

Self-efficacy in Written Composition among Deaf and Hearing Students in Primary and Secondary Education

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Abstract

Introduction. This article presents some of the more important results from a study focused on the analysis of self-efficacy in written composition among deaf and hearing students. This type of self-efficacy is essential to adequate development of the complex process of writing and the quality of written texts.

Method. A total of 116 students participated in the study: 25 from primary education and 91 from secondary education; 15 were deaf students and 101 had normal hearing. We administered an adapted scale on self-efficacy in writing, consisting of ten items on a 5 point-scale. This was followed by a comparison of motivational skills according to educational level and status of “deaf/hearing”.

Results. In general terms, it was found that deaf and hearing students in Primary and Secondary Education had developed a positive perception on their efficacy in writing. Nonetheless, important clarifications are called for, due to the variability in answers among the different scale items and among different students.

Discussion and Conclusion. Due to a lack of studies of this type, we must insist on the need to carry out research that analyzes the affective components of deaf students’ writing and that takes individual and contextual factors into account.

Keywords: Self-efficacy; Written composition; Primary Education; Secondary Education; Deafness.

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Auto-percepción de la eficacia en la escritura de alumnos sordos y oyentes de Educación Primaria y Secundaria

Resumen

Introducción. En este artículo se muestran algunos de los resultados más relevantes de una investigación centrada en el análisis de la auto-percepción sobre su eficacia en la expresión escrita por parte de los alumnos sordos y oyentes, la cual es fundamental para el adecuado desarrollo del complejo proceso escritor y de la calidad de los textos escritos.

Método. Los sujetos investigados fueron 116 alumnos: 25 de Educación Primaria y 91 de Educación Secundaria Obligatoria; 15 sordos y 101 oyentes. El proceso de recogida de datos ha consistido en la aplicación adaptada de una escala graduada sobre la auto-percepción de la eficacia en la escritura, de 10 Items. En cuanto al procedimiento de análisis, se ha llevado a cabo una comparación y confrontación de las habilidades motivacionales del alumnado en función del nivel instructivo así como del status “sordo/oyente”.

Resultados. En el análisis de resultados se ha encontrado que, en términos generales, los estudiantes sordos y oyentes de Educación Primaria y Secundaria desarrollan de manera positiva la percepción de su propia eficacia escritora. No obstante, existen unas matizaciones significativas dadas la variabilidad en las respuestas a cada uno de los Items de la escala, así como también la diversidad existente entre el alumnado.

Discusión y Conclusión. Ante la ausencia de este tipo de estudios es preciso insistir en la necesidad de realizar investigaciones centradas en el análisis específico de los componentes afectivos de la escritura en alumnos sordos, atendiendo a los factores individuales y contextuales.

Palabras Clave: Auto-percepción de la eficacia; Composición escrita; Educación primaria; Educación secundaria; Discapacidad auditiva.

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Introduction

The topic addressed in this study is receiving much attention in Spain at the present time. Even today, 80% of deaf persons are functionally illiterate, meaning that they finish elementary education without adequate mastery of the Spanish language, whether in its oral form or especially in its written form (Carrillo & Domínguez, 2010; Fernández & Pertusa, 2007; Jáudenes, 2009).

In the context of a Knowledge and Information Society, current policies seek to ensure that effective reading and writing become foundational in a quality education. Learning this skill is key to developing the linguistic competence needed for acquiring the first basic competency, “learning to learn”, as established in Spain’s Organic Law on Education (3-May-2006). And acquisition of basic competencies is the way to ensure that the universal basic right to an education is being exercised under conditions of equality, and enables full participation in society.

However, accessibility of information and communication in the deaf community is still far from reality. We need a better understanding of the situation of deaf students when they are faced with learning written language, so that we can act in a way that offers them support, particularly in their personal appropriation of writing from a reflective/critical perspective. “Teaching and learning to write with meaning is an unalienable right of the younger generations, and is an obligation or commitment of educational institutions, if they indeed aspire to encourage, reinforce and enrich the learner within the framework of a democratic, diverse and plural society” (Ramos, 2009; p. 55).

