Competent Reading for the 21st Century: Global Trends through a Bulgarian Lens

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Bio: Georgi Niagolov teaches English medieval and Renaissance literature at Sofia University "St. Kliment Ohridski" where in 2010 he defended his doctoral dissertation on Shakespeare's wordplay. During the last ten years, he has been trying to kindle students' enthusiasm about the value and the pleasure of careful reading, experimenting with new pedagogies, and reflecting on how to increase the quality and utility of learning. Georgi believes that good education, focused not only on knowledge but also on skills and values, which increases the employability of graduates and creates freethinking, responsible citizens, is the key to building a just, tolerant, and prosperous society, and therefore he is gradually shifting his research interest to pedagogy and educational organisation.

Abstract: The paper examines the alarming observation that reading as we know it is in trouble, in Bulgaria and also on a global scale. Insisting on the premise that reading enables all other learning, thus ensuring the creation of added economic and social value, and finally, a good quality of life for everyone, it argues that this problem must be addressed urgently. Furthermore, it outlines, albeit in broad strokes, some of the major factors which arguably contribute to this effect. It looks for explanations in recent research in cognitive studies: the degree to which reader response relies on stories and the human mind's automatic preference for fast to critical thinking, as well as in research on how the information environment has been changing over the last decades in terms of globalization, multimodalization, advertising and propaganda, information overload, data, algorithms, artificial intelligence, and hypertargeting. Combining these findings, the paper proposes that the trouble with reading we are facing at the moment is a problem of mismatch between the exigencies of the 21st century and the current philosophy and practice of reading pedagogy. Importantly, this means that the trouble with reading we observe at various levels is a systemic problem which requires a systemic solution. The paper then goes on to survey the evolution of the pedagogical understanding of reading from a conditioned behaviour to a natural process, from reading to literacy, from literacy to literacies, transliteracy, multiliteracies, and

finally – to competence frameworks. Next, it considers how the much broader and more complex notion of reading competence can be implemented in practice and what systemic changes are needed for achieving this objective. In order to be able to get into closer detail, the following discussion is based on the reality of reading pedagogy in Bulgaria. The paper reflects on the benefits of moving from the current practice of controlling content to guaranteeing the development of competences across disciplines and learning environments. It also considers what changes ought to be made to the currently used assessment methods as well as to the philosophy and practice of reading pedagogy. It ends with a final comment on the importance of enhanced coordination between educational policy and other policy areas in order to create a favourable learning environment beyond the classroom as well.

Keywords: reading, reading deficits, 21st century needs, reader-response, cognitive studies, experimental psychology, globalization, multimodalization, advertising and propaganda, information overload, data, algorithms, artificial intelligence, hypertargeting, literacies, competences, assessment, reading pedagogy, engagement, flow, gamification, project-based reading

For some time now in Bulgaria there has been a pervasive, if not quite articulate, feeling that reading is in trouble. In everyday talk and mainstream media we often hear about the worrisome results of Bulgarian fifteen-year-olds in the Programme for International Student Assessment (PISA). The recently published results of the 2018 round showed that 47% of Bulgarian students score below the minimum level of reading literacy, i.e. the reading skills that PISA designers believe would ensure adequate professional and social functioning. At Sofia University, where I teach, we are uneasily aware of the overall modest capacity of students for deep reading, i.e. "the array of sophisticated processes that propel comprehension and that include inferential and deductive reasoning, analogical skills, critical analysis, reflection and insight" – to borrow a concise definition of the term[1]. Researching the topic, travelling and working abroad, I have found that this is not an isolated problem, but that similar concerns, in varying magnitude and form, also exist in other countries.

[1] Wolf, Maryanne and Mirit Barzillai. *The Importance of Deep Reading*. In Educational Leadership: Journal of the Department of Supervision and Curriculum Development, N.E.A. (Washington D.C., 2009).

At the same time, as an educator, I am convinced that competent reading is a prerequisite for all serious learning. As a citizen, I maintain that liberty depends on a constant flow of educated choices – moral, economic, and political. Moreover, I think that in the post-industrial age, a good quality of life for a society as a whole can only be attained by a knowledge economy dedicated to optimal development of the intellectual potential of as big a share of the population as possible. As a human being, I believe that the only way to come to terms with one's own primal fears, doubts, and insecurities is through education and enlightenment. Therefore, to me, trouble with reading means trouble with learning, while trouble with learning means trouble with liberty as well as with individual and collective well-being. Although by now a considerable body of knowledge has formed on the topic of reading in the 21st century, the complex nature of the problem, in my view, requires further consideration. In this paper I will try to draw new logical links between the findings of other scholars, comment on them, and discuss possible solutions.

The twofold nature of reading

For centuries the study of reading has been preponderantly concentrated on the literary text. It has produced illuminating theories about what is a good text and how it is structured. In the early 20th century, however, with the assertion of phenomenology as a legitimate theoretical perspective, the conscious experience of the reader became a focus of concomitant scholarly interest. In an attempt to balance out these two perspectives, Wolfgang Iser postulated that in order to understand the reading process, one must take into account not only the actual text, but also, and in equal measure, the reader's response to it.[2] This swerve in attention to the consciousness of the reader, generally recognized under the term "reader response," raised doubts among more traditionally minded scholars, as they suspected it of encouraging uncontrolled subjectivism. Conversely, it enabled the intellectual crosspollination between textual criticism and other research areas, such as experimental psychology, cognitive studies, and neuroscience. This development produced many strands of new knowledge trying to bridge the body-mind and sciences-humanities divides.

A story of stories

[2] Iser, Wolfgang. *The Reading Process: A Phenomenological Approach*. New Literary History, Vol. 3. (Baltimore: Johns Hopkins University Press, 1972).

Although cognitive scientists are still far from a comprehensive, evidence-based explanation of how the mind works, they are breaking new ground, approaching the problem from multiple perspectives and producing multiple concurrent theories. In their recent book *A New Theory of Mind: The Theory of Narrative Thought*, Lee Roy Beach, Byron L. Bissell, and James A. Wise propose that in order to efficiently process the deluge of information presented by objective reality, store it, project it to predict future events, make decisions, and find explanations when confronted with unfamiliarity, the human mind is programmed to continuously integrate sensory input with already stored experience into coherent narratives that are structured by the principles of chronology, analogy, and causality. In short, the human mind is wired to convert information into stories. In time, each person accumulates a large repertoire of stories that are further integrated with each other into larger narrative structures identifiable as personal beliefs, knowledge, identity, and worldview. Some parts of these stories derive from immediate experience, but most are imported ready-made. We exchange stories with other individuals directly or indirectly through texts, films, songs, pictures, and other artefacts. We also participate in even larger intersubjective narrative structures shared with our communities. These larger stories often tell us who we are, how we fit into the scheme of things, what are our rights and duties, what is good and what is bad, and how the world works. The traffic between these different levels of narration is by no means a straightforward linear process. On the contrary, it is a highly dynamic, complex, context-dependent cascade of processes that shape and reshape our individual and communal life histories, which in turn shape and reshape the way we perceive things[3].

If we accept this theoretical perspective and connect it with Iser's concept of the reading process, then every reading of a particular text, at a particular moment by a particular individual, depends, at least in half, on the constellation of stories that constitute the cognitive response of this reader at this particular time. Clearly, this conceptualization of the reading process departs from the elegant reductionism of exclusively text-centred approaches and ventures into nebulous domains that are difficult to measure and control, such as real-life experience, psychological constitution, affect, interpersonal communication, belief, ideology, and culture. Nevertheless, this is necessary because if we, in our capacity as educators, pretend that factors shaping the conscious response of the reader are of no import, and we take them for granted, this means that we leave

[3] Lee Roy Beach, Byron L. Bissell, James A. Wise. *A New Theory of Mind: The Theory of Narrative Thought*. (Cambridge Scholars Publishing, 2016).

their coalescence to pure chance or the whim of other forces like advertising and propaganda; it means that we refuse to understand and cultivate them.

