgh.
- Fesel, S. S. et al. (2015). Quality of Children's knowledge representations in digital text comprehension: Evidence from pathfinder networks. *Computers in Human Behavior*, 48, 135 – 146.
- Gamble, N. & Yates, S. (2008). *Exploring Children's Literature*. 2nd ed. SAGE Publications.
- Glazier, L. P. (2014). *Digital Poetics: Hypertext, Visual-Kinetic Text and Writing in Programmable Media*. 2nd edition (Kindle). University Alabama Press.
- Hammond, A. (2016). *Literature in the Digital Age: An Introduction*. Cambridge University Press.
- Hanson-Smith, E. (2009). Tools for Teaching Language and Literature Online. In Lancashire, I. (Ed.), *Teaching Literature and Language Online* (pp. 53-68). New York: Modern Language Association of America.
- Harris, K. (2011). TechnoRomanticism: Creating Digital Editions in an Undergraduate Classroom. *Journal of Victorian Culture* 16.1 (2011), 89-94.
- Hayles, N. K. (2007). *Electronic Literature: What is it?* Available from: eliterature.org/pad/elp.html
- Heick, T. (2012). Digital Poetry: New forms for an ancient art. *Edutopia*. Available from: <https://www.edutopia.org/blog/digital-poetry-terry-heick>
- Hetland, T. (Ed.). (2017). *Teaching Literature with Digital Technology: Assignments*. Boston & New York : Bedford & St. Martin's.



- Holmesiana. (online). Available from www.holmesiana.net.
- Hughes, J. (2017). Restaging Shakespeare through Multimodal Composition. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 362 – 378). Boston & New York : Bedford & St. Martin's.
- Johnson, T. (2017). "Hath he not twit?": Teaching Shakespeare through Twitter. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 99 – 109). Boston & New York : Bedford & St. Martin's.
- Kinchen Smith, C. (2017). Remapping World Literature through Multimodality. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 379-398). Boston & New York : Bedford & St. Martin's.
- Kirchof, E. R. (2017). Brazilian children's literature in the age of digital culture. In Stephens, J. et al. (Eds.) *The Routledge Companion to International Children's Literature*. Routledge.
- Kümmerling-Meibauer, B. (2016). The Impact of New Digital Media on Children's and Young Adult Literature. In Manresa, M. & Real, N. (Eds.). *Digital Literature for Children. Texts, Readers and Educational Practices* (pp. 57-72). Brussels: Peter Lang.
- Kunze, P. (2013). To Tweet or Not to Tweet: Using Twitter in the Literature Classroom. *Teaching American Literature: A Journal of Theory and Practice* 6(1), 53-63.
- Laflen, A. (2017). Wiki Critical Editions: Collaborative Learning in the Literature Classroom. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 36-49). Boston & New York : Bedford & St. Martin's.
- Lambert, V. (2016). What's Next for Children's Literature in the Digital Age? *School House Magazine*. Available from: <https://www.schoolhousemagazine.co.uk/education/childrens-literature-digital-age/>
- Lancashire, I. (Ed.). (2009). *Teaching Literature and Language Online*. New York: Modern Language Association of America.
- Landow, G. P. & Delany, P. (1990). Hypertext, Hypermedia and Literary Studies: The State of the Art. In Delany, P. & Landow, G. P. (Eds.), *Hypermedia and Literary Studies*. Cambridge University Press.



- Landow, G. P. (2006). *Hypertext 3.0: Critical Theory and New Media in an Era of Globalization*. Johns Hopkins University Press.
- Lewis, G. (2004). *The Internet and Young Learners*. Oxford University Press.
- Lewis, G. (2014). *Bringing Technology into the classroom*. Oxford University Press.
- Manovich, L. (2001). *The Language of New Media*. MIT Press. Available from: <http://faculty.georgetown.edu/irvinem/theory/Manovich-LangNewMedia-excerpt.pdf>
- Manresa, M. & Real, N. (Eds.). (2016). *Digital Literature for Children: texts, readers and educational practices*. Brussels: Peter Lang.
- Mathews, J. (2017). Textual Treasure Hunting: Using Geocaching to Teach the Art of Close Reading. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 214 – 234). Boston & New York: Bedford & St. Martin's.
- McGann, J. (2009). Humane Studies in Digital Space. In Lancashire, I. (Ed.). (2009). *Teaching Literature and Language Online* (pp. 89-103). New York: Modern Language Association of America.
- Monfort, N. (2003). *Twisty Little Passages: An Approach to Interactive Fiction*. Cambridge: MIT Press.
- Nelson, J. (2011). *Digital Poetry: A Revolution In Publishing?* Available from: https://www.huffingtonpost.com/entry/digital-poetry_b_824768.html
- Noland, C. (2006). Digital Gestures. In Morris, A. & Swiss, T. (Eds.), *New Media Poetics: Contexts, Technotexts, and Theories* (pp. 217-244). Cambridge: MIT Press.
- Pallo, V. (2017). Text Meets Hypertext: An Online Approach to Teaching Poetry. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 172-186). Boston & New York: Bedford & St. Martin's.
- Parks, J. (2017). A Digital Approach to Teaching Postmodern Literature. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 110-122). Boston & New York: Bedford & St. Martin's.
- Parrott, J. (2017). Writing on the Wall: Using Facebook's Timeline for Literary Analysis. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 21-35). Boston & New York: Bedford & St. Martin's.
- Pokrivčák, A. & Pokrivčáková, S. (2001). Postmoderné myslenie a problém „privilegovaných“ informácií. In Pedagogická konferencia VI. Premeny slovenského školstva na prahu nového milénia (pp. 414-418). Nitra: UKF.



