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K pasa bro? Code-mixing y elementos multimodales en la comunicación de WhatsApp en contextos vulnerables y no vulnerables

K pasa bro? Code mixing and multimodal elements in WhatsApp communication in vulnerable and non-vulnerable contexts

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RESUMEN

Este estudio investiga las diferencias y semejanzas en el uso de palabras en inglés y elementos multimodales en los textos digitales de estudiantes de contextos vulnerables y no vulnerables. Además, se analizan las diferencias en el uso de textismos entre hombres y mujeres. Para ello, se realizó un estudio de casos comparando la escritura de alumnos en centros con necesidades de transformación social (ZNTS) y en centros sin necesidad de transformación social (ZSNTS). La muestra consistió en 126 estudiantes de tercer y cuarto curso de educación secundaria obligatoria, correspondientes a 14, 15 y 16 años. Los resultados muestran un comportamiento diferenciado en ambos contextos. Además, se observa que, conforme a la bibliografía previa, las mujeres utilizan más textismos en general, así como elementos del plano léxico-semántico, aunque esta conclusión solo se valida para los centros en ZSNTS. Estos hallazgos reafirman la necesidad de no generalizar la escritura digital de los adolescentes, sino considerar su contexto específico, ya que existen grandes diferencias según el entorno.

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PALABRAS CLAVE

Textismos; WhatsApp; Contextos vulnerables; ZSNTS; ZNTS.

ABSTRACT

This study examines differences and similarities in the use of English words and multimodal elements in the digital texts of students from disadvantaged and non-disadvantaged backgrounds. It also analyses differences in the use of textisms between males and females. For this purpose, a case study was carried out comparing the writing of students in school areas with social transformation needs (ASTNs) and in schools in areas without social transformation needs (ANSTNs). The sample consisted of 126 students in the third and fourth years of compulsory secondary education, aged 14, 15 and 16. The results show a differentiated behaviour in both contexts. Furthermore, in line with previous literature, females use more textisms in general as well as lexical-semantic items, although this conclusion is only validated for ANSTNs. These findings confirm the need not to generalise about adolescents' digital writing, but to take into account their specific context, as there are large differences depending on the background.

KEYWORDS

Textisms; WhatsApp; Vulnerable contexts; ANSTNs; ASTNs.

1. INTRODUCTION

1.1. Digital communication and textisms use

Writing has changed over the centuries in line with technological and cultural developments. It is evident that nowadays people write more and much faster than in previous times (Giraldo-Giraldo et al., 2018). The last decades have seen the emergence of new means of communication, as well as new tools, the most important of which is the smartphone (Guisado & Suárez, 2021). According to the IBM-Elogia study (2023) 85 % of Internet users aged between 12 and 74 are users of social networks. WhatsApp continues to be the most used application, followed by Instagram, Facebook and YouTube. It is also the most appreciated by Spanish citizens.

In the digital era, communication between adolescents has undergone a remarkable transformation through text messaging. A new electronic discourse has been created, called Digitalk (Turner, 2010), with its own characteristics different from conventional language. Initially, these characteristics, such as the omission of some letters or the abbreviation of words, were due to the existing limitation in SMS, where there was a fixed cost for 160 characters (Forbes & Buchanan, 2018). However, this peculiar way of writing has been maintained in instant messaging applications, such as WhatsApp, despite the fact that it has no restrictions on the number of characters and is always free (Jacquet et al., 2021). Digital language or digitalk is characterised by a non-conventional use of spelling, in which we find different resources such as emphatic repetitions, deletions, writing non-normative graphemes, lexical textisms (Gómez-Camacho & Gómez del Castillo, 2015). In addition, it closely resembles an oral conversation (Chalak, 2018). In this new form of communication, we find textisms which are defined as those words or aspects of a text message that deviate from the conventional spelling and punctuation marks of the region (Adams & Miles, 2023). Table 1 shows the different types of textisms, with examples that can help us understand exactly what we mean by each of them.

Table 1. Textisms categories and examples.

Textism Category and example (Gómez-Camacho et al., 2023)	
Repetition Textisms	
Repetition of closing marks	kiya!!!!!
Repetition of one or more letters	QUEEE?
Emphatic repetition of interjection or onomatopoeia	Jajajaja
Shortening or Suppression Textisms	
Intentional joining of words	Holaquehases
Shortening of words by removing letters or syllables	ta bn
Omission of punctuation marks	Ke pasa? no te visto
Intentional omission of h-	ke a pasao???
Loss of intervocalic d	e comío
Omission of accents textisms	
Omission of accents	ke paso
Non-normative grapheme textisms	
k textisms	te kiero
x textisms	ola a todxs
s textisms	ké ases
z textisms	pazaaa
sh textisms	shica
tx textisms	txica
w textisms	weno
y textisms	kiya
Lexical-Semantic and Multimodal Plane Textisms	
Textisms of numbers, letters, and symbols with their phonetic value	cansa2, no vngo +
Multimodal elements, emoticons, stickers, etc.	👏👏👏👏👏
Words in English, other languages, or invented words	srry, brother

Source: Gómez-Camacho et al., 2023.