Two modes of thinking

An important discovery was made recently in the field of experimental psychology. In his book *Thinking, Fast and Slow*, Daniel Kahneman describes decades of experimental research which shows that the human mind operates in two disparate modes of thinking: an automatic mode of intuitive thinking which combines affective and cognitive functions to generate quick and mostly adequate responses without any sense of voluntary control or effort – for which Kahneman uses the shorthand term "System 1," and a mode that requires a considerable amount of attention, concentration and mental energy, which has the capacity to process data, perform complex computations, apply logic, weigh evidence, and work out probabilities – termed "System 2." The extensive experimental evidence produced by Kahneman and other scholars unequivocally demonstrates that System 1 is the default, often unconscious mode of thinking, while System 2 is activated only under special circumstances to override and control the output of System 1. On closer inspection, the output of System 1 shows that its responses, although quick and seemingly adequate, exhibit serious flaws. Specially designed experiments reveal that System 1 privileges feelings over evidence and logic, creates coherence where there is none, invents causes and intentions, neglects ambiguity and suppresses doubt – i.e. it is biased to believe and confirm, rather than doubt and interrogate. Sometimes System 2 kicks in and corrects the response of System 1, but this requires time, attention, and effort. As a rule, the mind instinctively tries to minimise the use of System 2 because it prefers cognitive ease to cognitive strain. Crucially, when forming opinions or making decisions, the mind is often unaware of which system is at work, as well as how much each system has contributed to a given opinion or decision.[4]

Considered in conjunction with Beach's theory of narrative thought, Kahneman's findings suggest that a sizable portion of the stories that make up our consciousness are uncomplicated narratives, unburdened of any close entanglement with fact or logic, either quickly assembled or uncritically adopted by our System 1. Moreover, if System 1 is our default thinking mode, then it should also be our default reading mode. This means that when no special circumstances

[4] Kahneman, Daniel. *Thinking, Fast and Slow*. (New York: Farrar, Straus and Giroux, 2011).

necessitate the activation of System 2, System 1 takes charge of the reading process, and whether we are conscious of it or not, produces the opposite of deep reading, which for the sake of brevity in this paper I will call 'shallow reading'. Now, shallow reading generates shallow stories, which are deposited in our consciousness and, in turn, stimulate more shallow reading. So, it seems that if left to its own devices, the mind has the potential to lock itself into an endless vicious circle of shallow thinking and reading.

A changing storyscape

Another important dimension of the problem is the changing information environment in which the human consciousness operates. For millennia stories have circulated among people in their immediate social environment – families, neighbourhoods, communities. There has been plenty of time for the evolution of social rules to safeguard trust and authority. With the proliferation of writing and literacy, and especially with the invention and industrialization of printing, stories started to travel faster and spread further away in the form of printed texts. There was enough time for developing critical reading capacity and for its dissemination via compulsory education. There was also time for establishing the authority of certain authors and publishers, as well as for the selection, preservation, and ensuring the access to texts that are worth reading. Although people still exchange stories through direct communication and written texts, since the second half of the 20th and the first decades of the 21st century, the storytelling landscape has been changing significantly. There are indications that this change is coming too fast and that we, both individually and as a society, are not doing our best to keep up with it. In the following sections I will try to outline what I believe to be the most important factors of this change, as well as the major challenges they entail.

Globalization

We have been aware for some time that we live in a 'global village.'[5] The unprecedented facilitation of travel as well as the speedy development of information and communication technology have profoundly changed the way we live. Today, people use technology to access and exchange information globally from a very early age. They travel more as compared to previous generations, study foreign languages, and regularly come into unmediated contact with other

[5] McLuhan, Marshall and Bruce R. Powers. *The Global Village: Transformations in World Life and Media in the 21st Century*. (Oxford: Oxford University Press, 1989).

people who have different ethnic, religious, and cultural background. In this environment, stories of all sorts also travel more freely. Hardly anyone would disagree that by and large this is a good thing. However, this new state of affairs also presents a serious challenge which we cannot afford to ignore. Stories always emerge and circulate in particular ideological contexts, so when they travel geographically and across cultures, especially when they journey far and fast, they are often uprooted from their original contextual environment and transplanted onto another, which may differ significantly. This increases the chance that they may be misinterpreted and misused.

Multimodalization

Storytelling has always been somewhat multimodal. Oral storytelling inevitably involves performative elements like the quality of one's voice, gestures, facial expressions, and sometimes music. Written stories inevitably come to us in the form of texts with certain material features and layout; often they include images or other graphics. Nevertheless, in these traditional forms the verbal mode has been clearly the dominant one. As a result of the ever-increasing technological capabilities in graphic design, audio and video recording, production, storing, and dissemination, over the last decades, more and more of the stories that determine what we know, who we are and what we do reach us in multimodal form – as comics and graphic novels, radio programmes, films, TV shows, music videos, advertisements, memes, online audio and video, video games, etc.[6]

In these forms, the non-verbal modes of expression such as visual, audio, video, and gestural modes have gained importance and now operate on an equal footing with the verbal one. We perceive multimodal forms as more accessible, compact, entertaining, and more emotionally appealing. While through our social lives and compulsory education we have received some knowledge of how the verbal mode encodes and communicates meaning, which gives us a chance to develop a fair degree of critical capacity with respect to this mode, this is not the case regarding the non-verbal media. The semiotics and rhetoric of the visual, audio, video, and gestural modes, as well as their synergistic effects when skilfully combined in multimodal products, are still considered specialised knowledge and are acquired in specialised schools and milieus. This means that, with respect to the stories circulated in multimodal form, most people are confined to the role of uncritical consumers.

[6] Kress, Gunther. *Literacy in the New Media Age*. (London: Routledge, 2003).

Advertising and propaganda

The imperatives of profit and power have always sought to use storytelling to achieve their own ends. As a result of the development of the consumer society and the opportunity for higher profits, corporations have invested more and more in smart, science-driven marketing and advertising. Empowered by new knowledge and technological capabilities for production, dissemination, and targeting, the stories designed to sell goods have proved tremendously efficient in influencing human behaviour in the market. There is a line, however, between the responsible showcasing of true information about a product and the manipulation of facts, emotions and desires. When this line is crossed, advertising begins to undermine the capacity of the free market to rationally self-regulate and push production to higher quality at a lower cost.[7]

Similarly, the power of storytelling has also been employed in the arena of political marketing. Problematic uses range from shrewd strategies for identifying and exploiting what Arlie Russell Hochschild describes as voters' "deep stories," ranging from individual or shared emotional narratives guiding human behaviour that function below the surface of conscious experience[8] to outright propaganda relying on "alternative facts," "fake news," "post-truth," and other disinformation tactics.[9]

In such cases, abused stories not only aid unprincipled corporations and politicians to win the day, but also cast deep and potentially long-lasting doubts over fundamental values that underpin the highest achievements of our civilization. If most customers do not exercise their free will in making choices predicated on their best interest when purchasing commodities, then the validity of the very idea of the free market is called into question. Likewise, if most voters do not exercise their free will predicated on their best interest in deciding whether to participate in elections and whom to vote for, then the very idea of the democratic process and its capability to secure an ever-higher quality of life is called into question. The distortion and sense of uncertainty produced in this way depletes mutual trust, warps shared values, and erodes the social fabric as a whole.

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[7] Shiller, Robert J. *Narrative Economics: How Stories Go Viral and Drive Major Economic Events*. (Princeton: Princeton University Press, 2019).
[8] Hochschild, Arlie Russel. *Strangers in Their Own Land: Anger and Mourning on the American Right*. (New York: The New Press, 2018).
[9] d'Ancona, Matthew. *Post-Truth: The New War on Truth and How to Fight Back*. (Ebury Digital, 2017).

Information overload

With the invention and rapid spread of the World Wide Web in the 1990s, humanity entered a new phase generally described as the information age. Anyone who had a suitable electronic device and internet connection gained uninterrupted access to an exponentially increasing volume of texts and other web resources hyperlinked and structured into a searchable data base. Up to a certain point, the facilitated access to information provides better opportunities to understand things and make more educated decisions, but past this point, researchers have found, it amounts to information overflow and results in amplified anxiety, dispersed attention, and inhibited cognitive skills[10].

As information overload became a steady feature of the human environment, users had less and less time for deep reading. In order to be able to process information faster, they needed to develop more time-efficient reading strategies like skimming, i.e. reading quickly for surface-level comprehension to grasp the overall sense of a text; scanning, i.e. moving your eyes and mindful attention over a text in search of keywords or a particular kind of information; and skipping, i.e. choosing purposefully not to read a text or part of a text. To be able to surf smoothly from one webpage to another, across devices, media, and contexts, they also needed to learn how to read discontinuously, i.e. to hop from one text to another without finishing the previous one, and to integrate some kind of narrative from the bits and pieces of different texts. These reading practices are more and more perceptibly becoming the norm.[11]

Around 2005, the Web went 2.0, i.e. it became a social network which allowed and encouraged all users to generate content and publish it on social media, blogs, vlogs, and the like. This put pressure on publishers to go digital, grant free access to some of their content, and ensure easier and cheaper access to the rest. An incontrovertible blessing of these developments was the democratization of learning. Open education, open access, and open source were all excellent results from this process of democratization.[12] On the downside, publication-quality, reviewed and edited texts, and texts of unknown quality all circulated free of charge and competed for the

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[10] Klingberg, Torkel. *The Overflowing Brain: Information Overload and the Limits of Working Memory*. (Oxford: Oxford University Press, 2008).
[11] Carr, Nicholas. *The Shallows: How the Internet is Changing the Way We Think, Read and Remember*. (London: Atlantic Books, 2010).
[12] Baron, Naomi S. *Words Onscreen: The Fate of Reading in a Digital World*. (Oxford: Oxford University Press, 2015).

attention of online readership. As a result, most online readers developed the impression that reliable information on any topic could be found on the internet for free, and by extension, that regardless of its source, if a story they found online cohered with their feelings and general knowledge, then it was worth reading.