From the perspective of socio-constructivism and the communication-discourse approach, writing is not a purely technical activity, involving mastery of the rules of the written code in order to correctly transcribe words and phrases. Above all, it takes on a cognitive, affective and social dimension inasmuch as it is closely related to constructing discourse in meaningful communication situations through dialogue and interaction, requiring a recursive and dialectic process to solve the problems posed therein. Similarly, written composition is an activity where reflection becomes essential; therefore, it is fundamental to adopt a strategic attitude toward the task (Camps & Castelló, 2007).

In short, writing is an instrument for social construction, making it possible to develop one's own thinking as well as communication, thereby favoring learning processes (Camps, 2004; Graham, 2008). Thus, the first need is to motivate students to participate in multiple, rich activities that offer them the possibility of reflecting on different strategies and operations that are involved in the writing process, in such a way that it always has a communicative intent based on the construction of meanings that are shared with other individuals.

Different factors affect the process of teaching and learning written composition; among these we find the cultural, social, affective, cognitive, metacognitive, discursive and pragmatic factors (Arroyo & Salvador, 2009; MacArthur, Graham & Fitzgerald, 2006). One factor that helps determine the writing process refers to affective components of written language; the motivational system is of great importance, high value is associated with the activity of writing in every linguistic community for the purpose of meeting objectives and, of course, students have beliefs that attribute meaning to writing tasks (Boscolo, 1997; Palincsar & Klenk, 1992).

According to theoretical models of written composition, specifically, the cognitive model proposed by Hayes (1996), there is an evident interrelationship between cognitive and metacognitive processes, and motivational/emotional or affective elements. This interrelationship is developed through the mediating and instrumentalizing function that the individual fulfills using working memory and long-term memory within the framework of both the physical and the social/cultural context. Most research takes an integrated approach to cognitive components and affective-motivational components that influence learning. It is essential to "know how" to do something, referring to the necessary abilities, knowledge, strategies and skills, but it is also important to "want" to do it, in other words, to have sufficient willingness, intent, motivation, and persistence, and to believe in one's own capabilities.

Notwithstanding, it was only towards the decade of the 90s that interest emerged in the specific analysis of affective components and their effect on students' conception of writing, how they enable composition processes to be undertaken and to contribute to the epistemic function (De Caso & García, 2006; Graham, Berninger & Fan, 2007; Hidi, 2007; Klassen, 2002a; Sexton, Harris & Graham, 1998; Zimmerman & Risemberg, 1997). According to the studies, the affective dimension of written language has two sides: (1) motivation to write and the attitude that the writer adopts toward the process of producing written text, and (2) the

writer's perception of himself or herself as a writer, and perceived self-efficacy in the task (Pajares, 2003; Walker, 2003).

By way of explanation, self-efficacy is one important predictor of students' academic success, and refers to the set of beliefs that one holds regarding one's ability to adequately apply the knowledge and skills already gained, in addition to one's capacity to acquire new learning (Bandura, 1997). Aside from discrepancies in results that are due to methodological aspects of different studies (García & Salvador, 2006), it has been shown that self-efficacy is one of the most important motivational determinants that influences the development of written composition, both in terms of its product and process (De Caso, García, Díez, Robledo & Álvarez, 2010; Pajares & Valiante, 1997; Salvador, 2005).

Thus, students with high self-efficacy expectations, in other words, those who feel able to successfully take on writing tasks, are the ones who manifest less worry, greater persistence in the activity, and a better response to frustration in the case of difficulties. This in turn leads to successful task execution. By contrast, anticipated failure and doubts about oneself can lead to anxiety and to assured failure.