1.2. Code mixing and multimodal elements in digital communication

Within lexical-semantic and modal textisms, there are three different types of textisms according to the classification of Gómez-Camacho et al. (2023). The first is the use of textisms of numbers, letters and symbols using their phonetic value. This would be the case of words such as cansa2 (*cansado*) in Spanish or n8 (*night*) in English.

On the other hand, we also find textisms, which consist of the use of words in other languages, mainly English. A linguistic phenomenon that has emerged strongly in digital communication is code mixing, the insertion of words in a second or foreign language into everyday discourse in the first language (in this case Spanish) (Muysken, 2000; Verheijen & Van Hout, 2022). When we use the word code, we are not only referring to a language as a whole, but also to a dialect or even a linguistic register (Cantero & De Arriba, 1996), which is why we can also use this concept to refer to this phenomenon that occurs in digital communication. In some cases, these foreign words that are introduced into the discourse present orthographic or morphological alterations to adapt to the phonetics or grammar of the L1 (Mancera-Rueda y Pano-Alemán, 2013).

This phenomenon is considered within lexical-semantic textisms (Gómez-Camacho et al., 2023) and is defined as those words that do not come from Spanish, foreign words that are used, especially from the English language. This sociolinguistic phenomenon called code mixing is part of the development of Information Communication Technology (Tarihoran et al., 2022).

Although it is true that the study of code mixing is a complex task, as Giammatteo & Parini (2018) argue, it is subject to a number of variables and cannot be analysed in absolute terms, as it depends on each group of speakers and each communicative situation. Their study reveals that young female students incorporate more words into the other language than young men.

Finally, the last subcategory of textisms within lexical-semantic textisms is multimodal elements. These textisms are new non-verbal linguistic units that are not used in traditional writing (Hunt-Gómez et al., 2020). These include the use of emoticons, stickers, and GIFs. Emoticons are a popular set of pictograms added to messages in social networks and other applications (Sampietro, 2019). They are the most used by users due to their large number and the possibilities they offer to dynamise an interaction. Moreover, they favour linguistic economy, as they allow to say many things with a small drawing, as well as the expressiveness of the messages sent (Cantamutto & Vela Delfa, 2019). Emoticons can be used both to replace words and to highlight them (Sampietro, 2019).

1.3. Code mixing and multimodal elements in vulnerable contexts

The phenomenon of code mixing in WhatsApp has been studied in several research studies (Núñez-Román et al., 2024; Pérez-Sabater, 2022; Verheijen & Van Hout, 2022) as well as the use of emoticons and other multimodal elements in digital communication (Cantamutto & Vela Delfa, 2019; Montenegro & Hermenegildo, 2018). The variability of this phenomenon between different socioeconomic settings has not been studied.

This article aims to investigate the practices of code mixing and the use of multimodal elements in WhatsApp text messages, focussing on two different groups: adolescents in vulnerable and non-vulnerable contexts. As 'vulnerable contexts' we have taken the so-called 'Areas in Need of Social Transformation' defined as 'those concrete and physically delimited urban spaces in whose population there are structural situations of severe poverty and social marginalisation' (Junta de Andalucía, 2024), from now on we will refer to them as ASTNs. In contrast, we find what we have called Areas with no Need of Social Transformation (ANSTNs), a concept also used in Fernández-Juliá & Gómez-Camacho (2024). The choice of these two groups responds to the need to explore how socioeconomic dynamics can influence the use of this form of digital communication.

Through a detailed analysis of the messages, we seek to understand the similarities and differences in the frequency and purpose of code mixing and multimodal elements in these two contexts. Are there specific socio-economic factors that may influence this linguistic practice?

2. MATERIAL Y METHOD

A case study has been carried out in order to approach a phenomenon in its real everyday context (López-González, 2013; Stake, 1995; Walker, 1983). The case study is a qualitative method used to explore a specific phenomenon in depth, allowing a more detailed understanding of the dynamics and variables that make it up. In this case, the real context was the WhatsApp conversations of Andalusian teenagers. In addition, a quantitative methodology, with a descriptive-correlational design, has been used, which has allowed us to gain in-depth knowledge of how adolescents write in different contexts. This quantitative methodology has enabled numerical data to be collected and analysed in a systematic way, allowing patterns and relationships between different variables to be identified.