Data, algorithms, AI and hypertargeting

The transition to Web 2.0 was paralleled by the realization that the information produced by internet users while using search engines, navigation tools, social media, online shopping platforms, connected devices, etc. is a valuable resource, because it can be harvested, stored, structured, analysed, and utilized to create added value. Due to the huge amount and complexity of the extracted information, it was termed 'big data,' and technical capabilities were developed for its storage and processing. Researchers developed sophisticated algorithms that could transform it into surprisingly accurate predictions and decisions. To the optimist, this meant that before long we would have digital tools using neural networks of algorithms, i.e. Artificial Intelligence, to help people receive better medical treatment, solve everyday problems, communicate across languages, find the perfect partner, quickly navigate to the most relevant news and entertainment, take advantage of the best shopping offers, etc.[13]

While we have indeed seen some of this, we are becoming increasingly aware of how the data produced by us as internet users is being exploited to capture our emotions, profile our personalities, and predict and guide our behaviour. In 2014, a study in psychometrics compared the personality judgments about a substantial sample of volunteers made by computer models based on their digital footprint (in this case, Facebook likes) to those made by their co-workers, friends, relatives, and family members based on social-cognitive knowledge. It concluded that data-driven computer models, even when using very limited data sets (as little as 100 likes), are by far more accurate in predicting people's personality than human perception, and that the profiling of users can be conducted automatically without involving human agency.[14]

[13] Sumpter, David. *Outnumbered: From Facebook and Google to Fake News and Filter-bubbles – The Algorithms That Control Our Lives*. (New York: Bloomsbury Sigma, 2018).
[14] Wu, Youyou, Michal Kosinski and David Stillwell. *Computer-based personality judgments are more accurate than those made by humans*. (PubMed, 2015).

Revelational as it may be, this ground-breaking discovery was hardly implemented as a force for good. Its most tangible effect has been the ever more systematic use of hypertargeting, i.e. delivering personalized content to differentiated groups or individuals for the purpose of commercial and political marketing. Algorithms are designed to automatically profile and target us with information that we are more likely to enjoy or believe. In more extreme cases, armies of bots, i.e. automated generators of information operating at very high speed, flooding the internet with all sorts of content, including fake news and distracting information, are created to cheat the statistical principles of operation of online platforms. As a result, our Google searches, Facebook, Instagram, and Twitter feeds are full of targeted stories that inconspicuously blend in with the information we are genuinely seeking.

There can be little doubt that this strategy serves its purpose. We spend more and more time online. We are buying more than we need, and our choices as customers are rarely rational. Political campaigns investing heavily in hypertargeting prevail even as they propose nonsensical policies and outright lies. The latter became evident in April 2016, when the Leave.EU campaign attracted more votes in the Brexit referendum, setting Britain on the path of withdrawal from the European Union, and in November the same year, when Donald Trump became the 45th president of the United States. Much less clear, however, is what narrative patterns, what stories, form on our screens and in our minds as a result of these automated background processes. Hence, we cannot tell how they affect our personal stories or how they shape and reshape our shared communal narratives, our culture, knowledge, beliefs, values, and attitudes in the longer run.

Unfortunate synergies

It is important to emphasise that the factors outlined above are discussed in isolation only for the sake of more careful consideration. In reality, they operate in close entanglement and enhance each other in various ways. Multimodal products are the key currency of a global entertainment industry. They are promoted by advertising, broadcasted via global online platforms, even created automatically by bots and AI. Advertising and propaganda harness the emotional potential and communicative ease of multimodal products, as well as the dissemination, disinformation, and hypertargeting potential of online platforms. Online platforms distribute multimodal and targeted content to attract users in order to raise profit from service fees, advertising, and propaganda. Multinational big data companies use the Internet to harvest data

from online platforms and connected devices. They develop ever more efficient and automated technical capabilities for storing, structuring, and analysing these data. Although the outputs of these capabilities may be used to significantly improve everybody's quality of life, for the time being, they are more often sold to the highest bidder, which happens to be the advertisers and political marketeers. An enormous amount of stories is generated and circulated in this process at incredible speed.

Each of the above factors, as well as their synergistic effects, cohere with the natural inclination of the human consciousness to use ready-made stories, its automatic preference for System 1 thinking, and its soft spot for easy emotional gratification. The result of this coherence is a state of mind that finds deep reading difficult, or avoids it altogether, regardless of the qualities of the text that is to be read. Over time, this state of mind grows into a mind-set, and we can see the results in terms of functional illiteracy, higher-order reading and thinking deficits, and ultimately – obstructed ability to learn and develop one's personality. Yet all this should not be taken as predestination to failure. It is simply a host of adverse factors that educators should acknowledge, examine, understand, and find a way to deal with in order to create a better learning environment and step up professional support for learners. As we can see, the problem is systemic, and it therefore requires a systemic solution - it requires a coordinated response by teachers, educational institutions, and policymakers. In the following part of this paper, I will offer some reflections and try to sketch out what I think such a coordinated response could look like.

From reading to literacy

The approaches to reading pedagogy have evolved over the years alongside the research of human consciousness, learning, and memory. One of the effects of Ivan Pavlov's discovery of conditioning in 1897 was the method of conditioned learning. Reading, too, was considered conditioned behaviour that is susceptible to programming. As a process, it was broken down into subskills, such as the identification of visual signals, their conversion into sounds, and the combination of these sounds into words, phrases, sentences and text. This method of teaching reading became generally known as the phonics approach. It was the dominant method used in the first half of the twentieth century, and in many schools, it forms part of reading pedagogy to this very day.

At the same time, researchers and practitioners remained aware that there is much more to reading than measurable and reproducible behaviours. For Gestalt theorists, for instance, understanding phenomena could not be achieved by concentration on individual skills and subskills, but requires comprehension of the whole. They were interested not only in the capability of human beings to decode language, but in how they used all available data from perception and memory to make coherent sense of the decoded message.

The following stage of development, which took place after 1968, was predicated on the idea of learning as a natural process. Language was understood as an innate human capacity that should be developed through meaningful use, not drilled to the point of mindless reaction. It was assumed that human beings are biologically programmed to acquire language in favourable conditions. The reader was imagined as an active participant in the reading process, who could create meaning using various sources of information and various information processing strategies. From this perspective, it became unreasonable to imagine learning to read without learning to write, speak, or listen. Therefore, all language-related capabilities were integrated into the unified concept of literacy.[15]

From literacy to literacies

The following phase in the development of reading pedagogy was marked by the understanding that literacy cannot be conceived as autonomous; it is always ideological, i.e. dependent on specific social and cultural contexts.[16] This realisation led to a paradigm shift in the field of literacy and the emergence of the notion of 'socio-cultural literacy.' According to this new understanding, literacy could not be taught and learned in the abstract; it could only be taught and learned in terms of concrete literacy practices entangled, as they were, in a complex web of interpersonal, intercommunal, economic, and political relations. As Paulo Freire suggested, literacy was about reading the word and the world.[17]

When human relations are in focus, especially economic and political ones, they inevitably involve concerns about the distribution of power. Therefore, the next development of the

[15] Alvermann, Donna E., Norman J. Unrau and Robert B. Ruddell. *Theoretical Models and Processes of Reading, Sixth Edition*. (International Reading Association, 2013).
[16] Street, Brian. *Literacy in Theory and Practice*. (Cambridge: Cambridge University Press, 1984).
[17] Freire, Paulo and Donaldo Macedo. *Literacy: Reading the Word and the World*. Abingdon: Taylor & Francis, 1987.

contextual scope of literacy had to address the problems of inequality, hegemony, and oppression. Throughout human history, powerful social, economic, or political agents did their best to put in place dominant discourses that would use the power of language to maintain their privileged position and keep underprivileged individuals and groups under their control. From this point of view, true literacy was seen as a liberating and empowering force that could teach the oppressed to challenge those discourses and gain ground in their social struggle. In order to do this, they had to develop a complex analytical capacity termed 'critical literacy.' Critical literacy provides learners with the conceptual tools to deal with ideology and disinformation, check facts, delineate fact from opinion, weigh social and cultural bias, examine rhetorical structures, and interpret silences in relation to gender, race, ethnic, class, religious, value, geographic or other inequalities.[18]

Literacy also has a much more mundane dimension. Starting from the 1950s, researchers found that even in developed societies there is a serious number of persons of adequate schooling, age, language skills, basic reading skills, and Intelligence Quotient who are incapable of understanding complex texts which they have to use in their workplaces or in their everyday lives as citizens. It was understood that this incapacity had a quantifiable economic and social cost, so it became the subject of more interest, including on the part of policy makers (e.g. *A Nation at Risk*, 1983). The term that stuck was 'functional illiteracy,' and the different measures put forth by international actors, such as UNESCO, OECD, IEA, as well as national governments, have been aimed at increasing the 'functional literacy' of citizens.