In general, it has been found that students with learning disabilities perceive writing to be a frustrating activity and perceive themselves as unable to write well, given their repeated failures on this task (Harris, Graham & Pressley, 1992; Salvador, 2005). A vicious circle results: failure to write well triggers a lack of confidence in oneself with regard to this task, and at the same time, this lack of confidence leads to difficulties in written expression. But it has also been observed that students overrate their ability and consider themselves to be good writers; they have a distorted perception of their ability to write, constructing an inaccurate perception of self-efficacy from different sources (Graham & Harris, 1989a, 1989b; Harris & Graham, 2005; Klassen, 2002b, 2004; Pajares & Johnson, 1996; Sawyer, Graham & Harris, 1992). Some authors (Pajares & Valiante, 1999; Shell, Colvin & Bruning, 1995) found that perceived self-efficacy increases as students approach higher levels of education. Other studies (Graham, Schwartz & MacArthur, 1993), however, did not detect differences according to age, nor did they find differences between children with and without learning disabilities.

Objectives

In the area of hearing disability, research has mostly been limited to the analysis of writing from the product perspective. Toward the decade of the 90s, a move began toward studying the construction of written text from the process perspective (Arfè & Perondi, 2008; Cambra, 1993; Carrillo & Domínguez, 2010; Fabbretti, Volterra & Pontecorvo, 1998; Gutiérrez, 2005; Mayer, 2010; Teruggi, 2003; van Beijsterveldt & van Hell, 2008). However, there are no studies that seek to analyze the multiple dimensions of the writing process; affective factors in particular are overlooked. Given this situation, the present study arises from the need and importance of determining motivational skills of deaf students in written composition. Specifically, this study makes an in-depth inquiry into the perception of writing self-efficacy among deaf and hearing students in Primary and Secondary Education, in other words, to discover and to analyze how each one perceives and rates his or her own writing capacity or skills. Based on this main objective, the following questions were posed:

- How do the students perceive themselves in terms of their effectiveness in the task of writing?
- Do they consider themselves able to carry out the necessary operations and to be successful on the task?
- Can differences be detected among students' perceived self-efficacy in writing, as a function of their educational stage or their status as a deaf or hearing student?

Method

Participants

The subjects of this investigation were not selected randomly; the sample was obtained through incidental selection. A total of 116 students participated, of which 25 were in sixth grade of Primary Education and 91 were in Compulsory Secondary Education (in Spain, grades 7-10). In the Primary Education group, the mean age was 12.5 years, with a standard deviation of 0.3, a minimum age of 11.2 and a maximum age of 13.1. A majority of students were girls, 48% were boys. Within this group, two 13-year-old students, both with hearing parents, had a severe, pre-lingual hearing disability; they used hearing aids and oral language

as well as sign language. They received extra support both within the mainstream classroom and in a special education classroom, mainly in the area of Language Arts.

As for the teaching methodology being followed with this group in Primary Education, their school has adopted a project with the following basic principles:

- Teaching deaf and hearing students together (inclusive education) in order to achieve whole-person development through values of tolerance and respect for diversity.
- Encouraging bilingual education by using both the Spanish language and sign language for comprehension of the communicative act.

Regarding the group of students in Secondary Education, 22 were seventh-graders, 16 eighth-graders, 26 ninth-graders and 27 tenth-graders. The mean age was 15.11 years, with respective mean ages for each grade being 13.49, 14.94, 15.74 and 16.27 (overall standard deviation of 0.78). There was a balanced distribution of gender, with 50.93% girls and 49.07% boys.

Within the Secondary Education group, a total of 13 were deaf, 6 of which presented profound deafness, another 4 with mild hearing loss, and the remainder with a moderate-profound degree of disability. As for hearing prostheses, 7 subjects used hearing aids and the rest had a Cochlear Implant. With one exception, all deaf students had hearing parents. In these cases, the most frequently used communication system in the family setting was joint use of the two languages: oral language and sign language. Only in two cases was sign language used exclusively, in another five cases only oral language was used.

This mainstream school, targeted for preferential integration of the deaf, pursues a teaching methodology based on social constructivism. In general, writing activities are based on a concrete topic with guidelines given by the teacher, or they may address an open topic which interests the students, and makes them develop and encourage their creative capacity in producing written texts. It should be noted that the primary means of communication is oral language, so that support from a Spanish Sign Language interpreter is included in order to encourage proper reception and comprehension of oral messages on the part of the deaf students.

Design

This investigation used a descriptive methodology based on controlled observation. This method offers excellent possibilities for the study of written expression, since assessment is not carried out in an artificial situation, but naturally, as just another practical activity in the classroom, directly not only toward the deaf students but also the hearing students.

