EDUCATIONAL ASSESSMENT & EVALUATION | RESEARCH ARTICLE

Construction and validation of the self-efficacy scale for disciplinary academic writing

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Abstract: Academic writing is one of the most important and complex competences to achieve in higher education, especially within highly specialized disciplines. A variable which has been related to writing performance and has shown to be an excellent predictor of students’ academic success is self-efficacy. Despite its relevance, no instrument to assess self-efficacy in the production of academic texts in specific disciplines has been found. The objective of this work is to empirically develop and validate a Self-efficacy scale for disciplinary academic writing. The research, whose design is framed in the development of measurement instruments, had three central phases: a) definition of the construct to be measured, elaboration of items and validation of the pilot instrument; b) application of the instrument to a sample of 439 students from different programs at Chilean universities; and c) analysis of the construct’s internal structure using the Exploratory Structural Equation Modeling (ESEM). As a main result, the Self-efficacy scale for disciplinary academic writing, consisting of 35 items, distributed in 5 dimensions, with adequate evidence of validity and reliability, was obtained. This instrument can be useful for those interested in the field of academic writing.

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PUBLIC INTEREST STATEMENT

The purpose of this study is to develop and validate empirically a self-efficacy scale for disciplinary academic writing. This instrument allows assessing how university students perceive their own abilities for disciplinary academic writing. This is relevant because academic writing is one of the most important and complex competences to achieve in higher education, especially, in highly specialized careers such as Law, Medicine, Psychology, Nursing, among others. The perception of self-efficacy is important because various investigations have suggested that perception of self-efficacy can influence over writing performance. In addition, the relevance of studying self-efficacy relies on its role as a good predictor of student’s academic success. The main result of this research is the self-efficacy scale for disciplinary academic writing, consisting of 35 items, distributed in 5 dimensions, with optimal indicators of validity and reliability.
1. Introduction

University, as a training institution for future professionals, not only provides students with theoretical and applied knowledge related to their discipline, but also with certain general competences or skills. One of the most important competences in higher education is academic writing (Ramon-Casas et al., 2018; Sparks et al., 2014; Toprak & Yücel, 2020), firstly, because it is a central tool for constructing, communicating, and accounting for knowledge; secondly, because, apart from being related to the ability of communicating properly, it implies the joint development of various cognitive efforts (González et al., 2019); thirdly, because future professionals must be able to communicate theoretical and technical concepts not only in a scientifically correct manner, but also, as Ramon-Casas et al. (2018) have claimed, in a clear, credible and effective way; and, fourthly, because it is considered one of the most critical competences for academic and professional success (Sparks et al., 2014).

These attributes make academic writing an extremely complex activity for students. For example, it has been shown that a high proportion of college students are poor writers (Bitrán et al., 2009); that the lack of mastery of text production is one of the main causes of university failure, retention and withdrawal (Cristina, 2010); and, also, that students do not have the abilities needed to write good quality text (Graham et al., 2016; Kolb et al., 2013; Tapia et al., 2003; Wilson et al., 2017). This complexity in academic writing increases exponentially in specific fields of knowledge, especially in highly specialized careers such as Law, Medicine, Psychology, Nursing, among others.

The study of writing in higher education contexts requires an adequate and germane specialized instrument that provides relevant information on the subjects and makes it possible to scientifically approach such competence. Such specialized instrument would provide new data as well as inputs to tackle academic writing and, thus, design appropriate measures for this complex field are needed (González et al., 2019). To investigate the production of written texts, different methodological alternatives can be found, for example, the evaluation of a textual product, the (ongoing) online study of the writing process, and the use of standardized instruments. The first two options, which are widely used (Durrant, 2015; Lee et al., 2018; Staples et al., 2016; Tapia et al., 2003; among others), have high operational costs. For this reason, in this research the third option has been chosen since standardized instruments can be applied to larger populations more quickly and cheaply.

One of the variables that has been related to writing performance is self-efficacy (Castells et al., 2015; Villalón et al., 2015), whose origin may be traced back to Bandura's social theory of learning (Bandura, 1977, 1993). This construct has made it possible to predict writing performance (Grenner et al., 2020) as well as students' academic success (Castells et al., 2015; Villalón et al., 2015). Furthermore, self-efficacy is a construct whose simplicity and parsimony make it an excellent way to study writing skills (González et al., 2019), either as a general competence or framed in the academic field. Moreover, the scientific approach to such construct is interesting since research on writing, specifically, in the Latin American context, has not considered socio-cognitive factors, such as emotion, motivation, self-perception, and metacognition. If so, these factors have just been taken into account either recently or tangentially (González et al., 2019). In this sense, the study of self-efficacy in relation to writing would help to account for the complexity of written text production as a multidimensional process, considering aspects scarcely studied in our context.
In this framework, various instruments to measure self-efficacy in writing have been developed (Bruning et al., 2013; Pajares, 2007; Zimmerman & Bandura, 1994; among many others). Research addressing writing self-efficacy in the university contexts has also been found (Kavanoz & Yüksel, 2016; Prat-Sala & Redford, 2010). However, despite having conducted an exhaustive literature review in English, Spanish and Portuguese, no instruments evaluating self-efficacy in the production of academic texts within highly specialized disciplines were identified (González et al., 2019). No construct addressing self-efficacy in relation to specific disciplinary academic writing has been found either.

Similar constructs identified were related to, for example, general self-efficacy (Hashemnejad et al., 2014), academic self-efficacy (Martins et al., 2017), self-efficacy for writing (Andrade et al., 2009; Bruning et al., 2013; Demir, 2018; Ekholm et al., 2014; Jones et al., 2012; Khojasteh et al., 2016; Prat-Sala & Redford, 2010; Ramos-Villagrasa et al., 2018; Sanders-Reio et al., 2014; Villalón et al., 2015), self-efficacy for academic writing in English (Kavanoz & Yüksel, 2016), post-secondary writer’s self-efficacy (Schmidt & Alexander, 2012) and self-efficacy for narrative writing (Grenner et al., 2020). None of these self-efficacy constructs contemplate the production of academic texts in specific disciplines. Similarly, none of these constructs consider the fact that efficacy in text production may depend on the type of text, which can vary greatly depending on the pedagogical program (González et al., 2019).

Likewise, most of the instruments addressing the aforementioned construct have tended to either overlook the procedures used to validate their measurements or report non-pertinent procedures, such as the Principal Component Analysis. Therefore, the available instruments do not comply with the current standards defined for instrument validation (Muñiz, 2018), which recommend following procedures according to the polychoric nature of data and using software suitable for the execution of structural equation models (Abad et al., 2011). To overcome these shortcomings, this research adheres to the most recent conceptions of validity (Abad et al., 2011; American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 2014; Muñiz, 2018). In this sense, in line with the American Educational Research Association, American Psychological Association & National Council on Measurement in Education (2014, p. 11), this study conceive validity as “the most fundamental consideration in developing tests and evaluating tests”. Likewise, the researchers agree with the idea that “the process of validation involves accumulating relevant evidence to provide a sound scientific basis for the proposed score interpretations” (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 2014, p. 11).

