



Grammatical understanding, literacy and text messaging in school children and undergraduate students: A concurrent analysis



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ABSTRACT

Recent research has demonstrated that use of texting slang when text messaging does not appear to impact negatively on children and young people's literacy and may even benefit children's spelling attainment. However, less attention has been paid to the impact of text messaging on children's and young people's understanding of grammatical forms. This study examined the interrelationships between 243 children and undergraduate students' grammatical violations made when text messaging and their performance on assessments of spoken and written grammatical understanding, orthographic processing and conventional spelling ability. The children were found to make significantly more capitalisation and punctuation errors, and to use unconventional punctuation more frequently than the adults, when the length of their messages was taken into account. For the primary and secondary school children there was no relationship between the tendency to make grammatical violations when texting and their understanding of conventional grammar or orthography. For the young adult sample, there was some evidence of an association between the tendency to make capitalisation and punctuation errors when texting, and poorer performance in selecting the grammatically correct orthographic representation of a pseudoword. This relationship remained after controlling for individual differences in undergraduates' IQ and spelling ability. Overall, there is little evidence that ungrammatical texting behaviour is linked to grammatical understanding or knowledge of orthographic representations of language in children. However, there is some evidence that young adults' violation of grammatical conventions when texting may be linked to limited understanding of grammatically-related orthographic conventions.

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1. Introduction

1.1. Text messaging and written language skills

Text messaging (SMS use) continues to increase in popularity: the number of texts sent worldwide was estimated at 7.8 trillion for 2011, with a further 1.8 trillion predicted for 2012 (Portio Research, 2012). Mobile phone use and text messaging now form part of many young people's everyday activity. In the UK, Ofcom (2011a, 2012a) has found that the number of text messages sent by children rose in 2012, with 8- to 11-year-olds sending about 41 messages per week (up from about 27 in 2009–2011) and 12- to 15-year-olds sending about 193 (up from about 113 in 2009–11). Teenagers and young adults, too, are keen users of text-messaging, sending an average of 50 texts per week (Ofcom, 2012b). There has also been a rapid rise in smartphone ownership, now at 1% for 5- to 7-year-olds, 15% for 8- to 11-year-olds, 62% for 12- to 15-year-olds, and 66% for 16- to 24-year-olds (Ofcom, 2012a, 2012b), although ownership of phone technology is relatively unaffected by socioeconomic status. This trend is noteworthy, as smartphone users make more calls and send more texts than those using other phone types (Ofcom, 2011b).

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Text messaging is characterised by an abbreviated written form, originally used because of the character restrictions imposed by phone companies; it has persisted and developed into a form of technologically-mediated discourse. It is similar, if not identical, to other popular forms of computer-mediated discourse such as instant messaging, and the language forms observed on social networking sites (e.g. ‘wall posts’ in Facebook) and microblogging sites such as Twitter, which also have character restrictions. Thurlow (2003, p. 1) has suggested that texting is “reinventing conventional linguistic and communicative practices”. This linguistic form plays with orthographic conventions, relies on shared social references, and expresses intended emotional states through the use of emoticons.

However, there has been concern about the impact that texting may have on children’s and young people’s use of formal written English. This is because most texting abbreviations (or ‘textisms’ as we term them here) focus on unconventional orthographic representations, which have intact phonological representations, such as *2morrow* for *tomorrow*. Abbreviations and acronyms are not new additions to written language (Baron, 2003). However, rather than celebrating the creativity evident in the evolution of texting slang, the popular media have focussed on the assumed negative impact that the use of such language must inevitably be having on language in general, and children’s and young people’s literacy skills in particular (e.g., see Crystal, 2008; Wood, Kemp, & Plester, 2014). For example, Thurlow’s (2006) critical discourse analysis of media accounts of computer-mediated discourse (which included mobile phone texting) revealed an overwhelmingly critical portrayal, which equated its use with declining morality as well as literacy. An online article by Woronoff (2007) sums up the media ‘thesis’ most clearly:

There is no problem among older people because their spelling skills are more established. Children are more prone to commit errors because they have read less, and prefer to play games, or watch TV, etc. ... Texting has come along with a flourish, making a big impact among them. This habit forming menace can influence kids to spell incorrectly or get confused about the correct usage. We should not tolerate these activities, else it might endanger their progress. ... It is likely that it might affect much of their ability to spell, since their minds are in the formation stage.