Procedure

Individual data sheets for recording the personal characteristics of each student were prepared as part of the data collection process. These were used in asking the students for their more pertinent psychosocial information, and in case of doubt, collaboration from teachers was requested.

In order to assess each student's perception of their own ability as a writer (as defined above), we used the self-perception of writing efficacy scale, extracted from Harris and Graham (1992) and translated by Salvador (1997). The scale uses a numerical, five-point scale for responses (1. Strongly disagree; 2. Disagree; 3. I don't know; 4. Agree; 5. Strongly agree), and was applied individually, adapting its linguistic structure as needed in the case of the deaf students (see Table 1).

The reliability of this adapted scale was calculated based on results obtained in this study, using an internal consistency index. The resulting index was quite high, producing a Cronbach alpha coefficient higher than 0.65 in all dimensions, and approaching 0.80 (alpha value = 0.784). Analysis of the individual questions showed that they are able to discriminate among the different opinions of those surveyed (high standard deviations), with means relatively centered on the scale of 1 to 5.

The data collection process was completed in an orderly, systematic fashion, according to the following sequence:

- The individual data sheets were distributed to the students.
- Students prepared a written composition.
- The scale on self-perception of writing efficacy was administered to students.

Table 1. Scale of self-perception of writing efficacy

ITEMS	Strongly disagree	Disagree	I don't know	Agree	Strongly agree
1. When I write a text, I find it easy to get ideas (when I write, it is easy to get ideas)					
2. When I write a text, I find it easy to organize my ideas (when I write, it is easy to organize my ideas)					
3. When the teacher has us write a text, mine is one of the better ones					
4. When I write a text, I find it easy to begin (when I write, it is easy to begin)					
5. When I write a text, I find it easy to correct what needs improvement					
6. When I write a text, I find it easy to put my ideas into proper sentences (when I write, it is easy to make proper sentences)					
7. When the teacher has us write a story, mine is one of the better ones					
8. When I write a text , I find it easy to write without stopping, without taking a break					
9. When the teacher has us write a book summary, mine is one of the better ones					
10. When I write a text, I find it easy to correct my mistakes					

Data analysis

In order to analyze the data gathered, different types of statistics were used. On one hand, descriptive statistics such as frequency (global scores for each student, for the group as a whole and for each item), mean and standard deviation were found. On the other hand, in order to test the hypotheses/questions about differences, the chi squared test was applied (level of significance: 0.05) to each scale item and to the differential variables. Statistical package SPSS, version 18, was used for this purpose, and served as the basis for a global interpretation of the data, and later for inter-individual comparison and for contrasting motivational skills of students as a function of their educational level or their status as “deaf/hearing”. At the same time, a qualitative interpretation of results was carried out in order to evaluate them in depth and to analyze self-perception in written composition.

Results

In analyzing the scale of self-perception of writing efficacy on the part of the Primary Education students, the following results were found to be most significant.

The mean of the global scores for the scale was found to be 3.22 (SD: 1.16). This is a general score that corresponds to a slightly positive self-perception and approaches a value of “agree”, in terms of the scale ratings. However, the variation in students’ responses must be taken into account, as can be noted by directly observing the mean scores, or by calculating the standard deviation (see Table 2). Thus, for example, scores for students 5, 13, 21 and 22 had the most positive values, indicating a good, solid perception of their writing abilities (M: 4). By contrast, student 25 showed the lowest score, with a mean of 1.8.

Table 2. Mean and Standard Deviation of scores, by student

Student	M (SD)
1	3.3 (1.83)
2	3.1 (0.57)
3	2.8 (1.23)
4	3.7 (0.95)
5	4 (0.82)
6	3 (1.41)
7	2.7 (1.42)
8	3.2 (1.03)
9	3.6 (1.26)
10	2.9 (1.37)
11	3 (1.15)
12	2.7 (1.49)
13	4 (0.82)
14	3.6 (1.07)
15	3.1 (1.66)
16	3 (0.67)
17	2.9 (1.45)
18	3 (1.41)
19	3.9 (0.99)
20	2.7 (1.83)
21	4 (1.15)
22	4 (0.82)
23	3.2 (1.03)
24	3.4 (0.52)
25	1.8 (1.13)

Furthermore, when interpreting the data obtained in this study, one must also consider the variation in responses according to each item of the scale (see Table 3). Some items are scored above the mean, while other items produce lower values.