By the end of the 1990s, when the oversaturation of the media and information landscape became evident for everyone, theorists began to consider the impact of these environmental changes on reading and literacy in general. It was understood that reading was no longer limited to traditional written texts but extended to the nonlinear, interactive, dynamic, and visually complex texts conveyed via audiovisual media and the World Wide Web. This was the time when they began talking about the 'new literacies.'[19]

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[18] Mills, Kathy Ann. *Handbook of Writing, Literacies, and Education in Digital Cultures*. (New York: Routledge, 2017).
[19] Lankshear, Colin and Michele Knobel. *A New Literacies Reader: New Perspectives*. (Bern: Peter Lang, 2012).

One of these new literacies is 'multimodal literacy.' Its *raison d'être* is predicated on the understanding that as today's texts rely more and more on non-verbal modes of communication and persuasion, we are falling behind in our capacity to approach them critically because most of us are not trained in decoding, understanding, and encoding these modes. Normally, traditional literacy aims at developing critical capacity with regard to the rhetorical use of the verbal mode – language is taught systematically, so learners can identify grammatical and logical incoherence; literature is taught so learners can identify hyperbole, irony, paradox. However, when it comes to the rhetorical use of the non-verbal modes, such as visual, audio, gestural, spatial, as well as all sorts of combinations between them and the verbal mode, general education provides little or no knowledge of how they work or interact. A possible solution to this problem may be glimpsed through the lens of social semiotics, i.e. if the non-verbal modes, just like the verbal one, are viewed as sign systems, they can be studied in parallel, and the transmedial synergies or tensions between them can be mapped.[20]

Even in 2005, surveys already showed that the Internet was becoming the prevailing technology for obtaining information. Since then, researchers have recorded a steady increase in the average time spent with digital media reaching an impressive 6.5 hours per day in the USA (eMarketer Report, 2019). The situation of European countries participating in the same survey differs only slightly. However, as of 2015, almost half (44.5%) of the population of the European Union aged 16-74, lacked sufficient digital skills to participate in society and economy (Eurostat, 2015). Therefore, there seems to be a need for more serious attention to yet another type of literacy – 'digital literacy.' Due to the high rate of development of digital technology, digital literacy is a highly dynamic concept that must be updated frequently. According to one of the most recent frameworks, digital literacy includes the ability to browse, search, filter, evaluate, and manage data, information, and digital content; to communicate and collaborate using digital technology; to use it safely, protecting data and privacy, health and well-being, the environment and human infrastructures; to create digital content; and to solve problems, both individual and social, using the capabilities of digital technology (EU DigComp 2.0, 2016).

[20] Mills, Kathy Ann. *Handbook of Writing, Literacies, and Education in Digital Cultures*. (New York: Routledge, 2017).

Many authors identify and define other broader and more specific literacies. For instance, 'information literacy' and more recently 'data literacy' have been discussed as part of the wider 'digital literacy.' 'Visual literacy' and 'media literacy' have been considered in the context of 'multimodal literacy.' Closer attention has been paid to 'cultural literacy' and 'emotional literacy.' The importance of 'numeracy' and 'science literacy' for the more general 'critical literacy' has also been elucidated. Looking at this overpopulated literacy landscape, theorists talk more and more about 'multiliteracies'[21] and 'transliteracy.'[22]

From literacies to competences and competence frameworks

The latter development reflects the need to bring order out of multiplicity. If educators are to inform their practices from the discoveries and discussions outlined above, they need to translate them into coherent frameworks of learning objectives, reliable assessment tools, functional pedagogies, as well as favourable organisational and infrastructural environments.

So far, most of the work on learning objectives has been done by international and supranational organizations. For several decades UNESCO, OECD, the World Bank, the American Partnership for 21st Century Skills, the Council of Europe, and the European Union have tried to formulate and update regularly detailed sets of learning objectives that would give learners better current and future opportunities for employability, adequate personal development, active citizenship, etc. These objectives are structured in frameworks in which they are organised hierarchically and the interconnections among them are explicated. A substantial amount of research, knowledge, and pedagogical theory are generated around these frameworks. National governments are welcome to use both the frameworks and the know-how associated with them to inform their domestic education policies.

The foremost issue each framework needs to address is how to conceptualize its objectives. Since the beginning of this process, it has been clear that the traditional learning objective of knowledge, especially easily quantifiable factual knowledge, is insufficient at a time when everyone has information ready at one's fingertips. In this new era, knowledge only matters when applied, and therefore frameworks have added special emphasis on the concept of 'skill.' The

[21] Kalantzis, Mary and Bill Cope. *Multiliteracies: Literacy Learning and the Design of Social Futures*. (New York: Routledge, 2005).
[22] Sukovic, Suzana. *Transliteracy in Complex Information Environments*. Oxford: Chandos Publishing, 2016.

notion of skill-based education is helpful because it has motivated both policy makers and educators to identify, describe, and develop means to measure the transformation of knowledge into added economic and social value. Yet if we look deeper, we will find another layer of learning objectives that account for students' choices, judgments, behaviours and actions – it is the layer of personal values and attitudes. These objectives are the most difficult to develop and measure. Moreover, even though factual knowledge can perhaps be taught on its own, skills, attitudes and values cannot; they are closely interwoven with each other as well as with knowledge. Therefore, some frameworks use the higher structure of competence to identify a coherent set of knowledge bits, skills, attitudes, and values. Competences then become the building blocks of these frameworks.

Scholars working on the frameworks arrange competences based on their understanding of the current, as well as what they estimate will be the future, needs of the labour market and of society at large. Approaching the task from different perspectives, they seem to have reached very similar results. What is more, they seem to have reached similar general structural principles of the competences model. First, competences can be divided into two general categories – basic and more specialised (academic or professional). International organisations deal mainly with the former group, while the conceptualisation of the latter is left to national ones and institutional policy. Second, the development of both categories of competences is a lifelong project. Naturally, it is impossible to start developing academic or professional competences without first reaching a fair level of basic ones, but the work on basic competences never stops. Third, much of the knowledge, skills, attitudes, and values are developed across disciplines. Moreover, some knowledge, skills, attitudes, and values are shared between competences. This means that the whole competence model must be deeply ingrained into the curriculum and its elements must be carefully coordinated at the level of curriculum design. Fourth, skills, and even more so attitudes and values, are developed across multiple environments that go beyond the limits of the classroom and involve a number of institutional and non-institutional settings, such as research and cultural institutes, sports and citizens' organisations, the workplace, family, social, urban and natural environment, etc. This means that the optimal development of competences depends on the optimal coordination of education, research, culture, labour, social, and environmental policies.

Reading competence as a set of learning objectives

To imagine how this could play out in practice, let us consider the case of reading competence in a real-life context in Bulgaria. As a European Union Member State, pooling capacity in common policy areas, participating in joint research and before long also in joint education initiatives, a reasonable choice for Bulgaria would be to adopt and adequately implement the framework of Key Competences recommended by the Council of the European Union in 2006 and restated in 2018. The framework proposes basic competences for lifelong learning. Reading competence is part of the first and most fundamental competence in the set 'literacy competence' (formerly known as 'communication in the mother tongue'). The other competences are multilingual competence; mathematical competence and competence in science, technology, and engineering; digital competence; personal, social, and learning to learn competence; citizenship competence; entrepreneurship competence; cultural awareness; and expression competence.

Based on the above discussion, we already know that developing reading competence cannot be considered in isolation from the other dimensions of literacy competence. In terms of knowledge this means sound understanding of written information, understanding of vocabulary, functional grammar and the functions of language, awareness of the main types of verbal interaction, in a range of literary and non-literary texts, the main features of different styles and registers of language. In terms of skills, it involves the ability to communicate in a variety of situations, to distinguish and use different types of sources, to search for, collect and process information, to use aids, and to formulate and express arguments, to think critically, and to assess and work with information. In terms of attitudes, it comprises a positive disposition to critical and constructive dialogue, appreciation of aesthetic qualities, interest in interaction with others, awareness of the impact of language on others, and an urge to use language in a positive and socially responsible manner.