Consequently, developing an instrument to evaluate self-efficacy in disciplinary academic writing in specific areas is necessary. In fact, recent research accounts for the need to build new instruments to assess students’ self-efficacy beliefs within specific disciplines (Handtke & Bögeholz, 2019). In this frame, the general objective of this work is to empirically construct and validate a Self-efficacy scale for disciplinary academic writing. The approach adopted for developing the instrument corresponds to that of classical test theory (Muñiz, 2018). For this, the next general stages have been followed: 1) proposal and theoretical definition of the “Self-efficacy for disciplinary academic writing” construct; 2) construction of the pilot instrument; 3) content validation; 4) assessment of construct’s internal structure; and 5) evidence of the internal consistency in the construct’ dimensions.

It is important to note that the proposed construct is non-existent to date. Therefore, this work is not only about the elaboration of an instrument, but also about the presentation of a new construct, entitled “Self-efficacy for disciplinary academic writing”, which has been defined in this research as the student’ beliefs about his/her own ability to adequately produce different types of academic texts which are common in his/her discipline within concrete communicative situations.

Initially, the construct is made up of four subcomponents, namely: linguistic self-efficacy, self-efficacy of self-regulation, specific rhetorical-discursive self-efficacy, and general rhetorical-discursive self-efficacy. These four subcomponents are described as follows:
i. Linguistic self-efficacy: it refers to the beliefs about self-efficacy regarding linguistic knowledge and the adequate application of the language system in specific disciplinary contexts. For example: orthography, punctuation, organization of ideas, among other elements. This subcomponent, therefore, is related to linguistic competence, understood as the ability of a person to produce grammatical utterances in a given language. That is, the grammar rules of that language are followed at all levels: vocabulary, word, and sentence formation, etc. In this sense, the linguistic competence is related to the implicit knowledge that a speaker has about his/her own language, which allows him/her not only to encode messages following the rules of grammar, but also to understand them and make judgments about their grammaticality (Centro Virtual Cervantes, 2019; Gómez & Peronard, 2005).

ii. Self-efficacy of self-regulation: it is defined as the perception of the capacity to appropriately apply, in specific disciplinary contexts, cognitive resources (attention or concentration, memory, creativity), metacognitive resources (self-monitoring), motivational resources (planning, persistence in the task, tolerance to frustration, search for information) and creative resources (generation and flow of new ideas). This dimension, then, refers to self-controlling behavior, and decision-making, which involve abilities required by the writing activity (Bruning et al., 2013). Consequently, this subscale is related to processes of two main types: first, the ability to plan, formulate clear objectives and present ideas clearly; and second, the ability to stay motivated, persistent, and focused.

Both the third and fourth dimensions focus on rhetorical-discursive self-efficacy. This refers to beliefs about one’s ability to produce different types of genres in accordance to the disciplinary context and criteria, such as communicative purpose, rhetorical organization, relationship between the participants involved, context of circulation, among others (Parodi, 2009). It is worth noting that these criteria are reflected in the linguistic structure (Venegas, 2008). For example, in the field of Law, specifically in the “sentence” genre, its purpose is to communicate a decision regarding a controversial issue while its structure responds to the individualization of the case, and the factual, preambular, and operative parts (Meza et al., 2020).

Consequently, these dimensions are related, on the one hand, to the notion of discourse, that is, the elaboration of a text within a certain context and with a certain function (Van Dijk, 1977); and, on the other, to the concept of genre, understood as the conventionalized standardization of the linguistic activities that each individual carries out to achieve certain communicative purposes (Ibáñez, 2010). In the proposed scale, rhetorical-discursive self-efficacy is presented in two dimensions: one specific and another general.

iii. Specific rhetorical-discursive self-efficacy refers to beliefs about one’s ability to produce disciplinary genres appropriate to a disciplinary or professional context. Therefore, it aims at the production of discipline-specific academic texts, which, in other research works, have been called “professional texts for academic purposes” (Meza et al., under review). Examples of this type of texts are the Medical Record in Medicine and Nursing, the Will, and the Contract in Law.

iv. General rhetorical-discursive self-efficacy is related to the perception of one’s own capacity to produce general academic texts, that is, texts which are transversal to university education, e.g., the Essay, the Monograph, and the Report.

In conclusion, the fact of developing an instrument to assess self-efficacy in disciplinary academic writing is essential, since various investigations have suggested that perception of self-efficacy can influence over writing performance (Bruning et al., 2013; Prat-Sala & Redford, 2010; Rayner et al., 2016; Villalón et al., 2015) and that may be a very important predictor of student’s academic success (Blanco et al., 2016; Castells et al., 2015; Villalón et al., 2015). Despite the acknowledged relevance of the construct in question, up to date, in disciplinary academic writing, the authors of this research have not identified any instruments to obtain data about self-efficacy. In this sense, this work contributes with a reliable and valid instrument to assess self-efficacy for
disciplinary academic writing. Therefore, this research can be an important contribution for those interested in the field of academic and professional writing.

2. Materials and methods

2.1. Design and procedures

The study design corresponds to the development of a measurement instrument or instrumental study (Ato et al., 2013; Montero & León, 2005, 2007). Regarding the procedures, the investigation was carried out in six stages:

i. Proposal of the construct: the construct “Self-efficacy for disciplinary academic writing” and its corresponding theoretical definition were proposed.

ii. Construction of the pilot instrument: the existing literature was reviewed to adequately define the construct to be measured, and the items and the dimensional structure of the construct were elaborated.

iii. Content validation: the instrument was validated via experts’ judgment and a qualitative application instrument testing with students from different programs. Firstly, as for expert’s judgment, several judges independently assessed the theoretically developed measurement model, i.e. the definitions of the construct, the writing quality of the items, its relevance for each subscale and the quality of the instructions. Specifically, six judges with different professional backgrounds participated in the activity: a lawyer, a linguist, an education specialist, a psychologist, a psychologist with expertise in construction of instruments and self-efficacy, and a psychologist with expertise in psychological measurement and evaluation. Two of them are Spanish while the rest is Chilean. Everyone has at least one postgraduate degree in their area of specialization.

This peer judgment was complemented by the participating researchers and an expert in linguistics and discourse evaluation. She mainly contributed to the systematization of the observations of all the participating judges, and, subsequently, to the optimization of the first version of the instrument.

Subsequently, a qualitative application instrument test including the modifications suggested by the experts' judgement and the researcher previously mentioned, was conducted. This procedure was not aim at testing the instrument itself, but its application, i.e., its purpose was to determine how much time took to participants to respond it and to confirm that all items were properly understood by the potential study participants. In a similar way, this technique has been used in the development of a semi-structured interview process (Kallio et al., 2016; Turner, 2010; among others). As Kallio et al. (2016) reported, this procedure: simulated the real interview situation (Chenall, 2011), provided crucial information about the implementation of the application (Turner, 2010) and could be used to assure intelligibility (Chenall, 2011), among others utilities.

In this qualitative application instrument testing, 7 students from Medicine, Law, Journalism and Psychology programs participated. This stage was divided into two parts. In the first one, each student individually answered the instrument. In the second one, after answering the questionnaire, the students participated in a focus group, led by the researchers. In this activity, actors discussed different aspects of the instrument, which have been reported in the results of this work. After this preliminary stage, some minor changes were made in the wording of few items.

iv. Instrument application to the sample (field test): this application was mixed (face-to-face, using paper and pencil, and online, using a Google self-administered form), since classes were interrupted by the political contingency in the country. The face-to-face application was carried out by the main researcher with the support of a research assistant in the classroom. For the online application, the questionnaire was sent to the students through their institutional email. In both
cases, the explanation of the objectives of the study, an informed consent, and the authorization from the teacher as well as the head of the program were included.

v. Estimation of psychometric properties: the data matrix was consolidated; errors and atypical cases were refined, and finally psychometric analyzes were carried out.

