

# Comprehension of Standard English Text and Digital Textism during Childhood

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## Abstract

In contrast to teacher reports, recent research suggests that use of textese (i.e., idiosyncratic written conventions used in text messaging) is positively associated with Standard English literacy skills during childhood. The current investigation reduces confounds by asking children to respond to traditional reading test items and define common textisms in equivalent formats under identical conditions. Ninety-one children in grades 3 through 6 translated five common abbreviations used in text messaging and, under identical conditions, completed two measures of Standard English literacy. Without exception and despite small numbers, children who correctly defined textisms demonstrated superior skills in reading fluency and sentence comprehension (i.e., reading speed and response indicating comprehension) than children unable to define the common texting terms. Such results add to the growing number of studies that conclude a positive association, if not effect, between digitalk and traditional literacy across the life span.

**Keywords:** Children, technology, literacy, textese, textism, digitalk

## Introduction

In the context of digital communication, particularly short messaging systems (SMS) also referred to as *instant messaging* (IM), *text messaging* (TM) or simply *texting*, new forms of written language have emerged (Kemp, 2011). Kinzer (2010) argued “that literacy is being redefined as a result of the use of digital media” (p. 51). Used in internet chat rooms and on mobile phones, *textese* or *digitalk* includes initials for common phrases (e.g., lol for laughing out loud), homophones (e.g., gr8 for great), abbreviations (e.g., cuz for because), symbols for emotions and the omission of words, vowels, punctuation and capitalization (Drouin, 2011). In analysis of internet communication, Crystal (2006) noted that *texting* satisfies the criteria of both spoken language (i.e., spontaneous, loosely structured and socially interactive) and written language (i.e., space-bound, repeatedly revisable and visually decontextualized). Five years ago, 49% of 8 to 11 year old children in the United Kingdom owned mobile phones and 82% used those phones for *texting* (Ofcom, 2006). In 2010, Rideout, Foehr, and Roberts reported that 46% of American 8- to 18-year-olds spend an average of 90 minutes each day *texting*. Estimates of the proportion of textisms in children’s TM range from 21% to 58% depending on the method of determination (e.g., in naturalistic messages, in messages elicited in response to a scenario or in translations to and from textese; Kemp & Bushell, 2011). Reid and Reid (2007) noted that approximately half of young people preferred *texting*, as opposed to talking, to their friends.

Although the most common textisms are phonologically-based (e.g., C U L8R for see you later), typographical and spelling errors are routinely tolerated (Madell & Muncer, 2007) and informal spelling and grammar may actually be encouraged Vockaert-Legrier, Bernicot, & Bert-Erboul, 2009). According to Durkin, Conti-Ramsdell, and Walker (2011), some words are deliberately misspelled (nuffin for nothing) while others are phonetically distorted (da for the). The theory of situated learning suggests that the use of textese would transfer to all writing “simply because the abbreviated lexical representation is learned and then transferred unintentionally” (Drouin, 2011, p. 69). Not surprisingly, anecdotes from teachers describe textisms “as having an adverse effect on children’s written language production” (Powell & Dixon, 2011, p. 58). Plester, Wood, and Bell (2008) reported that children who sent more than three TM per day scored significantly lower on measures of verbal and nonverbal reasoning than did children who sent fewer than three TM per day. Crystal (2008) noted substantial speculation and concern regarding the harmful effects of frequent TM on conventional literacy skills. Thurlow (2006)

examined over 100 media reports and observed predominant expression of the adverse effects of texting on Standard English literacy. Reportedly, one head teacher was so concerned about the negative consequences of his students' use of mobile phones "that he decided to introduce special lessons in an attempt to counteract the effects" (Coe & Oakhill, 2011, p. 5). Indeed, Drouin and Davis (2009) found that more than half of their college student sample expressed concern that use of textism was having detrimental effects on their memory of standard written English, although perceptions may have been influenced by negative media attention directed at TM and literacy.