Moreover, as a result of globalization, a significant share of the information we need or consume comes in a foreign language. Therefore, reading competence also depends on multilingual competence. Naturally, this competence relies on the knowledge of vocabulary, grammar, and ability to understand foreign languages, but also, and perhaps more importantly, it includes knowledge of foreign societal conventions and cultural contexts, as well as respect for cultural diversity and intercultural communication. Reading discontinuous texts including data, mathematical models, charts, and graphs requires numeracy and mathematical competence, while

competence in science, technology and engineering results in respect for truth and logical coherence. The overwhelming proliferation of digital texts of various kinds calls for sound digital competence, involving understanding of how devices, software, networks, artificial intelligence and (ro)bots work; a critical approach to the validity, reliability, and impact of the information and data accessed through digital means; as well as ethical, safe and responsible use of digital technology. The ever more sophisticated economic and political exploitation of affect underscores the need for adequate personal and social competence, which entails the capability of understanding one's own emotions as well as the emotions of others. Furthermore, critical literacy and readers' resistance to oppressive and manipulative discourses depend on solid citizenship competence, which means knowledge of political concepts and social processes, media literacy, as well as respect for democracy, human rights, freedom of expression, social justice and fairness. Last but not least, reading also relies heavily on cultural awareness and expression competence. On the one hand, this competence includes contextual knowledge of the history of ideas and critical theory. On the other, it provides semiotic keys to understanding non-verbal modes of expression that enable the competent reading of multimodal texts, which is crucial in an increasingly multimodal mediascape.

The next step would be to build the school curriculum around these learning objectives. The Bulgarian school relies on subject-based instruction, so they must be aligned with subjects. Considering the challenges to the reading environment posed during recent decades by globalization, multimodalization, advertising and propaganda, the World Wide Web, big data, algorithms, and AI, it is no longer reasonable to limit the development of reading competence to the subject of Bulgarian language and literature, as has been traditionally done. It is now evident that reading is a multidisciplinary concern that requires purposeful coordination between virtually all general education subjects – foreign languages, mathematics, natural sciences, informatics and information, and communication technology, history, philosophy, citizenship education, music, visual and applied arts. What is more, the attitudes and values that partake of true reading competence are highly dependent on institutional culture, e.g. is the educational process as well as life at school managed democratically with the participation of the students; are there clear and fair rules; is the human dignity and rights of both students and teachers mutually respected; is free thought and speech guaranteed and appreciated, etc.

Finally, it is important to understand that the Key Competences framework is a set of objectives for lifelong learning, so limiting them to preschool and school education is a misconception. Of course, the best time for a person to develop solid basic competences is during the time spent at school, and much of the effort and resources for this should be directed to school education, but this project must be continued also outside of the classroom. It must be continued in parallel to school education, in the whole range of extracurricular and other after-school sports, and cultural and community activities. It must also be continued after the completion of school education at the university, as well as in further education and training. The more the whole cultural and social environment supports the development of these competences, the greater the chances that more people will be adequately prepared for the 21st century.

Assessment

The next logical step, after properly formulating and aligning the learning objectives, is to develop adequate instruments to continuously monitor learners' progress and to measure, at certain points, whether the targets are attained and to what extent. Increasing the complexity of the learning objectives reasonably increases the difficulty of this task. Familiar methods, such as evaluating the reproduction of information or using standardised tests, measure capabilities that may only incidentally correlate with the development of sound skills, attitudes, and values. If high stakes are attached to them, i.e. if their outcomes have important consequences for the lives of the learners, their connection with the genuine learning objectives becomes even more remote and distorted. Therefore, if assessment is to truly guarantee and support the development of competences, it has to be reconceptualised from the ground up.

A new approach to assessment must correspond to the dimensions of the system of learning objectives outlined in the previous section. This means that it needs to be comprehensive, coherent, and continuous, i.e. assessment also has to function as a system because competences, basic as well as academic and professional, are developed in many places (across disciplines, inside and outside the classroom, etc.) and at different times (throughout the entire lifespan of the learner). Moreover, assessment instruments are of two general kinds – formative, i.e. ongoing assessment that tracks learners' progress and generates clear feedback both for learners and teachers about how to improve learning, and summative, i.e. external assessment applied in the end of a period of instruction that tracks learners' attainment, typically for accountability purposes. The functions

of these two kinds of assessment must be delineated and systematically harmonised with one another.

Another crucial overarching principle of such a new assessment system is that it should work at many coordinated levels, viz. international, national, regional, local, institutional, branch, etc., but most importantly, it should work at the level of the individual learner. While in previous eras a major task of assessment may have been to identify the small percentage of exceptionally talented people and prepare them for becoming the leading elite, redistributing everyone else to less demanding jobs – in a post-industrialist society, where labour in the field, factory, and administration is increasingly being automated and every human being is facing inestimable future challenges both in the labour market and as a member of society, a higher priority must be given to identifying the strengths of each individual learner and developing his or her potential as much as possible to meet the rapidly increasing needs of the times.

Lastly, the new assessment system must be fair. To guarantee fairness in assessing skills, attitudes and values is clearly not an easy task. In recent times the movement has been from more subjective, discretionary forms of assessment to more objective, evidence-based ones, e.g. from oral examinations to standardised testing. It is important to note here that this is also a movement to greater cost-efficiency, because standardised tests are cheaper to organize and even automate. This movement, however, is also an attempt to quantify learning outcomes, which contravenes the ambition of competence frameworks to steer education to more complex, higher quality outcomes. This paradox may be solved by building an assessment system that uses both quantitative and qualitative assessment methods that are carefully balanced so that they will check and complement each other. The risk of personal bias associated with qualitative methods may be tackled in other ways, such as by developing clearer criteria, ensuring more transparency, encouraging reasoned feedback.[23]

International and national assessment

To imagine again how this could play out in practice, let us consider the assessment of reading competence in real-life context in Bulgaria. Starting from the international level, Bulgaria has participated in OECD's Programme for International Student Assessment (PISA) since its

[23] Griffin, Patrick, Barry McGaw and Esther Care. *Assessment and Teaching of 21st Century Skills*. (Berlin: Springer, 2012).

beginning in 2000. PISA is by all means the most authoritative international standardised assessment instrument designed and constantly updated to measure the degree to which students can use the skills acquired through education to tackle actual problems. It tests fifteen-year-olds across countries and education systems in three general domains – mathematics, science, and reading. The main objective of PISA is to evaluate the efforts of policymakers to align national education outputs with what the OECD and other likeminded research organisations believe to be the needs of the present and the future.

Reading literacy in PISA is conceptualised as 'understanding, using, reflecting on and engaging with written texts, in order to achieve one's goals, develop one's knowledge and potential, and participate in society' (PISA 2012). This definition starts from the notion of 'understanding,' which includes both foundational skills, such as relating characters to corresponding phonemes, identifying words and phrases, understanding explicit and implicit relations between words and phrases at the levels of sentence and text, as well as higher information-processing skills, such as the ability to locate information, critically assess its relevance and validity, use previous knowledge, social and cultural cues to contextualise it, and identify meaningful information patterns. It lays special emphasis on 'using', i.e. the ability to practically implement or do something with one's reading. It also involves 'reflecting on', i.e. the notion that reading is an interactive process which is both affected by and affects the reader's thoughts, experience, beliefs, etc. It continues with 'engaging,' which covers both the ideas of committing or developing a positive attitude to reading and understanding one's emotional responses to texts. The final phrase of the definition 'in order to achieve one's goals, develop one's knowledge and potential, and participate in society' tries to outline the full range of situations in which reading literacy plays a crucial role: from goal-directed to life-long learning, from academic to personal development, from employability to active citizenship. All these dimensions of the concept of reading literacy are skilfully transformed into test questions. A new feature of the 2018 PISA round is the introduction of interactive exercises in a simulated web environment. This aims to examine reading literacy in the digital age, including the ability to find, relate, and assess information through navigation on the Web.

Bulgaria has consistently scored low in PISA. The recently published results of the 2018 round show that Bulgaria ranks last in the European Union, lower than all developed countries

participating in the assessment. The closer look on the results uncover a number of worrisome trends, the most important of which are that reading literacy in Bulgaria is still in a steep downward spiral despite the claims of a series of governments that they are improving the education system, that almost half of fifteen-year-old Bulgarians score below the minimal level of reading literacy (47%), and that school fails to offset, and even amplifies, socio-economic inequality. Moreover, if we compare PISA results to those from the national summative assessments of thirteen-year-olds and eighteen-year-olds, where typically over 90% of students are deemed to be sufficiently prepared for further education and the labour market, it becomes clear that these two types of assessment do not measure the same learning outputs.