After all these procedures, the final version of the Self-efficacy scale for disciplinary writing was obtained (See Appendix A). Figure 1 shows a synthesis of the procedures described:

It is important to note that this research is part of a larger project (FONDECYT N° 11,170,128), which was reviewed and approved by the ULS Ethical-Scientific Committee of the sponsoring university. The approval certificate was issued on 20 April 2020. Consequently, this work ensures a voluntary and an informed participation, the confidentiality of the information and the guarantee of minimum risk for the participants. All the participants signed an informed consent, whose model was approved by the ULS Ethical-Scientific Committee.

2.2. Participants
The sample of this study is made up of 439 students from Law, Medicine, Psychology, Nursing, Kinesiology and Journalism at universities in the fourth and fifth regions of Chile, all belonging to the Council of Rectors of Chilean Universities (CRUCH). The sample is intentional and participation is voluntary (Otzen & Manterola, 2017).

Regarding the specific features of the sample, women represent 62% of the total while men, 38%. The proportion of students per career is as follows: 24% from Law, 31% from Medicine, 19% from Psychology, 14% from Journalism, 6% from Kinesiology and 6% from Nursing. In this study, the age of the participants was not registered, but the year in which the students were in. All participants read and signed an informed consent before responding to the field test instrument. In Table 1, the characteristics of the sample are presented in detail:

2.3. Instruments
Together with the designed pilot instrument, a brief sociodemographic questionnaire was also applied. Both are described below.

i. Self-efficacy scale for disciplinary academic writing (field test version): the proposed instrument aims to measure the perception of performance regarding the production of disciplinary academic texts. This field test version was made up of four subscales already described in the introduction: a) “Linguistic self-efficacy” (8 items), b) “Self-efficacy of self-regulation” (10 items), c) “Specific rhetorical-discursive self-efficacy” (9 items) and d) “General rhetorical-discursive self-efficacy” (9 items). Consequently, the field test instrument consisted of 36 items in total, using a five-points Likert scale format with a positive direction, so that the higher the score, the greater the perception of self-efficacy for disciplinary academic writing. The authors of this study decided to use a scale with a positive-to-negative valence, which goes from left to right, as research has shown that slightly higher scores can be obtained on the topic in question when high positive values are included on the left (Hartley, 2016; Hartley & Betts, 2013). All the components of the field test instrument (construct, items, and
instructions) were validated at the content level by expert judges and, in addition, through a qualitative application instrument testing in which some students of the programs included in the sample participated.

ii. Sociodemographic questionnaire: This instrument included general questions such as gender, program, and school year.

### 2.4. Data analysis

The instrument internal structure was examined using an exploratory structural equation model (ESEM) with GEOMIN rotation (Asparouhov & Muthén, 2009), considering that the variable matrix is of polychoric nature. Recommendations on the factorial treatment of ordinal variables proposed by Garrido et al. (2011) were followed, using the weighted least squares estimation method (WLSMV), which is recommended for the analysis of variables that do not have a normal distribution (Asparouhov & Muthén, 2007). Nevertheless, a confirmatory factor analysis (CFA) was also performed, using the polychoric variables matrix and the weighted least squares estimation method (WLSMV), recommended by Ledesma et al. (2019) to ensure that the crossed and factorial saturations did not alter the parsimony of the model. Complementarily, the validity recommendations of the American Educational Research Association, American Psychological Association & National Council on Measurement in Education (2014) was followed.

To assess the model adjustment, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA) were used, and the interpretation was made according to the criteria recommended by Schreiber (2017) (e.g., CFI > .95; TLI > .95; RMSEA < .06). In addition, an adequate factor loading equal to or greater than .40 was considered as a general criterion, and a value equal to or greater than .30 was considered for crossed correlations. These analyzes were performed using the Mplus program (version 8.2 for Mac). Subsequently, reliability for each dimension was estimated through Cronbach’s Alpha and McDonald’s coefficient omega, using the JAMOVI software (version 0.9).

### 3. Results

The objective of this study was to build and validate a Self-efficacy scale for disciplinary academic writing. Firstly, the evidence for the instrument’s content validity was obtained through peer expert

| Variable | Category | N   | %     | Cumulative % |
|----------|----------|-----|-------|--------------|
| Gender   | Woman    | 272 | 62.0 %| 62.0 %       |
|          | Man      | 167 | 38.0 %| 100.0 %      |
| Program  | Law      | 105 | 23.9 %| 23.9 %       |
|          | Medicine | 134 | 30.5 %| 54.4 %       |
|          | Psychology | 84  | 19.1 %| 73.6 %       |
|          | Kinesiology | 28  | 6.4 % | 80.0 %       |
|          | Nursing  | 28  | 6.4 % | 86.3 %       |
| Year     | First    | 84  | 19.1 %| 19.1 %       |
|          | Second   | 62  | 14.1 %| 33.3 %       |
|          | Third    | 68  | 15.5 %| 48.7 %       |
|          | Fourth   | 84  | 19.1 %| 67.9 %       |
|          | Fifth    | 88  | 20.0 %| 87.9 %       |
|          | Sixth    | 10  | 2.3 % | 90.2 %       |
|          | Graduated| 43  | 9.8 % | 100.0 %      |
| TOTAL    |          | 439 |       |              |
judges who independently assessed our theoretically developed measurement model. The assessment made by the judges was analyzed in percentage and qualitative terms. Percentage analysis, which is one of the most common methods used in various disciplines (Blessing, L. & Chakrabarti, A, 2009; Cervantes, 2005), was used to calculate the degree of agreement among evaluators. This analysis, performed with the online tool ReCal3: Intercooler reliability calculation (Freelon, 2010), showed an agreement of 72.05%. According to the literature review, a minimum reference value of 70% should be considered in validation processes (Blessing, L. & Chakrabarti, A, 2009). In our investigation such value is exceeded.

In qualitative terms, judges reached consensus regarding the presentation of the construct and its dimensions. There was also agreement in relation to the relevance of the items belonging to the different dimensions. The observations provided by the judges helped us improve the wording and terminology used in the items of the instrument. Other observations led us to merge some items, since, according to the judges, they were quite similar. Additionally, their contributions made it possible to optimize the instrument instructions. As for the observations regarding the dimensions and items of the instrument, in the Self-efficacy of self-regulation section the judges from Psychology raised doubts regarding the relevance of the relationship between self-efficacy and motivation, while the judges from the other areas did not have major objections in this regard.

At a later stage, the work along with the expert in discourse evaluation resulted in the systematization of the comments obtained from the experts’ judgment as well as in the adjustment of certain aspects of the instrument based on the comments received. In particular, this expert had some objections regarding the self-regulation dimension namely: “The most complex dimension is B, from my point of view, since it includes cognitive and metacognitive abilities that go beyond the competence in academic writing. The comments included in some items imply relating these cognitive abilities with the specific activity of writing a disciplinary academic text”.

Regarding the qualitative application instrument testing, firstly, the results allowed to measure the response time to the scale. Thus, the instrument application ranged between 5 minutes and 45 seconds and 11 minutes with 23 seconds. Secondly, the focus group conducted in this stage allowed us to improve the instrument instructions and the items quality, incorporate the general observations of the students, and optimize the instrument based on the difficulties that participants reported when responding and their improvement suggestions.