Table 3. Mean and Standard Deviation of scores, by item

Items	M (SD)
Item 1	3.76 (1.16)
Item 2	3.92 (1.04)
Item 3	2.64 (1.07)
Item 4	4.04 (1.13)
Item 5	2.96 (1.37)
Item 6	3.52 (1.26)
Item 7	2.64 (0.99)
Item 8	3.00 (1.32)
Item 9	2.60 (0.96)
Item 10	3.16 (1.37)

For example, most students manifested positive self-perception, with a maximum score of 4.04, in considering that when they write a text, they find it easy to begin (Item 4). By contrast, on Item 9, they are in disagreement with the idea that when the teacher assigns a written book review, theirs is one of the better ones. When contrasting the group of deaf students with the hearing students, no big differences stand out with respect to scores given on the scale items, the respective means being 2.85 and 3.26 (see Table 4).

Table 4: Mean scores by item, according to students' status of deaf/hearing

Items	Deaf	Hearing
	M (SD)	M (SD)
Item 1	2.5 (0.71)	3.87 (1.14)
Item 2	3.00 (1.41)	4.00 (1.00)
Item 3	1.50 (0.71)	2.74 (1.05)
Item 4	4.50 (0.71)	4.00 (1.17)
Item 5	3.00 (1.41)	2.96 (1.40)
Item 6	3.50 (2.12)	3.52 (1.24)
Item 7	1.50 (0.71)	2.74 (0.96)
Item 8	3.00 (1.41)	3.00 (1.35)
Item 9	1.50 (0.71)	2.69 (0.93)
Item 10	4.50 (0.71)	3.04 (1.36)

It must be noted that while both deaf and hearing students concur in giving a positive value to Item 4 (M: 4.50 and 4.00, respectively) and in giving a negative value to Item 9 (M: 1.50 and 2.69, respectively), the deaf students assign more extreme values than do their classmates with normal hearing. Another interesting point to mention is that the group of

hearing students not only emphasized a strong positive response on Item 4, but also on Item 2. It can be affirmed that hearing students, as compared to deaf students, agree with the idea that when they write a text, they find it easy to organize their ideas (M: 4.00).

The group of deaf students, however, in addition to their markedly high agreement with Item 4, also agreed strongly with Item 10 (M: 4.50). In contrast to their hearing classmates, the deaf students claim to agree with the idea that when they write, they find it easy to correct their errors. Nonetheless, it must be noted that they still have a quite negative perception about whether their written texts or stories are among the better ones (Items 3 and 7).

Regarding the group in Secondary Education, the mean for the global score on the self-perception of writing efficacy scale was 3.32 (SD: 0.83). This is a general score that corresponds to a slightly positive self-perception, approaching a scale value of 4.

When contrasting the groups according to their grade level in Secondary Education, the chi squared test did not detect statistically significant differences in the perception of their own writing efficacy (see Table 5). Based on these data, and considering that the four groups of students are diverse in their individual and contextual characteristics, we can interpret that grade level in Secondary Education is not the only factor that intervenes in the analysis of results.

The variety in responses among the students must be taken into account, as can be noted either by directly observing the mean scores, or by calculating the standard deviation (see Table 5). For example, subject 13 from the group of 8th graders gave responses with much lower values, indicating a negative perception about his or her own writing ability (M: 1.2). By way of contrast, student 13 from 9th grade gave the highest scores, with a mean of 4.6.