At the same time, PISA has attracted criticism, both abroad and in Bulgaria, along two general lines. The first is more political and can be roughly described as mistrust of an instrument developed under the aegis of an external economic organisation, which may push policy makers towards the economisation and dehumanisation of education, i.e. prioritising learning objectives directly related to employability, such as reading instruction manuals or statistics, over higher Humanist, Enlightenment, or Humboldtian objectives, as well as accountability standards characteristic of the business sector over academic freedom and trust. The second is more methodological and has to do with the fact that no matter how much research and educational design is invested in PISA, it remains a standardised test that students can be specifically prepared for, so a high PISA score may correlate with sound education policy, but it may also result from teaching-to-the-test strategies.

The existence of such controversies creates the false impression, sometimes conveniently entertained by policy makers and some educators, that PISA is not an entirely trustworthy assessment instrument and its results should not be given too much attention. A more productive approach, however, would acknowledge the substantial evidence base of PISA and its alignment with the competence model of education, which in turn rests on persuasive empirical data about current labour-market and societal needs, as well as plausible projections for the future. It would admit that ensuring a higher baseline level of literacy applicable in up-to-date real-life context for all fifteen-year-olds cannot obstruct, but would rather reinforce further aspiration to Humanist, Enlightenment, or Humboldtian ideals. It would understand that the political objections outlined above have little to do with the test itself because, for the most part, they are motivated by personal

anxieties about the possible harm of incompetent governance, the imaginable loss of comfort and status resulting from the overdue transition from elite education – priding itself on the high achievements of a tiny selection of students, to education for all – measuring its success by how far the potential of each learner has been developed, as well as the drudgery of inadequate accountability requirements. Such an approach would see PISA for what it is – a well-designed standardised test, which may not be immune to the test-prepping ambitions of more competitively minded nations, but even so provides a reliable, data-driven tool for external summative assessment of the progress of a country like Bulgaria towards its most fundamental learning objectives.

Thus, this more productive approach would integrate PISA, as well as all other international assessments that Bulgaria has chosen to participate in, into a coherent national assessment system. Within this system the clear strengths of such international assessment instruments would be aligned with national assessment instruments; in the case of PISA, these should certainly include the compatibility with the competence model, the focus on implementing competences in real-life professional and social context, and the attention to the interconnectedness of multiple literacies, critical thinking, and the digital environment. At the same time, anything that international instruments do not do, e.g. account for higher literacy competences like the expert reading of literary texts, or use qualitative assessment methods to spot and develop individual talent, can be supplemented by national instruments.

Summative and formative assessment

At the national level, two types of assessment – summative and formative – must be clearly delineated and then coordinated as closely as possible with one another. The foremost priority of summative assessment is to check the progress of learners towards the clearly formulated learning objectives, while at the same time collecting and structuring data that can be also used to evaluate educational design as well as institution and educator performance. Summative assessment is usually applied at the end of an education period: a course, term, year, programme, education stage, etc., at the classroom, institutional, regional, or national level. Major examples of Bulgarian summative assessment instruments are the examinations called ‘national external assessments,’ which take place after the fourth, seventh, and tenth year of school, and also the ‘matriculation exam,’ which every student sits after completing twelve years of school. In theory, reading

competence is tested, predominantly in the Bulgarian language and literature section of each of these four graded assessments.

On closer inspection, however, it can be discerned that there are very few explicit reading comprehension questions – the tests consist mainly of linguistic (orthography, lexis, grammar, punctuation) questions and questions that require the reproduction of factual information or critical opinions about the content, context, style, and meaning of studied literary works. Implicitly, reading comprehension is tested in the text production tasks, such as retelling and summarising, as well as in understanding the instructions for each question and task, which contain complex academic terminology and syntax, yet there is no way of telling whether failure to complete such questions and tasks indicates reading or other deficits. On the whole, the tests are scholastic and make little effort to test students' reading competence as a complex structure of knowledge, skills, and attitudes, nor do they attempt to examine students' functional reading capability in real-life context. Also, little attention is paid to 21st century dimensions of reading competence and its dependence on multilingual, cultural, mathematical, digital, critical, multimodal, and media literacies – i.e. reading literacy is not approached as a multiliteracy and multidisciplinary concern.

Another important problem is that two of these four major summative assessment instruments also double as high-stakes examinations – the national external assessment after the seventh year of school and the matriculation exam. The former determines whether students will be able to continue their education in one of the few "prestigious" specialised high schools, while the latter provides access to most university programmes. The importance of these assessments for the future lives of students motivates large-scale, out-of-school, test-prepping efforts, which segregate students into the category of those who enjoy the necessary kind of socioeconomic support from their families and those who do not. However, this distorts the results and compromises the capability of these two tests to check students' progress towards the learning objectives, and even more so – the possibility to use such results to evaluate education design or institution and educator performance. So, even if all four major summative assessment instruments were appropriately designed, graded, and aligned with 21st century learning objectives, the high-stakes implementation of two of them would render their results useless for summative assessment purposes.

If we want to develop an operable summative assessment system that supports the development of 21st century reading competence as a prerequisite underlying further learning, we need to rethink and coordinate all summative assessment instruments to test both students and educators' work toward this objective. We must eliminate distorting factors, such as high-stakes testing, from this system. Last but not least, we must resolve a number of technical and efficiency issues, e.g. how to organise the testing of large numbers of students while ensuring fairness and objectivity, how to convert results into data that can be collected and structured accurately at the lowest possible cost, how to analyse this data intelligently and extract information that can be used both for education management and education research and innovation, and how to incorporate adaptability to unpredictable future learning objectives. Clearly, the development of information and communication technology can provide many solutions to these problems, but the major challenge still remains at level of educational design.

Once we have summative assessment in place, each educator, course, programme, and institution can develop the formative assessment dimension of the assessment system. The foremost priority of formative assessment is to continuously monitor students' progress towards the learning objectives, while constantly providing clear feedback about their performance, indicating deficits and giving precise instructions on how to remedy them. Formative assessment instruments must be closely coordinated with summative assessment and the learning objectives. Their difficulty must be graded, so that they can provide scaffolding to both summative tests and objectives. Since formative assessment is implemented on a smaller scale than summative assessment, it affords more possibilities to base instruments on performance, i.e. on tasks that require students to apply knowledge and critical thinking, to solve problems and to analyse.

Quantitative and qualitative assessment

Another important consideration in designing an adequate assessment system is how to achieve the right balance between quantitative and qualitative assessment methods. Generally, quantitative methods are about identifying learning indicators – questions or tasks – that can be brought down to a binary answer, 'right' or 'wrong,' which can be graded by difficulty and arranged into tests. If designed well, the right answers, as well as the logic behind the questions, cannot be reasonably contested, so the tests are perceived by learners as more objective and hence – a fairer form of assessment. Moreover, they produce lots of mathematical data, which again, if

cleverly collected and structured, can be analysed by educators to disclose meaningful patterns and trends. These data can also be used for decision-making purposes by education managers. Finally, another significant advantage of quantitative assessment is that they are very efficient in terms of cost and labour. The main investment is made at the stage of developing the tests, and then they can be applied many times with very large groups of learners, the process can be digitized, and marking can be automated.

Qualitative methods such as reviewing an essay, on the other hand, are far less cost and labour efficient, as they require serious amounts of individual attention by highly qualified professionals, they take more time and cannot be applied with many learners at a time, and their results are more complex and more difficult to process and compare. However, despite all their mathematical elegance and statistical potential, quantitative methods can only establish facts that may correlate with learning, but cannot measure learning itself. Learning as an object of assessment, especially in its more intricate forms, such as higher-order thinking skills, creativity, attitudes and values – simply does not yield to quantification. Therefore, excessive reliance on quantitative methods creates the risk of diverting learner and educators' attention away from learning, focusing it instead on testing and test-prepping. The only solution to this problem is to combine quantitative and qualitative methods, so that they can check and balance each other, at the lowest reasonable cost – both in terms of investment and labour.