Turner (2010), however, argued that the abbreviated language conventions used in digital communication are not deficient but, rather, "just a different language used in special contexts" (p. 41). Wood, Jackson, Hart, and Wilde (2011) studied 9- and 10-year-olds who had not previously owned a mobile phone. Children were randomly assigned to a control condition (i.e., not give a mobile phone) or a treatment condition (i.e., given a mobile phone only enabled for TM). Their results demonstrated that "text messaging does not adversely affect the development of literacy skills within this age group, and that the children's use of textisms when text messaging is positively related to improvement in literacy skills, especially spelling" (p. 28). Durkin and colleagues (2011) found positive relationships between textism density, number of types of textism, and measures of adolescent Standard English literacy. Coe and Oakhill (2011) noted that children who were good readers used more textism in their TM than children who were poor readers. Kemp and Bushnell (2011) reported that better literacy skills were associated with greater textese reading speed and accuracy among 10 to 12 year old children and concluded that there was "growing evidence for a positive relationship between texting proficiency and traditional literacy skills" (p. 18). Plester, Wood, and Joshi (2009) discovered positive relationships between children's knowledge of textisms and measures of literacy including tests of phonological awareness, vocabulary, and short-term memory. Reportedly, texting explained variation in reading ability that was not accounted for by any other measured variables. This suggested that exposure to textisms independently contributed to children's reading ability.

## Statement of the research issue

In contrast to teacher reports or, indeed, common sense, recent research suggests that textese is positively associated with Standard English literacy skills during childhood. Such research, however, has focused primarily on the use of mobile phones as opposed to precise comparison of pencil-and-paper tasks. This study reduces confounds by asking children to respond to traditional reading test items and define common textisms in equivalent formats under identical conditions.

## Methods

### Participants

Children in third through sixth grade ( $n = 111$ ) attending an elementary school in western Canada were invited, via parental consent, to participate in the study. Because a degree of literacy was required to complete reading tests, children in first and second grade were not invited to participate in the study. Ninety-six signed consent forms were returned to the school and included parent-reported family demographic information. Due to student absenteeism during data collection, 91 students were included in the sample. Of these students, 21 were in third grade, 22 were in fourth grade, 17 were in fifth grade and 31 were in sixth grade. Thirty-one children indicated that they were female, 44 indicated that they were male and gender date was missing for 16 children. As reported by parents, children ranged in age from 100 to 155 months (mean = 127.6, SD = 15.6). Almost 90% of parents reported traditional family structure, 2.5% reported single-parent families and 10% reported that their family was blended. Approximately 70% of mothers and 100% of fathers were reportedly employed, full or part-time. Six percent of mothers reported high school incomplete; 31.3% reported completing high school and almost 63% reported some post-secondary education. With respect to fathers, 14.7% reported high school incomplete, 50% reported high school complete and 35.3% reported some post-secondary education. Mean total family income was approximately \$80,000.

### Measures

Two child variables were measured: 1) textism comprehension and 2) standardized reading achievement. Both variables were measured with a test booklet developed specifically for the study and completed by each child, toward the end of the school year, in the classroom with the teacher present. The test booklet included four common textisms to which children were to write the meaning (Table 1). The

test booklet also included items adapted from the Woodcock Johnson Test of Academic Achievement Reading Fluency subtest which measures the ability to quickly read and comprehend simple sentences. The student is presented with a series of simple sentences and must circle whether each sentence is true or false (e.g., People eat grass). The student is required to complete as many items as possible within a 3-minute time limit. Finally, the test booklet included items adapted from the Wide Range Achievement Test Sentence Comprehension subtest which measures the ability to gain meaning from words and to comprehend ideas and information contained in sentences through the use of a modified cloze technique (e.g., I have a dog. He likes to go for a \_\_\_\_). In no case (i.e., translating textisms or completing the sentence in the comprehension subtest) was correct or exact spelling required but, rather, marks were assigned if it was clear that the child understood the general meaning of the textism (e.g., laughing for rofl) or the sentence.

## Results

Table 1 provides a summary of the five abbreviations used to assess children's comprehension of digital textisms as well as the proportion of children who responded correctly. In many cases, children did not write anything on the line beside the textism and appeared confused suggesting that they were entirely unfamiliar with the abbreviations and the very concept of textism. Considerable variability existed with more than half of children responding correctly to the item gtg (got to go) while less than 10% responded correctly to the item rofl (roll on the floor laughing). Only one child provided a correct response to the item paw (parents are watching).