On the other hand, regarding the analysis of the internal structure of the field test instrument, Table 2 shows the values of the main fit indexes evaluated. Complementarily, Figure 2 represents the internal structure of the measurement structure scale (AFC). First, the model containing 36

Table 2. Global fit indicators, initial model and refining of the self-efficacy scale for academic writing

| Analysis       | Model   | $c^2$   | df  | p    | CFI  | TLI  | RMSEA | IC RMSEA (90%) |
|----------------|---------|---------|-----|------|------|------|-------|----------------|
| ESEM (36 items)| 4 Factors | 1.672.239 | 492 | 0.0000 | 0.964 | 0.953 | 0.074 | 0.070–0.078 |
| ESEM (35 items)| 4 Factors | 1.680.484 | 461 | 0.0000 | 0.962 | 0.951 | 0.077 | 0.073–0.081 |
| ESEM (35 items)| 5 Factors | 1.261.153 | 430 | 0.0000 | 0.974 | 0.965 | 0.066 | 0.062–0.070 |
| AFC (35 items) | 4 Factors | 1.745.708 | 554 | 0.0000 | 0.963 | 0.961 | 0.070 | 0.066–0.074 |
| AFC (35 items) | 5 Factors | 1.541.738 | 550 | 0.0000 | 0.969 | 0.967 | 0.064 | 0.060–0.068 |
Figure 2. Internal structure of the measurement structure scale (AFC).
items divided into 4 factors was assessed with ESEM: a) Linguistic self-efficacy, b) Self-efficacy of self-regulation, c) Specific disciplinary rhetorical-discursive self-efficacy, and d) General rhetorical-discursive self-efficacy. Of these, only the second factor was not configured as expected. This factor included a priori items related to motivational and persistence aspects in the task, as well as planning and clarity items with respect to the objectives. For this reason, the model was refined, eliminating item 13 (“It is easy for me to find information in bibliographic sources when I write texts in my discipline”), since, at an empirical level, it did not show a predominant factor load in any factor or its content. A posteriori, this item was not relevant for the identity of the factor either. Furthermore, at a theoretical level, it did not have a clear association with the second factor, i.e. “Self-efficacy of self-regulation”.

Then, the same previous analysis was performed with 35 items, with both ESEM and AFC. However, the lack of clarity of the second factor remained. For this reason, some alternative solutions were proposed. Specifically, two theoretical possibilities were considered to solve the problem of the second factor. The first solution consisted of a measurement model that involved reducing the second factor to four items, specifically, those with the highest loads on it, and incorporating to the first factor those items of the second factor that had low but significant loads. This solution, however, implied redefining both factors to preserve theoretical consistency. In other words, this alternative posed the problem of making the theoretical definition of the first factor (“Linguistic self-efficacy”) even more complex, by mixing linguistic aspects with other metacognitive ones.

The second solution consisted in subdividing the second factor into two, grouping, on the one hand, the items related to planning, clarity of ideas and objectives, labelled as “Organizational self-efficacy”; and, on the other hand, the items related to motivation, persistence and concentration aspects, labelled as “Motivation and persistence self-efficacy”. Thus, a measurement model consisting of 5 factors, including 35 items, was generated. This second option was more parsimonious in theoretical terms and presented the best fit indexes compared to the others. In addition, it was more clearly configured from AFC. Consequently, since it showed the best fit indexes, for this proposal was considered more parsimonious. These results can be seen in Tables 3 and 4.

At the bottom of Table 4, the correlations between the factors are reported. With the exception of factor 5, all factors show significant positive correlations among them, with values between 0.59 and 0.25. Furthermore, in relation with the problem of cross loads reported in Table 4, particularly in item 9, it was decided to include such item in factor 2 since the theoretical consistency of the item with factor 2 was favored.

Finally, the internal consistency reliability of every factor was estimated using the Cronbach’s alpha and McDonald’s omega coefficients. The coefficients obtained from both procedures are consistent and indicate optimal reliability in the sample as well as for an instrument of group application with no individual diagnostic purposes. The greatest reliability was for the “General rhetorical-discursive self-efficacy” and the specific rhetorical-discursive self-efficacy factors, while for the “Linguistic self-efficacy” reliability was a little lower. The lowest reliability was for the “Organizational self-efficacy” and the “Motivation and persistence self-efficacy” factors. The detail of the results regarding the internal consistency of the factors is presented in Table 5.

The final version of the questionnaire is presented in the Appendix section of this work. The English version is in Appendix A while the Spanish version is in Appendix B. It is relevant to note that the validated questionnaire corresponds to the Spanish version, which has then been translated into English.

4. Discussion
The objective of this research was to build and validate a Self-efficacy scale for disciplinary academic writing. According to the literature review (Bruning et al., 2013; Büyükikiz et al., 2013; Demir, 2018; Kavanoz & Yüksel, 2016; Martins et al., 2017; Pajares, 2007; Zimmerman & Bandura,
Table 3. Items and factor loads for the initial 4-factor model with 36 items and 35 items, with ESEM and AFC

|                | ESEM 36 ITEMS | AFC 35 ITEMS | Factors |
|----------------|---------------|--------------|---------|
|                | F1  | F2  | F3  | F4  |         |         |
| **Linguistic self-efficacy (F1)** |     |     |     |     |         |         |
| 1. I am able to write without misspellings | 0.656** | −0.050 | 0.037 | 0.016 | 0.620** |
| 2. I am able to adequately write a complete idea without much effort | 0.825** | −0.018* | −0.082 | 0.045 | 0.759** |
| 3. I am able to use punctuation marks correctly | 0.730** | −0.085 | 0.020 | 0.037 | 0.677** |
| 4. I am able to organize sentences following the rules of grammar (for example, gender and number agreement) | 0.666** | −0.051 | 0.064 | 0.026 | 0.655** |
| 5. I am able to organize my ideas in a text so that they are easily understood | 0.912** | −0.014 | −0.121** | 0.011 | 0.796** |
| 6. I am able to easily find in my mind the words that I need to express my ideas | 0.485** | 0.203** | −0.008 | 0.058 | 0.617** |
| 7. I am able to easily find in my mind the technical terms that I need to produce texts related to my profession | 0.496** | 0.257** | 0.161** | −0.043 | 0.681** |
| 8. I am able to structure my ideas in a text so that they make sense when reading it | 0.797** | 0.032 | −0.055 | 0.100* | 0.830** |
| **Self-efficacy of self-regulation (F2)** |         |         |         |         |         |
| 9. I am able to make a work plan before I start writing a disciplinary text | 0.408** | 0.351** | 0.006 | −0.025 | 0.576** |
| 10. I am able to be clear about the objectives of the disciplinary text before I start writing | 0.518** | 0.324** | 0.001 | 0.020 | 0.695** |
| 11. I am able to stay focused when I produce a text specific to my discipline | 0.274** | 0.524** | 0.012 | −0.061 | 0.731** |