As things stand at the moment, there is plenty of room for innovation along the lines of quantitative and qualitative assessment methods. If well-designed algorithms can accurately predict people's personalities and behaviour based on a hundred Facebook likes, then surely (big) education data can be collected and structured appropriately so that similar algorithms can automatically and cost-efficiently monitor learners' progress across disciplines, institutions, and environments, even in terms of learning outcomes that are difficult to measure like attitudes and values. Such quantitative methods can be counterbalanced by new or updated qualitative methods such as interviews, reviews and audits of portfolios, individual and collaborative artistic and world-improving projects, guided and independent research, student start-ups, etc. The excellence and objectivity of such reviews can be ensured by adopting very clear criteria, peer review, open access publication, and other transparency measures. What is more, the very task of coordinating these

two methods and arranging them into a coherent system that is capable of adjustment to unpredictable future needs is also virtually uncharted territory in both theory and practice.

Pedagogies

Clearly, adapting to the changing social and economic environment of the 21st century requires educational transformation. This cannot go without rethinking the learning objectives and developing an adequate assessment system. However, the most profound transformation must take place at the level of teachers. This should involve new understanding of the purpose of education, as well as the development and deployment of new pedagogies in the classroom.

During most of the 20th century, the rationale of education was determined by the needs of the industrial age. Compulsory education ensured that everyone received the same approved information, memorized as much of it as was necessary, and learned to perform repetitive tasks quickly and without mistakes. Higher education did the same – just raising the bar higher, so as to select a tiny elite of the hardest working and most talented students, who would become the future leaders to operate and improve the industrial machine. Over the last decades, however, the world has changed. Information has become ubiquitous, and everyone has uninterrupted access to it. The challenge today is not to memorize information, but to know how to use it to achieve one's goals, while being almost drowned in it. The labour market no longer needs employees who can perform repetitive tasks, as these tasks are increasingly being automated. Instead, employers are looking for creativity and innovation. Global and local challenges require more adequate and active action on part of all citizens. The changing needs of this increasingly post-industrial age require rethinking the rationale of education. Education for the 21st century should engage all students, develop as much as possible everyone's individual potential, teach critical skills necessary for both career and citizenship, and inspire students to better their world.[24]

Engagement

As already argued in the first part of this paper, the coherence between essential traits of the cognitive process in the human mind and major changes in the information environment result in a vicious circle of shallow stories which, in turn, produce a mind-set, even a culture, of

[24] Wagner, Tony and Ted Dintersmith. *Most Likely to Succeed: Preparing Our Kids for the Innovation Era*. (New York: Scribner, 2012).

functional illiteracy, higher-order reading and thinking deficits, and an obstructed ability to learn and develop. Persons sucked into this vicious circle are tantalized by the incessantly multiplying and renewing distractions of hypermedia and the increasingly social online hyperspace into a false sense of intellectual wellbeing. They generally feel comfortable as consumers of hyperreality and are not eager to develop critical capacity. So, the first issue a teacher trying to teach 21st-century competences will face is figuring out how to disrupt this vicious circle. In my opinion and experience, the right way to go about this is through stimulating genuine learner engagement.

Researchers have examined this type of engagement over several decades now and have found that it is complex, multidimensional, and works at several interconnected levels.[25] Ideally, students are involved in engaging learning activities. On this basis, they develop positive attitudes toward their teachers and the subjects they study. They become part of engaging learning communities. On this basis, they develop positive attitudes to their educational institutions and the educational system as a whole. As a result of their engagement, both in the classroom and in their institutions, students develop a culture that values knowledge, education, and research. There is coherence between this culture and the one outside their educational institutions – in their families and society at large. In reality, this is rarely the case. Often, there are discrepancies between the values shaped by political, economic and social realities, and those endorsed by the education system; there are tensions between official and hidden agendas of education governance and educational institutions; there is misalignment of processes, mismanagement, miscommunication, disenfranchisement of students and other stakeholders in the education process. This complicates the landscape of student motivation. The responsibility for the institutional and cultural environment is shared, and in our diverse capacities we can contribute, individually and collectively, to their improvement.

Nevertheless, teachers have substantial control over the creation of engaging learning activities. Even as they face challenges of various natures, they can still strive to overcome them by improving the design of the activities they propose to learners. Researchers focusing on engagement during a learning activity propose several psychological models which seem to all point to the idea that activity-based engagement depends on the interplay of three types of factors

[25] Christenson, Sandra L., Amy L. Reschly and Cathy Wylie. *Handbook of Research on Student Engagement*. (Berlin: Springer, 2012).

– behavioural, emotional, and cognitive. The behavioural type includes goal-directed behaviour, i.e. the identification of an attainable goal and the conscious investment of attention, effort, strategy, and persistence for achieving it. The emotional type relies on the presence of task-facilitating emotions, such as curiosity, interest, enthusiasm, and the absence of task-obstructing emotions, such as anxiety, fear, and frustration. Finally, the cognitive type comprises applied learning strategies directly associated with working toward the pursued goal.

Flow

A workable theory of how to arrange these factors into a functional structure can be found in Mihaly Csikszentmihalyi's research of optimal experience. In an attempt to comprehend human happiness, Csikszentmihalyi discovered a phenomenon he called 'flow,' which he spent most of his professional life exploring. For all we know, flow is the state of ultimate engagement. It can be briefly described as being completely involved in doing something for its own sake. From a psychological perspective, this state is perceived as optimal experience. Strictly speaking, it is not necessarily a physically pleasant moment. It is a time when the body and mind are stretched to their limits in a voluntary effort to accomplish something difficult and important, like a swimmer who is trying to beat the world record, or a violinist mastering an intricate musical piece. True happiness, Csikszentmihalyi found, is inevitably the unintended by-product of such an optimal experience.

Csikszentmihalyi also discovered that flow can be facilitated by design. Collecting and comparing cases of people who report having experienced flow, he found that regardless of the situational differences it always depends on the same set of elements – working towards a worthwhile goal, and balanced increase in skill and challenge on the way to attaining this goal. If the skill outstrips the challenge, the result is boredom; if the reverse happens, it is anxiety.[26] So, in order to design a flow learning activity, one must first formulate a goal that learners will find sufficiently appealing to genuinely commit to. Then, it is necessary to map out the road to achieving this goal in terms of gradually increasing the challenge. Finally, the whole process depends on providing just the necessary amount of support for learners to increase their skill simultaneously with the increasing challenge.

[26] Csikszentmihalyi, Mihaly. *Flow: The Psychology of Optimal Experience*. (New York: Harper Collins, 1990).

The engaged reader

All these findings apply to the teaching of reading. Reading competence is taught implicitly through various non-literary genres – informational texts, task descriptions, excerpts from articles, letters, memoirs, etc. When this is the case, the objective should be clear from the very beginning – to extract information; to compare, discuss, and negotiate; to understand and follow instructions. It is also not difficult to include comprehension criteria in assessing task completion and to provide graded support for achieving them. Sometimes, this type of activities naturally evokes learners' curiosity and interest; at other times, the emotional element can be complemented by the enthusiastic attitude of teachers.

Reading competence is also taught explicitly through literary texts – poems, stories, novels, dramas, etc. Normally, these texts are specially selected classic works that partake of the national or international literary canon. This means that they are exceptional works of art which possess powerful emotional potential. Sometimes, the sheer pleasure of reading fuelled by this emotional potential is sufficient to engage learners. Teachers can simply use this motivation and facilitate the process – directing learners to additional information they may need, honing their critical and analytical skills, asking Socratic questions, providing detailed feedback, etc.

However, there are two major risks. On the one hand, confronted with the inherent complexity and polysemy of the literary text, teachers may choose to assume total control over the reading process, pressured by factors such as the urge to discipline learners, the obligation to transmit a prescribed ideology, or to be more efficient and cover more content quickly. Instead of supporting learners in their own attempts to develop their reading competence, teachers would hand down "approved" readings and expect learners to simply memorise and repeat them when the time for assessment comes. This would dismantle the whole motivational structure discussed above and disengage learners, as they would no longer be the owners of the process of literary exploration and discovery; instead, they would be cast into the role of passive consumers and reproducers of information.

At the same time, the rapidly developing entertainment industry is producing ever more sophisticated multimodal products like films, reality shows, games, and social media applications. The pleasures generated by these products are in direct competition with the pleasures of the text – both in the classroom and outside of it. These products attract the attention of learners, especially

that of disengaged learners, because they provide much more commodified, i.e. faster and easier, access to emotional gratification than reading, and also because they open up an alternative, typically virtual, space for fashioning and refashioning one's identity. In fact, these attractions are not harmful *per se*. For a person with a fair level of reading and critical capacity they can be very stimulating. What is troublesome is their tendency to inhibit the process of developing such capacity.

Therefore, a reasonable strategy for preventing these risks on part of the teacher would be to accept learner engagement as a high priority and to design educational activities accordingly. Clearly, there are countless possibilities to do so. By way of concrete example, in the following sections I will describe briefly two approaches I have used my classroom. In my opinion, both of them have succeed in producing flow activities and engaging the learners. They have been applied at the university level and explore two different directions of educational design – gamification and project-based learning.