2.1. Objectives

The objectives of the present study are the following:

1. Examine the relationship between the use of anglicisms in the digital communication of Andalusian adolescents in both vulnerable and non-vulnerable contexts.
2. Examine the relationship between the use of multimodal elements such as emoticons or stickers in the digital communication of Andalusian adolescents in both vulnerable and non-vulnerable contexts.
3. Compare the existing differences between men and female students in both contexts.

2.2. Sample

A non-probabilistic convenience sampling method was used, following the model of previous research in the context of the Spanish language (Fernández-Juliá & Gómez-Camacho, 2024; Gómez-Camacho et al., 2023). In this case, the sample consisted of 252 texts of 126 male and female students in the third and fourth years of compulsory secondary education in Andalusian schools. Of the 126 students, 39 of them attended schools located in Areas in Need of Social Transformation (ASTNs) and came from both the Torreblanca district of Seville and the town of Sanlúcar de Barrameda (Cádiz). The remaining 87 students attended their last years of compulsory secondary education in schools located in Zones with no Social Transformation Needs (ANSTNs) and came from two different schools: one in the city of Dos Hermanas (Seville) and the other in the town of Jaén.

2.2. Data collection and analysis

The analysis of digital communication in this investigation was conducted on the authentic messages that adolescents send via WhatsApp on their smartphones. To do this, they were asked to copy and paste into a document between 10 and 20 WhatsApp messages that represented their writing style in the application, emphasising that they should not alter or correct the words or letters in any way. Additionally, they were instructed to remove any private information and references to proper names. Textisms were identified and manually coded following Verheijen's (2018) model in similar research. To assess adolescents' spelling competence in academic writing, a parallel procedure was implemented. Participants were asked to scan one or two handwritten pages of their class notes or activities using their smartphones. These academic texts were required to meet the same criteria as the WhatsApp messages: no changes or corrections and the removal of private information and proper names. This step ensured that the academic writing samples were as authentic and representative as the digital communication texts.

Both types of text, WhatsApp and academic texts, were coded by two researchers, who combined their results. Subsequently, the data was analysed using IBM SPSS version 26 statistical software.

3. RESULTS

The corpus with which we worked to carry out this research is composed of a total of 12297 words, with an average of 97.6 lexical units, composed of both words and other communication units such as stickers, emoticons or GIFs per student (SD=38.79). The average number of textisms in texts from WhatsApp was 32.09 (SD= 16.248). The average number of interventions in WhatsApp was 20.09 (SD=3.42). The average use of English words was 1.04 (SD=1.708), with a minimum of 0 English textisms and a maximum of 13 in the same student. Regarding the use of multimodal elements, the average use was 0.96 (SD=2.52), with a minimum value of 0 and a maximum value of 23.

On the other hand, in terms of academic texts, the average number of words was 185.5 (SD=77.21). The average number of spelling mistakes was 5.22 (SD=5.474), with a minimum of 0 and a maximum of 30. The average use of English words is 0.97 (SD=1.693) in ASNTs and 1.07 (SD=1.724) in ANSTNs. On the other hand, the use of multimodal items is 0.38 (SD=0.935) in ASTNs and 1.22 (SD=2.943) in ANSTNs.

Pearson's product-moment correlation coefficient (N = 126, *p <.05, **p <.01) was applied to both types of text to test correlations between variables. The data, as well as the links between variables, are described for both texts. We compared the multimodal elements and the number of textisms in the WhatsApp text with the total number of spelling mistakes in the academic texts. The correlation between the use of English words on WhatsApp and the total number of spelling mistakes in academic texts is noteworthy, with r=-.165 in ANSTNs and r=-.054 in ASNTs.

Table 2. Correlation matrix representating Pearson's r variables for WhatsApp and academic texts.

		English words	Multimodal elements	Total number of spelling mistakes
Multimodal elements	ANSTNs	.313**		
	ASNTs	.123		
Total number of spelling mistakes	ANSTNs	–.165	–.083	
	ASNTs	–.054	–.031	
Total number of textisms	ANSTNs	.069	.119	–.043
	ASNTs	.170	–.306	.219

Finally, the difference in usage between male and female students has been verified by means of a descriptive statistical analysis, taking into account the values of the average, standard deviation, and both the maximum and minimum. It should be noted that in ANSTNs centres, the average use of multimodal elements is more than twice as high in female students as in male students. On the other hand, in both ANSTNs and ASNTs centres, the average number of spelling mistakes is lower in females than in males.

Table 3. Average use of different types of phenomena among men and female students and their respective contexts.