Table 5. Mean and Standard Deviation of scores, by student

Students	7 th grade	8 th grade	9 th grade	10 th grade
	M (SD)	M (SD)	M (SD)	M (SD)
1	4 (0.94)	3.5 (0.85)	4.3 (0.48)	4.4 (0.70)
2	2.9 (1.37)	2.6 (1.43)	3.1 (1.10)	4.0 (0.94)
3	2.9 (1.20)	2.2 (1.23)	3.6 (0.52)	3.4 (0.70)
4	3.6 (0.52)	3.5 (0.53)	3.3 (0.95)	2.6 (0.97)
5	3.6 (0.97)	3 (1.15)	3 (0.00)	3.2 (0.79)
6		3.6 (0.70)	3 (0.82)	2.6 (1.34)
7		3 (1.15)	3.7 (1.57)	3.7 (0.48)
8	3.5 (0.97)	2.7 (1.34)	4.3 (0.48)	3.6 (0.70)
9	3.2 (0.63)	1.6 (0.52)	2.3 (1.34)	2.7 (1.16)
10	3.7 (0.82)	3.2 (0.92)	3.4 (0.70)	2.5 (0.71)
11	3.6 (0.97)		2.2 (0.79)	3.4 (1.43)
12	4.2 (0.92)	4.5 (0.53)	3.5 (0.71)	2.8 (0.92)
13	2.5 (1.65)	1.2 (0.63)	4.6 (0.84)	4.1 (0.99)
14		1.6 (0.52)	3.7 (0.48)	2.1 (0.74)
15	3.8 (1.03)	2.6 (1.26)	4 (0.94)	3.9 (0.99)
16	3.3 (1.57)		2.5 (0.97)	-
17	3.9 (0.74)	4.5 (0.53)	-	3.8 (0.92)
18	3.4 (0.70)	3.5 (1.27)	2.8 (0.79)	2.2 (1.03)
19	2.7 (1.34)		3.6 (0.70)	4.4 (0.52)
20	3.4 (1.35)		2.6 (1.84)	3.6 (0.84)
21	3.3 (1.06)		3 (0.67)	3.8 (0.92)
22	3.1 (1.20)		3.5 (0.97)	3.6 (0.70)
23	3.5 (1.43)		3.6 (0.52)	2.9 (0.87)
24	3 (1.15)		3.7 (0.48)	3.6 (0.84)
25	2.7 (0.82)		3 (1.25)	4.4 (0.52)
26			2.6 (0.84)	2.9 (0.74)
27			3.9 (0.57)	1.6 (0.52)
28				3.4 (0.84)

On the other hand, when interpreting the data obtained in this study, we must consider the diversity found in the different responses to each of the scale items (see Table 6). The most highly rated item is found in the mean score for Item 4, where a majority of 7th graders manifested positive self-perception, producing a maximum score of 3.95, thus indicating that they find it easy to begin when writing a text. Items 3 and 7 show much lower mean scores,

especially in the 8th grade group, with a mean of 2.50; they affirm that when the teacher assigns them to write a text or story, their work is not among the best, they consider their work inferior, something which could make learning and improving written composition more difficult.

Table 6. Mean and Standard Deviation of scores, by item and by grade in school

Items	7 th grade	8 th grade	9 th grade	10 th grade
	M (SD)	M (SD)	M (SD)	M (SD)
1	3.86 (1.32)	3.25 (1.34)	3.69 (1.01)	3.52 (1.34)
2	3.64 (0.66)	2.81 (1.22)	3.61 (0.94)	3.70 (1.10)
3	2.86 (1.04)	2.50 (1.41)	2.88 (1.24)	2.89 (1.01)
4	3.95 (1.25)	3.37 (1.41)	3.81 (0.89)	3.18 (1.21)
5	3.27 (1.08)	3.25 (1.00)	3.38 (0.80)	3.52 (0.93)
6	3.73 (1.03)	2.81 (1.28)	3.31 (0.97)	3.33 (1.07)
7	2.95 (0.95)	2.50 (1.37)	2.85 (1.12)	2.89 (1.05)
8	3.09 (1.34)	3.25 (1.57)	3.42 (1.24)	3.37 (1.21)
9	3.00 (1.02)	2.56 (1.36)	3.31 (1.05)	3.18 (0.96)
10	3.18 (1.05)	2.94 (1.00)	3.23 (0.91)	3.44 (0.97)

When contrasting the groups of deaf students and hearing students, independently of their grade level in school, no large difference is found between their mean scores for the items, these being 3.36 and 3.22, respectively (See Table 7). Differences do exist in 9th grade, with the mean score of the deaf students lower than that of the hearing students (M: 2.77 and 3.45), and in 8th grade, where the group of deaf students is higher than the hearing students in terms of their self-perception of writing efficacy (M: 4 and 2.77, respectively).