Gamification of reading

In their third year at the B.A. programme in English and American Studies at Sofia University, students take a mandatory course in English Medieval and Renaissance Literature. It is taught in two mandatory, consecutive, 60-hour, 15-week modules comprising a lecture part, which surveys over 10 centuries of cultural and literary history, and a concurrent seminar part, in which students are expected to apply this contextual knowledge, as well as their knowledge of literary theory and their skills in stylistic and literary analysis, to approach more than 20 literary works. For years now, I have been responsible for the seminar part of this course, thinking about how to engage students to first read the works carefully, and create a favourable environment for them to develop higher reading competence. In reality, this is not so easy as it sounds, because the whole educational culture in Bulgaria, including that at Sofia University, rewards the memorization and reproduction of information. It is difficult to argue effectively that students must make a serious effort and develop sustainably higher reading competences, when the mere memorization of a few summaries and 'approved' analyses would get them through the exam. Therefore, I decided to try a force of disruption.

A game is by definition a flow activity because it is "a system in which players engage in an abstract challenge, defined by rules, interactivity and feedback, that results in a quantifiable

outcome often eliciting and emotional reaction."[27] Gamification in education is a design which preserves the motivational structure of the game while carefully arranging learning objectives and activities within this structure. Supported by a fellowship from the Centre for Advanced Studies Sofia, I designed a tabletop game for structuring the group discussion of a literary text in the classroom. It breaks down the experience of reading literature into 64 constituent elements (setting, plot, character, conflict, pattern, metaphor, etc.). What are in reality abstract ideas are transformed for the purposes of the game into tangible cards, which together with their descriptions are put into the hands of students to explore and combine in various ways. Before the game begins, all players must have carefully read the literary work that will be discussed – it can vary in length, but short forms or excerpts usually work better. Then they take turns connecting the literary elements on the cards with the concrete features of the literary work. They also connect them with each other, creating together a mind map of their discussion. In this way they gain points. Each comment may be challenged critically at any time. One player keeps record of all comments and challenges for future reference. The rules of the game maintain the organisational structure of the whole activity, so the teacher can participate on an equal footing with the students. They also ensure everyone is included and provide incentives for players to compete and collaborate in extracting meaning and creating ever more complex interpretations.

Project-based reading

A substantial part of my work at the university has been dedicated to teaching Shakespeare. Although students are generally very enthusiastic about Shakespeare's works, once we get to the subtle intricacies of the language and imagery, the historical and cultural context, the poetic and dramatic structure, they rapidly begin to lose motivation. In 2011, I launched an experimental, extracurricular, goal-directed project inspired by the idea of teaching Shakespeare through performance.[28] Students from all year groups had to select a Shakespeare play, explore the text as well as various pieces of contextual information, in order to collaboratively devise an intelligent production concept, adapt the text accordingly, and stage their own performance in front of their peers, teachers, and parents. In the beginning of the project I assumed a more or less traditional teacher role – organising sessions, recommending sources, conducting close reading sessions,

[27] Kapp, Karl. *The Gamification of Learning and Instruction*. (New York: Pfeiffer, 2012).
[28] Riggio, Milla Cozart. *Teaching Shakespeare through Performance*. (New York: Modern Language Association, 1999).

providing feedback – but as the project developed and became more creative, I gradually withdrew from this role and freed more space for the students to take the initiative. Eventually, the project became their own enterprise and transformed into a flow activity.

By the end of the project, the students had read the selected play very thoroughly, delved into its historical and cultural context, and examined its critical and production history. This was clearly evidenced by the successful performance, but also by the quality of the intermediary original products – presentations, description of the production concept, adapted text, multimedia products, advertising materials, costumes, stage design and properties. In addition, students made progress on a number of 21st-century skills – collaboration and entrepreneurial skills; leadership; problem solving; grit; critical and analytical thinking; literacy and language learning; digital, media, and cultural literacy; creative thinking. Evidence for this can be found in the reports of the academic observers of the project and the testimonials of the students themselves.

Based on these encouraging results, I was invited to convert the project into an elective course. The course had to conform to the administrative requirements for inclusion in the official curriculum. This posed a serious problem because I had to identify measurable obligatory outputs that each student had to produce and that could be assessed objectively. Clearly, the production process and the performance itself could not serve as such outputs, because associating them with grades and credits would kill students' creativity and demolish the motivational structure of the whole project. In order to preserve the flow quality of the design, students had to be free to understand and accept the responsibility for the fate of the project, they had to be free to commit or quit at any time, and they had to be free to even fail, without any negative academic or social consequences. Therefore, it became clear that only the first half of the project, in which students explore the text and context of the play, develop the production concept, and generally prepare for the production, could be converted into an academic course. The second part, however, comprising the production and the performance itself, had to remain an optional, voluntary, extracurricular activity. Crucially, without the second part the first one would not be able to engage the students; they would not be stimulated to develop their reading competence and 21st-century skills.

Beyond the classroom

The latter example highlights the need for tight coordination between the educational environment and the world beyond the classroom. The true motivation for learning has always

been out there in the real world, in the desire to play, socialize, solve problems, create, and better our world. Therefore, efforts to improve the quality of formal education will not be sustainable if they are not paralleled by efforts to improve the collaboration with people and institutions outside the formal learning space and to create a larger favourable environment of non-formal, informal, and lifelong learning.

To continue a little further the example of the student productions of Shakespeare, in the preparation phase of their project, students needed support with working on their research capacity; analytical thinking; language literacy (in a foreign language); critical, multimodal, and digital literacies; cultural competence; communication and collaboration skills; and creativity and innovation. They could receive such support at the university. In the production phase, however, they also needed support with other skill sets, including organization; time management; entrepreneurial, leadership, and social skills and competences, as well as specific theatrical skills, such as vocal, physical and acting skills; using lighting, video, and sound technology; designing and crafting the stage set; costumes; properties; music and special effects, etc. In order to provide for these needs, we had to look for collaboration with theatre schools, theatres, theatre professionals, musicians, technicians, etc.

It can be expected that a similar project involving natural or social sciences would require an even greater and more specialised support network. So, if we want to develop our approaches to education in the direction of what Marc Prensky calls "education to better their world,"[29] we need to create a much tighter and much more efficient web of connections between individuals, institutions, and sectors. This web would allow the obstacles to coordination and collaboration across the board to be identified and removed. Costs should be covered, participants should be fairly compensated for their work, and processes should be administrated easily, yet with greater transparency and accountability. All this requires a new, higher level of coordination between educational policy and other policy areas, such as research, culture, youth and sports, labour, and social and environmental policies.

Conclusion

[29] Prensky, Marc. *Education to Better Their World: Unleashing the Power of 21st-Century Kids*. (New York: Teachers College Press, 2016).

I have started this paper with the alarming observation, informed both by some reliable data and by my personal experience as an educator and researcher, that reading as we know it is in trouble, in Bulgaria but also on a global scale. Insisting on the premise that reading enables all other learning, thus ensuring the creation of added economic and social value, and finally a good quality of life for everyone, I have expressed the belief that we must urgently find a way to address this problem. Furthermore, I have tried to outline, albeit in broad strokes, some of the major factors which I believe combine to this effect. I have looked for explanations in recent research in cognitive studies: the degree to which our consciousness relies on stories and our automatic preference for fast to critical thinking, as well as in scholarly commentaries on how our information environment has been changing over the last decades in terms of globalization, multimodalization, advertising and propaganda, information overload, data, algorithms, artificial intelligence, and hypertargeting. Combining these findings, I have proposed that the trouble with reading we are facing at the moment is a problem of mismatch between the exigences of the 21st century and the current philosophy and practice of reading pedagogy. Importantly, this means that the trouble with reading we observe at various levels is a systemic problem that requires a systemic solution.

In the second part of this paper, I have surveyed the evolution of our pedagogical understanding of reading from conditioned behaviour to natural process, from reading to literacy, from literacy to literacies, transliteracy, multiliteracies, and finally – to competence frameworks. Next, I have offered my reflections on how the much broader and more complex notion of reading competence can be implemented in practice and what systemic changes are needed for this. In order to be able to get into closer detail, I have continued my discussion based on the reality of reading pedagogy in Bulgaria, where I work. In terms of learning objectives, I have considered the benefits of moving from the current practice of controlling content to guaranteeing the development of competences across disciplines and learning environments. Clearly, this requires a fundamental rethinking of how we assess learners' progress, as well as a transformation of both the philosophy and practice of reading pedagogy. Finally, I have commented on the importance of enhanced coordination between educational policy and other policy areas in order to create a favourable learning environment also beyond the classroom.