(Continued)
| Item                                                                 | ESEM 36 ITEMS | AFC 35 ITEMS |
|----------------------------------------------------------------------|---------------|--------------|
| 12. I find it easy to find ideas in my mind when I write texts from my discipline | 0.432**       | 0.671**      |
| 13. I find it easy to find information in bibliographic sources when I write texts of my discipline (1) | 0.064         | ——           |
| 14. I am able to express my ideas fluently when I write a disciplinary text | 0.574**       | 0.792**      |
| 15. I persist in writing texts of my discipline, although the ideas do not flow easily | 0.057         | 0.075        |
| 16. I am motivated when I have to write a disciplinary text            | 0.001         | 0.053        |
| 17. I feel motivated to get ready to write a text specific to my discipline | 0.004         | 0.045        |
| 18. I can recognize if the disciplinary text I have written meets the minimum quality requirements | 0.003         | 0.202**      |
| Disciplinary discursive self-efficacy (F3)                           |               | F3           |
| 19. I can clearly differentiate a (2) from other types of texts which are specific to my discipline | 0.031         | 0.764**      |
| 20. I am able to produce a according to its general purpose          | 0.003         | 0.913**      |
| 21. I know how to structure a to fulfill its purpose or objective    | 0.010         | 0.932**      |
| 22. I know how to organize the contents in a                         | 0.005         | 0.916**      |
| 23. I consider myself well prepared to write a                       | 0.004         | 0.891**      |
| 24. I consider myself well prepared to judge whether a is well or poorly written | 0.004         | 0.795        |

(Continued)
| Item | ESEM 36 ITEMS | AFC 35 ITEMS |
|------|--------------|--------------|
| 25. | I consider myself well prepared to adapt a _______ to its final addressee (patient, another doctor, etc.) | | |
| 26. | I am able to write a _______ according to its predominant mode of organization (argumentative, descriptive, narrative, etc.) | | |
| 27. | I am able to write a _______ according to its standard format | | |
| General discursive self-efficacy (F4) | | | |
| 28. | I can clearly differentiate an Essay from other types of text | | |
| 29. | I am able to produce an Essay according to its general purpose | | |
| 30. | I know how to structure an Essay to fulfill its purpose or objective. | | |
| 31. | I know how to organize the contents in an Essay | | |
| 32. | I consider myself well prepared to write an Essay. | | |
| 33. | I consider myself well prepared to judge whether an Essay is well or poorly written. | | |
| 34. | I consider myself well prepared to adapt an Essay to its final addressee | | |
| 35. | I am able to write an Essay according to its predominant mode of organization (argumentative, descriptive, narrative, etc.) | | |
| 36. | I am able to write an Essay according to its standard format | | |

*p < 0.05; ** p < 0.01
(1): Deleted item
(2): The blank space was filled in by each program considering its own disciplinary text. For example, Statement of Claim Response in Law, Clinical Record in Medicine and Nursing, etc.
### Table 4. Items and factor loads for the refined model with 35 items and 5 factors, with ESEM and AFC

|                        | ESEM 35 ITEMS | AFC 35 ITEMS |
|------------------------|---------------|--------------|
|                        | F1  | F2  | F3  | F4  | F5  | F1  |
| **Linguistic self-**   |     |     |     |     |     |     |
| **efficacy (F1)**      |     |     |     |     |     |     |
| 1. I am able to write  | 0.658**      | -0.072       | 0.184**      | 0.034 | 0.022 | 0.653** |
| without misspellings   |     |     |     |     |     |     |
| 2. I am able to        | 0.835**      | -0.016       | -0.033       | -0.091 | 0.035 | 0.796** |
| adequately write       |     |     |     |     |     |     |
| a complete idea        |     |     |     |     |     |     |
| without much effort    |     |     |     |     |     |     |
| 3. I am able to use    | 0.739**      | -0.110*      | 0.170**      | 0.017 | 0.039 | 0.714** |
| punctuation marks      |     |     |     |     |     |     |
| correctly              |     |     |     |     |     |     |
| 4. I am able to        | 0.677**      | -0.047       | -0.023       | 0.056 | 0.015 | 0.688** |
| organize sentences     |     |     |     |     |     |     |
| following the rules    |     |     |     |     |     |     |
| of grammar (for        |     |     |     |     |     |     |
| example, gender and    |     |     |     |     |     |     |
| number agreement)      |     |     |     |     |     |     |
| 5. I am able to        | 0.923**      | -0.008       | -0.055       | -0.130** | -0.003 | 0.831** |
| organize my ideas in   |     |     |     |     |     |     |
| a text so that they    |     |     |     |     |     |     |
| are easily understood  |     |     |     |     |     |     |
| 6. I am able to easily | 0.493**      | 0.224**      | -0.199**     | -0.020 | 0.041 | 0.648** |
| find in my mind the    |     |     |     |     |     |     |
| words that I need to   |     |     |     |     |     |     |
| express my ideas       |     |     |     |     |     |     |
| 7. I am able to easily | 0.517**      | 0.272**      | -0.180**     | 0.150** | -0.068 | 0.716** |
| find in my mind the    |     |     |     |     |     |     |
| technical terms that   |     |     |     |     |     |     |
| I need to produce      |     |     |     |     |     |     |
| texts related to my    |     |     |     |     |     |     |
| profession             |     |     |     |     |     |     |
| 8. I am able to        | 0.805**      | 0.030        | 0.020        | -0.062 | 0.093* | 0.867** |
| structure my ideas in  |     |     |     |     |     |     |
| a text so that they    |     |     |     |     |     |     |
| make sense when        |     |     |     |     |     |     |
| reading it             |     |     |     |     |     |     |
| **Organization**       |     |     |     |     |     |     |
| **self-**              |     |     |     |     |     |     |
| **efficacy (F2)**      |     |     |     |     |     |     |
| 9. I am able to make   | 0.368**      | 0.316**      | 0.405**      | 0.016 | 0.012 | 0.596** |
| a work plan before     |     |     |     |     |     |     |
| I start writing a      |     |     |     |     |     |     |
| disciplinary text      |     |     |     |     |     |     |
| 10. I am able to be    | 0.500**      | 0.287**      | 0.366**      | 0.004 | 0.045 | 0.716** |
| clear about the        |     |     |     |     |     |     |
| objectives of the      |     |     |     |     |     |     |
| disciplinary text      |     |     |     |     |     |     |
| before I start writing |     |     |     |     |     |     |
| 12. I find it easy to  | 0.439**      | 0.395**      | -0.036       | 0.113** | -0.063 | 0.697** |
| find ideas in my mind  |     |     |     |     |     |     |
| when I write texts     |     |     |     |     |     |     |
| from my discipline     |     |     |     |     |     |     |
| 14. I am able to       | 0.579**      | 0.346**      | 0.009        | 0.062 | 0.006 | 0.827** |
| express my ideas       |     |     |     |     |     |     |
| fluently when I write  |     |     |     |     |     |     |
| a disciplinary text    |     |     |     |     |     |     |

(Continued)
| 18. I can recognize if the disciplinary text I have written meets the minimum quality requirements | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.339** | 0.278** | 0.140** | 0.050 | 0.213** | 0.734** |

**Motivation and persistence self-efficacy (F3)**

| 11. I am able to stay focused when I produce a text specific to my discipline | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.266** | 0.517** | 0.139** | 0.012 | -0.056 | 0.735** |

| 15. I persist in writing texts of my discipline, although the ideas do not flow easily | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.098 | 0.425** | 0.142** | 0.059 | 0.087 | 0.647** |

| 16. I am motivated when I have to write a disciplinary text | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.055 | 0.953** | -0.039 | -0.063 | 0.041 | 0.888** |

| 17. I feel motivated to get ready to write a text specific to my discipline | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.032 | 0.919** | -0.006 | -0.032 | 0.038 | 0.910** |