As a consequence of such concerns, recent research has considered how knowledge and/or use of textisms might be related to ‘traditional’ literacy skills. In the first of these studies, Plester, Wood, and Bell (2008) assessed knowledge of textisms via a simple translation task and found that the children aged 10–12 years who tended use more textisms when converting a standard English sentence into a text message had better verbal reasoning and spelling ability. Similarly, Plester, Wood, and Joshi (2009) asked 10–12-year-olds to construct text messages in response to hypothetical situations, and found that those who used more textisms tended to have better word reading, vocabularies and phonological awareness. Plester et al. theorised that the reason for this finding was that decoding and creating most textisms requires a certain level of phonological awareness, a skill known to underpin successful literacy acquisition. They therefore expected to find that the relationship between textism use and reading ability would disappear once individual differences in phonological awareness had been taken into account. However, they found that textism use could still predict unique variance in reading ability after controlling for age, short-term memory, phonological awareness, vocabulary and length of time the children had owned a mobile phone. The pattern of results from these studies has been supported by Kreiner and Davis (2011), who found that knowledge of abbreviations was positively correlated with spelling scores but frequency of texts was not. This suggests that it is not the quantity of messages that are sent which is important, but the content of messages with respect to levels of texting slang used.

These early studies suggested that not only was there no evidence of a negative association between literacy outcomes and knowledge of textisms, but that textism use might ‘add value’ to literacy development in unexpected ways. However, these researchers relied on contrived, paper-based tasks as a way of eliciting textism knowledge. More recent studies have looked specifically at children’s actual texting behaviour, but the conclusions from these papers are the same. For example, Coe and Oakhill (2011) found no significant differences between good and poor readers aged 10–11 years in terms of the number of text messages sent and received. Good readers did, however, use significantly more textisms in their messages. It is suggested that better readers may be able to use multiple registers more easily and possibly have better metalinguistic skills. Similarly, Veater, Plester, and Wood (2011) examined textism use by dyslexic and typically-developing children. These authors found that the proportion of textisms used did not differ significantly between the two groups of children, but the dyslexic children tended to use fewer phonetically-based textisms, and for these children there was no association between literacy skills and textism use. As children with dyslexia are characterised by difficulties processing phonological information, their avoidance of phonetically-based textisms is not surprising.

The central claim of the media thesis about text messaging and literacy development is a strong one: namely that textism use causes problems with literacy development in children and young people. Although the concurrent data reviewed so far do not suggest that there is any negative impact, to address such issues of direction of causality, data need to be collected over time, and two of the most recent studies in the area have done this.

Wood et al. (2011) collected longitudinal data (over the course of an academic year) from 119 8- to 12-year-olds who owned their own phones. This study showed that, similar to concurrent studies, textism use at the beginning of the year could predict spelling ability at the end of the year, after controlling for individual differences in age, verbal IQ, phonological awareness and the children’s spelling ability at the beginning of that year. In contrast, spelling ability at the beginning of the year was unable to explain growth in the use of textisms when messaging. It seems that textism use may be contributing in unanticipated ways to the development of children’s understanding of conventional spellings, and that the relationship between textism use and spelling ability is unidirectional, rather than reciprocal.

This result raises the practical question of whether mobile phones may be used as a form of educational technology for supporting literacy development, given the high status placed on phones by children and the children’s motivation to use them on a regular basis. To address this issue, Wood, Jackson, Hart, Plester, and Wilde (2011) conducted a randomised, controlled trial intervention study in which they gave mobile phones to 9- to 10-year-olds who did not previously own them, and enabled these phones for text messaging at weekends and during the half-term holiday. The children in the phone ownership group did not show significantly improved literacy skills compared to children in the control group over the course of a 10-week period. However, within the phone group, textism usage was able to account for a significant amount of variance in post-test spelling scores over this short period, again after controlling for IQ and spelling ability at the beginning of the term.

So with respect to children, we can argue that literacy skills appear to be largely unaffected by mobile phone ownership or the number of messages sent or received. Yet, textism use does appear to contribute to the development of spelling ability in particular. However, children’s representation of phonology and orthography is likely to be different to that of older skilled readers, and experimental studies of exposure to

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