Table 7: Mean and Standard Deviation of scores, by item, in deaf and hearing students

Item s	DEAF				HEARING			
	7 th grade	8 th grade	9 th grade	10 th grade	7 th grade	8 th grade	9 th grade	10 th grade
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
1	3.60 (1.14)	4.50 (0.71)	3.00 (1.00)	3.33 (2.08)	3.94 (1.39)	3.07 (1.33)	3.78 (1.00)	3.52 (1.31)
2	3.40 (0.55)	3.50 (0.71)	3.67 (0.58)	3.67 (1.53)	3.70 (0.68)	2.71 (1.27)	3.61 (0.99)	3.65 (1.07)
3	3.00 (1.00)	3.50 (2.12)	2.33 (1.53)	3.67 (1.15)	2.82 (1.07)	2.36 (1.34)	2.96 (1.22)	2.78 (1.00)
4	3.60 (1.67)	4.50 (0.71)	3.33 (0.58)	3.67 (1.53)	4.06 (1.14)	3.21 (1.42)	3.87 (0.92)	3.09 (1.20)
5	4.20 (1.30)	5.00 (0.00)	3.33 (0.58)	3.00 (1.00)	3.00 (0.87)	3.00 (0.78)	3.39 (0.84)	3.61 (0.94)
6	4.20 (0.84)	3.50 (2.12)	2.67 (0.58)	2.00 (1.00)	3.59 (1.06)	2.71 (1.20)	3.39 (0.99)	3.48 (0.99)
7	2.80 (1.09)	3.50 (0.71)	1.67 (1.15)	3.00 (0.00)	3.00 (0.93)	2.36 (1.39)	3.04 (0.98)	2.87 (1.14)
8	3.00 (1.58)	4.50 (0.71)	2.33 (1.15)	3.33 (1.15)	3.12 (1.32)	3.07 (1.59)	3.74 (1.10)	3.56 (1.20)
9	2.60 (1.67)	3.50 (2.12)	3.00 (1.00)	4.00 (1.00)	3.12 (0.78)	2.43 (1.28)	3.35 (1.07)	3.09 (0.95)
10	3.60 (1.14)	4.00 (0.00)	2.33 (0.58)	3.00 (1.00)	3.06 (1.03)	2.78 (0.97)	3.35 (0.88)	3.56 (0.94)

As can be seen in Table 7, the group of deaf children in 9th grade is the only group that has a very negative estimation of their own writing production, and specifically in relation to the statement in Item 7 (M: 1.67). At the opposite end, the 8th grade group stands out positively, especially on Item 5 (M: 5.00). Among hearing students, however, we observe that Item 4 is rated most highly, especially by the 7th grade group (M: 4.06). Item 7 receives the lowest ratings, with a mean score of 2.36 found in the 8th grade group.

Finally, with regard to the differential analysis using the chi squared test, generally speaking, there were no statistically significant differences between the groups as defined by their stage of education or their “deaf/hearing” status. Significant differences were found between the Primary students and the Secondary students only for the statement in Item 2 ($\chi^2 =$

9.189; $p = 0.027$; M: 3.92 and 3.44, respectively) and between the deaf and hearing students for the statement in Item 5 ($\chi^2 = 11.788$; $p = 0.019$; M: 3.7 and 3.19, respectively).

Discussion and Conclusions

After analyzing and interpreting the results obtained with regard to self-perception of writing efficacy, we may conclude that most of the deaf and hearing students in Primary and Secondary Education have developed positive motivational skills, keeping in mind that the mean score is 3.27, approaching the value of “agree” on the scale administered. It may be affirmed that both deaf and hearing students, generally speaking, have real self-efficacy expectations, that is, they have a firm belief in their own capacity for writing and they perceive writing to be an important activity, allowing them to feel capable of facing this task successfully.