**Disciplinary discursive self-efficacy (F4)**

| 19. I can clearly differentiate a ______ (1) from other types of texts which are specific to my discipline | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.020 | -0.011 | 0.119* | 0.752** | 0.017 | 0.764** |

| 20. I am able to produce a ______ according to its general purpose | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.011 | 0.034 | 0.114* | 0.913** | -0.034 | 0.913** |

| 21. I know how to structure a ______ to fulfill its purpose or objective | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.030 | -0.015 | 0.154** | 0.956** | -0.036 | 0.932** |

| 22. I know how to organize the contents in a ______ | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.042 | -0.004 | 0.102* | 0.921** | -0.071 | 0.916** |

| 23. I consider myself well prepared to write a ______ | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.014 | 0.038 | -0.163** | 0.891** | 0.003 | 0.891** |

| 24. I consider myself well prepared to judge whether a ______ is well or poorly written | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| 0.043 | -0.042 | -0.312** | 0.774** | 0.038 | 0.795** |

| 25. I consider myself well prepared to adapt a ______ to its final addressee (patient, another doctor, etc.) | ESEM 35 ITEMS | AFC 35 ITEMS |
|---|---|---|
| -0.040 | -0.005 | -0.303** | 0.884** | 0.031 | 0.868** |

(Continued)
|   | ESEM 35 ITEMS |   | AFC 35 ITEMS |
|---|---------------|---|--------------|
| 26. I am able to write a ______ according to its predominant mode of organization (argumentative, descriptive, narrative, etc.) | 0.052 | 0.066* | −0.128** | 0.784** | 1.122** | 0.878** |
| 27. I am able to write a ______ according to its standard format | 0.015 | −0.004 | −0.020 | 0.864** | 0.079** | 0.891** |
| General discursive self-efficacy (F5) |   |   | F5 |
| 28. I can clearly differentiate an Essay from other types of text | −0.010 | 0.011 | 0.021 | 0.016 | 0.825** | 0.825** |
| 29. I am able to produce an Essay according to its general purpose | 0.013 | −0.004 | 0.085* | −0.036 | 0.945** | 0.941** |
| 30. I know how to structure an Essay to fulfill its purpose or objective. | −0.051* | −0.022 | 0.126** | 0.006 | 0.978** | 0.943** |
| 31. I know how to organize the contents in an Essay | −0.049 | −0.007 | 0.119** | 0.008 | 0.963** | 0.934** |
| 32. I consider myself well prepared to write an Essay | 0.082* | 0.024 | −0.093** | −0.060* | 0.873** | 0.913** |
| 33. I consider myself well prepared to judge whether an Essay is well or poorly written. | 0.070 | 0.051 | −0.205** | 0.018 | 0.749** | 0.828** |
| 34. I consider myself well prepared to adapt an Essay to its final addressee | 0.098* | −0.009 | −0.207** | 0.053* | 0.808** | 0.890** |
| 35. I am able to write an Essay according to its predominant mode of organization (argumentative, descriptive, narrative, etc.) | 0.023 | 0.036 | −0.176** | 0.004 | 0.858** | 0.886** |
| 36. I am able to write an Essay according to its standard format | −0.013 | −0.016 | 0.001 | 0.030 | 0.889** | 0.879** |
| F1 |   |   |   |
| F2 | 0.585*** |   |   |
| F3 | 0.251*** | 0.251*** |   |
| F4 | 0.321*** | 0.283*** | 0.349*** |   |
| F5 | −0.030 | 0.053 | 0.021 | −0.012 |   |

*p < 0.05; ** p < 0.01; *** p < 0.000

(1): The blank space was filled in by each program considering its own disciplinary text. For example, Statement of Claim Response in Law, Clinical Record in Medicine and Nursing, etc.
Table 5. Internal consistency of the factors

| Name                                    | FACTOR | ITEMS    | Cronbach’s α | McDonald’s ω |
|-----------------------------------------|--------|----------|--------------|--------------|
| Linguistic self-efficacy                | F1     | 1–8      | 0.856        | 0.862        |
| Organizational self-efficacy            | F2     | 9 10 12 14 18 | 0.784        | 0.790        |
| Motivation and persistence self-efficacy| F3     | 11 15 16 17 | 0.778        | 0.794        |
| Disciplinary rhetorical-discursive self-efficacy | F4 | 19–27 | 0.950 | 0.951 |
| General rhetorical-discursive self-efficacy | F5 | 28–36 | 0.957 | 0.958 |

1994; among many others), both the Self-efficacy scale and the construct for specific disciplinary academic writing were non-existent.

The preliminary instrument was made up of 36 items organized into 4 factors: Linguistic self-efficacy (8 items), Self-efficacy of self-regulation (10 items), General rhetorical-discursive self-efficacy (9 items) and Specific rhetorical-discursive self-efficacy (9 items). These last two scales are made up of the same items, where only the type of disciplinary text that is asked about change. Thus, for each program, a prototypical text of their professional training was selected, such as, the Statement of Claim Response in Law, the Clinical Record in Medicine and Nursing, the Psychological Report in Psychology, and the News in Journalism. The selection of these prototypical texts was made considering the advice of disciplinary experts from each area. On the other hand, the Essay, used for measuring the General rhetorical-discursive self-efficacy items, was considered since it has been widely used to address academic writing in diverse disciplines and with diverse purposes (Alzate, 2009; Errázuriz et al., 2015; Noroozi et al., 2018; Rayas & Méndez, 2017; Tiruchittampalam et al., 2018). Thus, the essay may be a transversal genre for university academic training.

Concerning the content validity of the proposed instrument, adequacy and relevance of definitions, both of the construct and the dimensions, as well as the correspondence between the items and the dimension to which they belong, were corroborated on the basis of the experts’ judgment and the qualitative application instrument testing with students. Thus, in this research “Self-efficacy for disciplinary academic writing” is understood as the students’ beliefs about their own ability to adequately produce different types of academic texts, characteristic of their discipline and used in concrete communicative situations. In this line, this construct, which had not been presented or defined in the existing literature, complies with one of the basic principles for the study of self-efficacy, that is, it should be investigated with respect to a domain of competences or a task within a specific context (Bandura, 1977, 2006).

Regarding construct validity, the initially proposed measurement model, with 36 items and 4 factors, was tested with the exploratory structural equation model (ESEM), which combines exploratory and confirmatory models (Reyna et al., 2014). The preliminary results showed an adequate fit in 3 of the 4 proposed factors. The one that presented difficulties was the “Self-efficacy of self-regulation”, corresponding to the second factor. When refining the measurement model, the 13th item corresponding to “It is easy for me to find information in bibliographic sources when I write texts from my discipline” was deleted. At a theoretical level, this item did not show a clear association with the second factor, despite the fact that instruments considering bibliographic searching as an item to collect information about study
motivation had been identified in our literature review, as in the work of Núñez and Peguero (2010). However, Núñez and Peguero (2010) work corresponds to an exploratory investigation, with a small sample of subjects and using an unvalidated questionnaire, facts that could explain the differences with our results.