- Pokrivčák, A. & Pokrivčáková, S. (2002a). Vyučovanie literatúry a elektronické médiá. In *Trendy ve vysokoškolském vzdělávání – e-learning?* (pp. 33-39). Ústí nad Labem: Univezita J. E. Purkyně.
- Pokrivčák, A. & Pokrivčáková, S. (2002b). Multimédiá, e-learn a vyučovanie literatúry. *E-Learn 2002* (pp. 95 – 98). Žilina: Žilinská univerzita. Available from: <http://www.kis.fri.uniza.sk/~ludo/elearn/2002/Pokrivcak.pdf>
- Pokrivčáková, S. (2015). Call and developing speaking. In Pokrivčáková, S. et al.: *CALL and Foreign Language Education: e-textbook for foreign language teachers* (pp. 51-58). Nitra: Constantine the Philosopher University.
- Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon*, 9(5), 1-6.
- Quijano, J. (2017). Engaging Students with Literature in Virtual Spaces: Using Second Life to Explore Literature. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 84 – 98). Boston & New York : Bedford & St. Martin's.
- Riffaterre, M. (1994). Intertextuality vs. Hypertextuality. *New Literary History*. 25(4), 779-788.
- Reimer, E. (2017). More Perfect Unions: Literary Studies, Blogging, and the Multigenre Essay. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 69-83). Boston & New York: Bedford & St. Martin's.
- Rodrigo, R. (2017). Writing a Wiki Resource Guide for a Literature Survey Course. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 50-68). Boston & New York: Bedford & St. Martin's.
- Stefani, D. (2017). Inventing Literary Dialogues: Students as Creators and Distributors of Knowledge. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 187-198). Boston & New York: Bedford & St. Martin's.
- Strehovec, J. (2008). New Media Art As Research: Art-making Beyond the Autonomy of Art and Aesthetics. *Technoetic Arts*, 6(3), 233-50. https://doi.org/10.1386/tear.6.3.233_1
- Strehovec, J. (2014). E-Literature, New Media Art, and E-Literary Criticism. *CLCWeb: Comparative Literature and Culture*, 16(5). doi: <https://doi.org/10.7771/1481-4374.2486>



- Strickland, S. (2009). Born Digital. *Poetry Foundation*. Available from: <https://www.poetryfoundation.org/articles/69224/born-digital>
- Swafford, J. (2016). Teaching Literature Through Technology: Sherlock Holmes and Digital Humanities. *Journal of Interactive Technology & Pedagogy*, 9, n.p. Available from: <https://jitp.commons.gc.cuny.edu/teaching-literature-through-technology-sherlock-holmes-and-digital-humanities/>
- Theatron* (online). Available from: <http://www.theatron.org/>
- The Rossetti Archive. (online). Available from: <http://www.rossettiarchive.org/>
- Tulley, C. Reviving an Oral Tradition: Using Podcasting to Teach Ancient Literature. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 277-290). Boston & New York: Bedford & St. Martin's.
- Unsworth, L. (2005, n.p.). *E-literature for Children: Enhancing Digital Literacy Learning*. Routledge. Available at: <https://www.taylorfrancis.com/books/9781134317561>
- Valdez, C. G. (2017). Mapping Literature, Cultural Artifacts, and Communities: Reveal the Living Map of Latin@ Letters. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 155 – 171). Boston & New York: Bedford & St. Martin's.
- Vankova Bozhankova, R. (2014). Russian and Other Easter European Literatures on Digital Maps. In Cornis-Pope, M.: *New Literary Hybrids in the Age of Multimedia Expression: Crossing borders, crossing genres* (pp. 182-192). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Vasileiou, L. (2011). Positioning the Implied Reader: Using Hypertext to Enhance Students' Reading Experience of *The Waste Land*. *Teaching American Literature: A Journal of Theory and Practice* 4(4), 87-97.
- Webb, A. (Ed.) (2012). *Teaching Literature in Virtual Worlds: Immersive Learning in English Studies*. NY: Routledge, 2012.
- Weingarten, K. & Frost, C. (2017). Reading with Your Ears: Using Poetry Sound Archives. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 468 – 481). Boston & New York: Bedford & St. Martin's.
- Wiseman, L. M. & Wagler, A. (2017). Shaking the Magic 8 Ball: Social Media for Readers and Writers. In Hetland, T. (Ed.), *Teaching Literature with Digital Technology: Assignments* (pp. 3-20). Boston & New York: Bedford & St. Martin's.