*Table 1: Textism Test Items and Percentage of Children with Correct Responses*

Test Item	Correct Response	Responding Correctly
gtg	got to go	50.5%
l8r	see you later	21.9%
np	no problem	20.9%
rofl	roll on the floor laughing	9.9%
paw	parents are watching	1.1%

Tables 2 and 3 presents mean differences in reading fluency scores and sentence comprehension scores for children who did and those who did not correctly translate each of the five textisms. Nine out of ten comparisons evidenced significant differences in every case favouring children who correctly translated the textism. Lack of significance on one comparison may be the consequence of small sample size since it occurred in the case of the single child who responded correctly to the textism item paw. Nonetheless, the reading scores of the individual child who responded correctly to the textism item were much higher than the average reading scores of the 90 children who did not correctly translated the item.

*Table 2: Differences in Reading Fluency Scores between Children who Did and those who Did Not Respond Correctly to Textism Test Items*

Test Item	Fluency Score	t	df	p
gtg	Correct 61.1	3.91	89	< .001
	Incorrect 48.5			
l8r	Correct 66.3	3.73	89	< .001
	Incorrect 51.7			
np	Correct 65.8	3.41	89	< .01
	Incorrect 52.0			
rofl	Correct 68.3	2.65	89	< .05
	Incorrect 53.4			

paw	Correct 73.0 Incorrect 54.6	1.10	89	.275
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*Table 3: Differences in Sentence Comprehension Scores between Children who Did and those who Did Not Respond Correctly to Textism Test Items*

Test Item	Comprehension Score	t	df	p
gtg	Correct 19.5	3.65	89	< .001
	Incorrect 15.0			
l8r	Correct 22.7	4.87	89	< .001
	Incorrect 15.8			
np	Correct 22.0	3.96	89	< .001
	Incorrect 16.0			
rofl	Correct 21.6	2.18	89	< .05
	Incorrect 16.8			
paw	Correct 30.0	2.07	89	< .05
	Incorrect 17.1			

## Discussion

Among the sample of participating children, the positive relationship between ability to translate textisms and standardized reading achievement was evident, if not overwhelming. Without exception and despite small numbers, children who correctly defined textisms demonstrated superior skills in reading fluency and sentence comprehension (i.e., reading speed and response indicating comprehension) than children unable to define the common texting terms. Such results add to the growing number of studies that conclude a positive association (Coe & Oakhill, 2011; Durkin et al., 2011; Kemp & Bushnell, 2011), if not effect (Blake, 2009; Caves & Ibrahim, 2009; Powell & Dixon, 2011), between digital and Standard English literacy across the life span. Wood and associates (2011) concluded "that improvements in lexical retrieval are linked to mobile phone behaviours that involved reading and composing text messages" (p. 35). Pester and colleagues (2008) demonstrated that children use metalinguistic awareness to move between one register of language and another. "Had the children not been aware of the boundary conditions for the two codes of language and used similar language in their formal English assessments, they were unlikely to have scored as highly in the KS2 English scores as most of these participants did" (p 143). The suggestion that students required instruction directed at clarifying appropriate use of formal and informal language codes (Turner, 2009) may be less necessary than precise communication of teacher expectations of written assignments. Drouin (2011) reported that college students rarely used textisms in emailing their professors.

It is unreasonable to assume that participating children learned the meaning of textisms only in the context of digital communication. It may be that such accent stylizations (Thurlow & Brown, 2003) or youth codes (Plester et al., 2009) are also used in other forms of childhood written communication such as passing pencil-and-paper notes in school. Equally, textisms may appear in manifestations of youth culture such as television shows, comic books, and novels. Drouin and Davis (2009) noted that college students who reported that they did not use TM showed familiarity with textisms, suggesting "the widespread introduction of this vocabulary into communication environments" (p. 63). The issue is not simply the effect of communication technologies on written language; the issue is the emergence of increasingly common informal means of written communication and the effect of pervasive use of such digital dialect on Standard English literacy. Indeed, the term textism may well be a euphemism for what was originally referred to as internet slang (Ulaby, 2006). This fundamental debate has characterized much discourse on the evolution of language (Baron, 2009; Crystal, 2008). In the current context, communication technologies influence the very nature of written language (Kemp, 2011; Kinzer,

2010; Turner, 2010). How could that possibly not occur? And how could language evolution and increased communication options reflect anything but human progress?

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