Then, two possible solutions were tested, already detailed in the results of this research. Among them, the second solution was chosen for two reasons: first, it maintains the parsimony of the theoretical model and, second, it is consistent with some previous research results in which difficulties in establishing the factorial structure of dimensions related to motivation were also reported (Becerra & Morales, 2015). On the other hand, regarding the problem of cross loads reported in the results (Table 4), it was decided to privilege the theoretical consistency of item 9 (“I am able to make a work plan before I start writing a disciplinary text”) with the second factor, a decision that was supported by the AFC.

Concerning the correlations reported at the bottom of Table 4, the medium-to-low strength correlations between factors 1 to 4 show that the different aspects of self-efficacy for academic writing are partially linked. However, it is noteworthy that factor 5 does not correlate with any of the other factors. This suggests that perceived self-efficacy for writing an essay is neither associated with self-efficacy for writing a specialized text nor with the most basic aspects of text writing (spelling, punctuation, etc.). This finding should be addressed in future studies, as it may represent an interesting line of research.

Regarding the aforementioned difficulties, the discussion about the relationship between the purely linguistic aspects and the cognitive and metacognitive aspects in the elaboration of texts remains open. In this sense, it is necessary to corroborate whether the cognitive aspects, especially the motivational ones, can be subordinated to the writing process or whether they are independent elements contributing to the writing process instead. This is relevant if the crucial nature of metacognitive aspects for academic success is considered (Ellis, 2004; Ghonsooly et al., 2014) and learning (Akamatsu et al., 2019). In this line, it is assumed that metacognitive processes play an important role in the dynamic and iterative process of text production. Thus, elaborating a quality text which meets the demands of a specific communicative context requires the implementation of regulatory strategies (Campo et al., 2016).

The proposed measurement model, after the empirical results, was made up of 35 items organized into 5 factors: a) Linguistic self-efficacy (8 items), b) Organizational self-efficacy (5 items), c) Motivation and persistence self-efficacy (4 items) d) Disciplinary rhetorical-discursive self-efficacy (9 items) and e) General rhetorical-discursive self-efficacy (9 items). For an instrument that does not aim to make individual clinical diagnoses, reliability shows appropriate and very good ranges (Abad et al., 2011) for each of the 5 factors. The two dimensions presenting lower reliability in relation to the others are the new proposed dimensions “Organizational self-efficacy” and “Motivation and persistence self-efficacy”. This may be due to the lower number of items compared to the other dimensions, or due to the more heterogeneous nature of the comprising items.

An innovative aspect of the proposed instrument is the distinction between Disciplinary rhetorical-discursive self-efficacy and General rhetorical-discursive self-efficacy. Both factors present identically worded items, where only the type of text used as the core of the item changes. In this regard, it could be debatable whether the essay is sufficiently transversal to be regarded as general and it could also be debatable whether the different texts considered for each discipline are sufficiently prototypical. However, the empirical results show that these two dimensions are clearly configured when considered separately, a fact that supports our distinction between the general rhetorical-discursive and the specific rhetorical-discursive aspects. Furthermore, on the one hand, our literature review confirms the essay as a transversal academic genre (Alzate, 2009; Errázuriz et al., 2015; Norozi et al., 2018; Rayas & Méndez, 2017; Tiruchittampalam et al., 2018). On the other hand, both the advice of disciplinary experts and the conformation of the corpus that
belongs to the broader investigation in which this work is framed confirm the choice of such disciplinary genres, since most of them are the most frequent in the corpus. In this line, designing identical items which can be filled with any genre from any area gives the instrument the necessary flexibility to be applied in other disciplines or in the same discipline, using other genres.

Despite the fact that the proposal shows good indicators of content and construct validity, it is necessary to continue assessing and contrasting its application in new samples and contexts and, at the same time, incorporating independent criterion validity and stability reliability assessment. Thus, the proposed instrument will make it possible, for example, to research different areas of professional training. In this sense, it may be useful to associate the performance of students in the production of disciplinary texts with the results of the self-efficacy perception obtained after the application of this instrument. Second, students entering higher education, students studying at more advanced levels and graduated professionals can be measured and subsequently compared. Likewise, the instrument’s performance could be studied in relation to sociodemographic or personality characteristics. In addition, it could be useful to assess the effect of a given intervention program in writing. These are just examples of the multiple applications offered by the proposed scale.

Among the limitations of this work, the sample, although it was sufficient to validate the instrument, is not broad enough to have complete certainty about the stability of the results in other programs or in the same programs, but in different contexts, for example, universities which are not part of the Council of Rectors of Chilean Universities (CRUCH). Another constraint lies in the fact that in this research did not considered the external components of construct validation evidence, recommended by some researchers, such as Flake et al. (2017). However, the researchers hope to include such type of validation in future work. On the other hand, the sample was made up of university students belonging to only two regions of Chile and certain disciplines. Thus, it could be valuable to replicate the study in a larger sample, which could also include practicing professionals. In fact, with a larger sample, analyzes for each discipline can be conducted separately. Additionally, reliability indicators for internal consistency could be complemented with stability indicators, which would require applying the same instrument to the same sample at two different times.

In conclusion, according to the objective initially defined in this research, the proposed goal has been achieved, since a reliable and valid instrument to measure self-efficacy for disciplinary academic writing has been elaborated. In this way, the study has contributed to filling a gap which has been recognized by previous research. That is, the fact that university training requires instruments that make it possible assess, in a fine, valid and reliable manner, some critical variables that may affect the academic performance of students (Muñoz et al., 2012), in the case of this work, disciplinary academic writing and its relationship with the perception of self-efficacy. In this sense, this proposal constitutes an important contribution for all those interested in the field of academic and professional writing.

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correction
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Notes
1. The dimension can be filled in by any program considering its own disciplinary text. For example, Statement of Claim Response in Law, Clinical Record in Medicine and Nursing, etc.
2. The dimension can be filled in by any program considering its own disciplinary text. For example, Statement of Claim Response in Law, Clinical Record in Medicine and Nursing, etc.

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## Appendix A: Self-efficacy Scale for Disciplinary Academic Writing (English version)

| LINGUISTIC SELF-EFFICACY | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|--------------------------|----------------|-------|---------------------------|----------|------------------|
| 1. I am able to write without misspellings | | | | | |
| 2. I am able to adequately write a complete idea without much effort | | | | | |
| 3. I am able to use punctuation marks correctly | | | | | |
| 4. I am able to organize sentences following the rules of grammar (for example, gender and number agreement) | | | | | |
| 5. I am able to organize my ideas in a text so that they are easily understood | | | | | |
| 6. I am able to easily find in my mind the words that I need to express my ideas | | | | | |
| 7. I am able to easily find in my mind the technical terms that I need to produce texts related to my profession | | | | | |
| 8. I am able to structure my ideas in a text so that they make sense when reading it | | | | | |
### Appendix B Self-efficacy scale for disciplinary academic writing (Spanish version)