It is also interesting to note that, just as in the research by Graham, Schwartz and MacArthur (1993), no statistically significant differences were found in the perception of writing efficacy between the different levels of education, with the means falling at 3.22 for 6th graders, 3.28 for 7th graders, 2.92 for 8th graders, 3.32 for 9th graders and 3.30 for 10th graders. Similarly, large differences were not found between the groups of deaf and hearing students whether in Primary Education or Secondary, where the means were 3.10 and 3.24, respectively.

It can therefore be deduced that the line of work and the educational experiences being pursued in schools are bringing about favorable progress in developing the written competencies that should be attained at these levels of education by both in deaf and hearing students. However, it must be underscored that there is a need to adjust these methodologies with both deaf and hearing students, to work on optimizing their motivation toward carrying out the written composition activities. It is also important to develop positive self-perception by creating a socio-affective climate where real messages, in line with their own abilities and competencies in perceiving their own written texts, can be generated and assimilated.

On another note, we point out that most students, especially those in Primary Education, stand out favorably in their response to Item 4, where the mean score is 3.67 (when they write a text, they find it easy to begin). In this regard it is particularly significant that the deaf

students in Primary Education and in 8th grade overrated themselves regarding the statement in Item 4. According to results from other studies, this over-estimation of their writing skills is due to a distorted perception of their ability to write (Graham & Harris, 1989a, 1989b; Harris & Graham, 2005; Klassen, 2002a; Sawyer, Graham & Harris, 1992). It would be helpful to inquire into the reasons that form the basis of these judgments, and to establish strategies to help students acquire a more realistic self-perception.

Similarly, the statistically significant difference between the groups of deaf and hearing students regarding the content of Item 5 could be interpreted as due to an overly positive rating on the part of the deaf students when they affirm that they find it easy to correct a written text. Likewise, where statistically significant differences appear as a function of educational level on Item 2, these could be interpreted as indicating that the Primary Education students have an inflated perception of the idea that they find it easy to organize their ideas when writing.

Another point to emphasize is that the students in general perceive themselves as inferior, in that they feel their written texts are not among the better ones. Thus, the Primary Education group disagrees with the idea that when the teacher assigns a book summary, that theirs is one of the better ones (Item 9; M: 2.60). This result concurs with findings from research by Salvador (2005) with subjects from Primary Education. The same occurs with the Secondary Education group, who affirm that when the teacher assigns the composition of a text or story, that theirs are not among the better ones (Items 3 and 7; M: 2.78 and 2.80). This negative self-perception may make learning and improving written composition more difficult.

Notwithstanding, there are differences between the deaf students in Primary Education and those in Secondary Education in their general rating of Items 9 and 3, where the latter agree with the idea that when the teacher assigns the writing of a book summary or another text, theirs is one of the better ones (M: 1.50 and 3.27 for Item 9; M: 1.50 and 3.12 for Item 3, respectively). Taking this data into account, one can deduce that the school context has an effect on the affective dimension of written expression, where deaf students in Secondary Education overrate these items.

In any case, when considering the set of data analyzed in this study, one must take into account the variety of responses given by each one of the students, as well as the variability in

responses given to each item on the scale. Moreover, we must underscore certain limitations inherent in this research study with respect to both the sample of participants and the research methodology. For these reasons, conclusions given here cannot be generalized to the whole population, since there are individual and contextual factors that produce diverse results. Rather, this study may be a starting point for reflection and for initiative in teaching, and especially for continued inquiry into the learning and improvement of writing in deaf students. Some of the more important recommendations for future research would be:

- To contrast the results of this investigation with other studies that are carried out using different instruments for collecting and analyzing data: speaking aloud while writing, an ecological approach, etc.
- To establish the relationship between self-perception of writing efficacy and the different cognitive processes that are involved: planning, transcription and revision.
- To analyze the connection between the cognitive-affective skill and the knowledge of and/or use of language on the part of deaf persons (oral language / sign language).

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