			Average	SD	Minimum-maximum
English words	ANSTNs	Male	.85	.933	0-3
		Female	1.16	2.203	0-13
	ASNTs	Male	1.26	2.207	0-9
		Female	.76	1.033	0-3
Multimodal items	ANSTNs	Male	.8	1.673	0-7
		Female	1.72	3.863	0-23
	ASNTs	Male	.42	.902	0-3
		Female	.06	.243	0-1
Total number of textisms	ANSTNs	Male	32.85	18.622	10-74
		Female	35.33	17.773	7-81
	ASNTs	Male	36.00	12.41	19-59
		Female	30.88	16.054	7-63
Total number of spelling mistakes	ANSTNs	Male	6.35	6.667	0-18
		Female	5.14	5.231	0-30
	ASNTs	Male	6.74	5.858	0-19
		Female	4.53	5.746	0-19

4. DISCUSSION AND CONCLUSION

The results show that there is no correlation between the use of English words in digital texts and students' spelling mistakes in any of the contexts studied, neither in ASNTs nor in ANSTNs. We do not believe that the use of English textisms is detrimental to the spelling of students' academic texts, regardless of the context. This conclusion is consistent with the study by Fernández-Juliá & Gómez-Camacho (2024) and Núñez-Román et al., (2024) in which no positive correlation is observed between the use of code mixing in English and lower spelling competence. Consequently, we can affirm that code-mixing does not harm students' linguistic competence in any of the contexts analysed.

On the other hand, no significant relationships are found between spelling mistakes in academic texts and the use of textisms in WhatsApp messages. This result is consistent with other studies conducted in Spanish (Gómez-Camacho et al., 2023; Gómez-Camacho & Gómez del Castillo, 2015), as well as in French (Bernicot et al., 2014), English (Bushnell et al., 2011; Kemp et al., 2014; Ouellette & Michaud, 2016; Powell & Dixon, 2011; Wood et al., 2011) and other European languages (Verheijen, 2013).

With regard to multimodal textisms, we observe that they do not correlate positively with spelling mistakes in academic texts either. Although it is true that the correlations are not statistically significant, they show us in both types of centre a tendency for this type of textisms not to be de-

trimental to academic spelling. Although we must bear in mind that, as Sampietro (2023) argues that frequent technological changes make it difficult to draw very lasting conclusions about the future of multimodal elements such as emoticons or stickers.

Regarding the last research objective of examining similarities and differences in the communication of male and female in both contexts, it should be noted that the use of textisms is quite similar regardless of the context in which the learner finds himself/herself and in both sexes. Other similar studies also concluded that there were no notable differences between sexes (De Jonge & Kemp, 2012; Drouin & Driver, 2014). Although it is true that female in ANSTNs centres use more textisms in general than men, this would be consistent with the preceding literature (Grace & Kemp, 2015; Rosen et al., 2010). Female students also use more textisms of multimodal elements and English words in ANSTNs centres, which is in agreement with the research by Chalak, (2018), who highlighted that, although in most types of textisms there were no differences, female students used many more emoticons and stickers. The study by Montenegro & Hermenegildo (2018) also shows a higher use of emoticons in this case in female students than in men.

In conclusion, we confirm previous studies that the use of textisms in digital writing is not related to spelling mistakes in academic writing (Fernández-Juliá & Gómez-Camacho, 2024; Gómez-Camacho et al., 2023).

Moreover, we confirm too the results of Fernández-Juliá & Gómez-Camacho (2024), although we found some nuances in the issue of multimodality, where we observed a much higher frequency of use in centres in ANSTNs. Finally, we conclude that there are differences in the use of textisms between male and female students, but this differentiated behaviour in which female students use more textisms in general, more multimodal elements, and more words in English is only confirmed in ANSTNs. For this reason, it is considered essential to take into account the context in which schools are located when carrying out studies on the digital communication of their pupils and the relationship with their spelling competence, since, as we have seen, in general, what is indicated in the previous literature is only true in schools in ANSTNs.

We agree with the suggestion made by Núñez-Román et al. (2024) that the elements in English included in the Spanish digital standard could be used in teaching for the acquisition of communicative competence. This has important pedagogical implications. Firstly, we observed the use of English words in the everyday communication of Spanish adolescents on WhatsApp; this occurs mainly in ASNSTs areas, and we believe that it could be used in formal educational contexts to facilitate the learning of this foreign language in a more contextualised way. Furthermore, integrating these elements into the curriculum would help students to see English not only as an academic subject but also as a tool that can be used practically in their everyday communication. In addition, the incorporation of new technologies into educational settings has shown great promise for improving cognitive engagement and the overall learning experience of students in educational contexts (Khan et al., 2023). These findings are not only relevant to educational practice, but also to the academic community, as they provide a detailed insight into how instant messaging applications such as WhatsApp are rapidly changing young people's language practices. Consequently, it is also essential that teachers are trained and updated on the new information and communication technologies and their impact on students, in order to be able to offer a response in line with the demands of society (Forteza et al., 2020).

Finally, regarding the limitations of the present study, it should be noted that 'the question of the generalisability of qualitative studies (including the case study) does not lie in a probability sample drawn from a population to which the results can be extended, but in the development of a theory that can be transferred to other cases (López González, 2013).

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