| ORGANIZATION SELF-EFFICACY | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|----------------------------|----------------|-------|----------------------------|----------|-------------------|
| 9. I am able to make a work plan before I start writing a disciplinary text |               |       |                            |          |                   |
| 10. I am able to be clear about the objectives of the disciplinary text before I start writing |               |       |                            |          |                   |
| 12. I find it easy to find ideas in my mind when I write texts from my discipline |               |       |                            |          |                   |
| 14. I am able to express my ideas fluently when I write a disciplinary text |               |       |                            |          |                   |
| 18. I can recognize if the disciplinary text I have written meets the minimum quality requirements |               |       |                            |          |                   |
| MOTIVATION AND PERSISTENCE | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|-----------------------------|----------------|-------|----------------------------|----------|------------------|
| 11. I am able to stay focused when I produce a text specific to my discipline | | | | | |
| 15. I persist in writing texts of my discipline, although the ideas do not flow easily | | | | | |
| 16. I am motivated when I have to write a disciplinary text | | | | | |
| 17. I feel motivated to get ready to write a text specific to my discipline | | | | | |

| DISCIPLINARY DISCURSIVE SELF-EFFICACY | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|----------------------------------------|----------------|-------|----------------------------|----------|------------------|
| 19. I can clearly differentiate a _____ from other types of texts which are specific to my discipline | | | | | |
| 20. I am able to produce a _____ according to its general purpose | | | | | |
| 21. I know how to structure a _____ to fulfill its purpose or objective | | | | | |
| 22. I know how to organize the contents in a _____ | | | | | |
| 23. I consider myself well prepared to write a _____ | | | | | |

(Continued)
| **GENERAL DISCOURSE SELF-EFFICACY** | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|-----------------------------------|----------------|-------|---------------------------|----------|------------------|
| 28. I can clearly differentiate an Essay from other types of text | | | | | |
| 29. I am able to produce an Essay according to its general purpose | | | | | |
| 30. I know how to structure an Essay to fulfill its purpose or objective. | | | | | |
| 31. I know how to organize the contents in an Essay | | | | | |
| 32. I consider myself well prepared to write an Essay | | | | | |

(Continued)
33. I consider myself well prepared to judge whether an Essay is well or poorly written.

34. I consider myself well prepared to adapt an Essay to its final addressee.

35. I am able to write an Essay according to its predominant mode of organization (argumentative, descriptive, narrative, etc.).

36. I am able to write an Essay according to its standard format.

| AUTOEFICACIA LINGÜÍSTICA | Muy de acuerdo | De acuerdo | Ni de acuerdo ni en desacuerdo | En desacuerdo | Muy en desacuerdo |
|---------------------------|----------------|-----------|-------------------------------|--------------|-----------------|
| 1. Soy capaz de escribir sin faltas de ortografía | | | | | |
| 2. Soy capaz de redactar adecuadamente una idea completa sin mucho esfuerzo | | | | | |
| 3. Soy capaz de utilizar los signos de puntuación correctamente | | | | | |
| 4. Soy capaz de organizar frases siguiendo las reglas de la gramática (por ejemplo, concordancia de género y número) | | | | | |
| 5. Soy capaz de ordenar mis ideas en un texto de manera que se entiendan fácilmente |
|---|
| 6. Soy capaz de encontrar fácilmente en mi memoria las palabras que necesito para expresar mis ideas |
| 7. Soy capaz de encontrar fácilmente en mi memoria los términos técnicas que necesito para producir textos de mi profesión |
| 8. Soy capaz de estructurar mis ideas en un texto de forma que tengan sentido al leerlo |

| AUTOEFICACIA DE ORGANIZACIÓN |
|-----------------------------|
| Muy de acuerdo | De acuerdo | Ni de acuerdo ni en desacuerdo | En desacuerdo | Muy en desacuerdo |
| 9. Logro hacerme un plan de trabajo antes de empezar a escribir un texto disciplinar |
| 10. Logro tener claros los objetivos del texto disciplinar antes de ponérmelo a escribir |
| 12. Me resulta fácil encontrar las ideas en mi cabeza cuando escribo textos de mi disciplina |

(Continued)
| AUTOEFICACIA DE MOTIVACIÓN Y PERSISTENCIA | Muy de acuerdo | De acuerdo | Ni de acuerdo ni en desacuerdo | En desacuerdo | Muy en desacuerdo |
|-----------------------------------------|----------------|------------|-------------------------------|---------------|------------------|
| 11. Logro mantener la concentración al producir un texto propio de mi disciplina |                |            |                               |               |                  |
| 15. Persisto en la escritura de textos de mi disciplina, aunque las ideas no me fluyan fácilmente |                |            |                               |               |                  |
| 16. Me siento motivado cuando tengo que escribir un texto disciplinar |                |            |                               |               |                  |
| 17. Siento motivación al prepararme para escribir un texto propio de mi disciplina |                |            |                               |               |                  |
| 14. Logro expresar mis ideas fluidamente al escribir un texto disciplinar |                |            |                               |               |                  |
| 18. Puedo reconocer si el texto disciplinar que escribi cumple con los requisitos de calidad suficientes |                |            |                               |               |                  |
| AUTOEFICACIA RETÓRICO- DISCURSIVA DISCIPLINAR<sup>2</sup> | Muy de acuerdo | De acuerdo | Ni de acuerdo ni en desacuerdo | En desacuerdo | Muy en desacuerdo |
|--------------------------------------------------------|----------------|------------|--------------------------------|---------------|------------------|
| 19. Sé diferenciar claramente un _______ de otros tipos de texto propios de mi disciplina |                |            |                                |               |                  |
| 20. Soy capaz de producir un _______ de acuerdo con su propósito general |                |            |                                |               |                  |
| 21. Sé cómo estructurar un _______ para cumplir con su propósito u objetivo |                |            |                                |               |                  |
| 22. Sé cómo organizar los contenidos en un _______ |                |            |                                |               |                  |
| 23. Me considero bien preparado para escribir un _______ |                |            |                                |               |                  |
| 24. Me considero bien preparado para juzgar si un _______ está bien o mal escrito |                |            |                                |               |                  |
| 25. Me considero bien preparado para adecuar un _______ a su destinatario final (cliente, otro abogado, juez, etc.) |                |            |                                |               |                  |
| 26. Soy capaz de escribir un _______ de acuerdo con su modo de organización predominante (argumentativo, descriptivo, narrativo, etc.) |                |            |                                |               |                  |
| 27. Soy capaz de escribir un _______ de acuerdo con su formato estándar |                |            |                                |               |                  |
| AUTOEFICACIA RETÓRICO- DISCURSIVA GENERAL | Muy de acuerdo | De acuerdo | Ni de acuerdo ni en desacuerdo | En desacuerdo | Muy en desacuerdo |
| 28. Sé diferenciar claramente un Ensayo de otros tipos de texto |                |            |                                |               |                  |
| 29. Soy capaz de producir un Ensayo de acuerdo con su propósito general |                |            |                                |               |                  |
| 30. Sé cómo estructurar un Ensayo para cumplir con su propósito u objetivo. |                |            |                                |               |                  |
| 31. Sé cómo organizar los contenidos en un Ensayo |                |            |                                |               |                  |
| 32. Me considero bien preparado para escribir un Ensayo |                |            |                                |               |                  |
| 33. Me considero bien preparado para juzgar si un Ensayo está bien o mal escrito |                |            |                                |               |                  |
| 34. Me considero bien preparado para adecuar un Ensayo a su lector |                |            |                                |               |                  |
| 35. Soy capaz de escribir un Ensayo de acuerdo con su modo de organización predominante (argumentativo, descriptivo, narrativo, etc.) |                |            |                                |               |                  |
| 36. Soy capaz de escribir un Ensayo de acuerdo con su formato estándar |                |            |                                |               |                  |
