ABSTRACT: The present study presents as its theme the repertoire of strategies for reading comprehension of academic texts. This is a descriptive research with a quantitative approach. The aim of this research was to investigate the perception of beginning and final-year students of the Pedagogy, Literature and Law courses at a University in the North of Paraná in relation to the frequency with which they use strategies to carry out the activity of reading academic texts with a view to reading comprehension. A total of 274 students answered a Likert-type scale about reading strategies (KOPKE FILHO, 2001), composed of twenty items about the strategies used before, during and after reading. The data analysis indicated that there were significant differences between the averages for beginning and final course participants, which needs to be better investigated and highlights the need for effective teaching of reading strategies throughout these courses.


RESUMO: O presente estudo apresenta como temática o repertório de estratégias para compreensão leitora de textos acadêmicos. Trata-se de uma pesquisa do tipo descritiva, de abordagem quantitativa. Buscou-se nesta pesquisa: investigar sobre a percepção dos estudantes iniciantes e concluintes dos cursos de Pedagogia, Letras e Direito de uma Universidade do Norte do Paraná em relação à frequência que utilizam as estratégias para realizar a atividade de leitura de textos acadêmicos com vistas à compreensão leitora. Participaram 274 estudantes que responderam a uma Escala do tipo Likert sobre Estratégias de Leitura (KOPKE FILHO, 2001), composta por vinte itens sobre as estratégias utilizadas antes, durante e após a leitura. A análise dos dados indicou haver diferenças significativas entre as médias em função dos participantes iniciantes e concluintes dos cursos, o que necessita ser melhor investigado, e ressalta-se a necessidade do ensino eficaz das estratégias de leitura ao longo dos referidos cursos.
RESUMEN: El presente estudio presenta como tema el repertorio de estrategias para la comprensión lectora de textos académicos. Se trata de una investigación descriptiva con un enfoque cuantitativo. El objetivo de esta investigación fue investigar la percepción de los alumnos principiantes y del último año de los cursos de Pedagogía, Literatura y Derecho de una Universidad del Norte de Paraná en relación a la frecuencia con que utilizan estrategias para realizar la actividad de lectura de textos académicos con vistas a la comprensión lectora. Un total de 274 alumnos respondieron a una escala tipo Likert sobre Estrategias de Lectura (KOPKE FILHO, 2001), compuesta por veinte ítems sobre las estrategias utilizadas antes, durante y después de la lectura. El análisis de los datos indicó que había diferencias significativas entre las medias según los participantes que empezaron y terminaron los cursos, lo que debe investigarse mejor y destaca la necesidad de una enseñanza eficaz de las estrategias de lectura a lo largo de estos cursos.


Introduction

Modern society demands from citizens a schooling process that prepares them to be active participants in society. The insertion of the student in the literate world favors the learning of the contents worked in the different subjects and is also fundamental for the active and conscious participation in the social and professional world (GOMES; BORUCHOVITCH, 2019).

Upon entering Higher Education, students are expected to be able to develop strategies and competencies for understanding and interpreting texts, which involve a set of skills, such as: setting a goal for reading, creating their own comprehension strategies, adapting to the characteristics of the text, constructing meaning, making inferences, identifying relevant information, evaluating the information received and using the information appropriately (BORUCHOVITCH, 2001). The academic success of college students is related to their reading maturity, including skills such as comprehension, rhythm, concentration, flexibility, criticality, and creativity (MARTINS; SANTOS; BARIANI, 2005).

However, it is not uncommon to find that college students face difficulties in reading texts prescribed by their professors; others, when reading a certain text of a subject, do not understand what they read, compromising reflection, taking a position and proposing new conclusions about what they know (TANZAWA; PULLIN, 2012). Santos et al. (2006) explain that students have difficulties in achieving this performance because they have acquired,
throughout their schooling process, the conception of training readers who are often used to reproduce the information in the texts, instead of constructing it. In this context, the role of the school is essential to "[...] form the motivated, reflective, strategic, competent and critical reader" (GOMES; BORUCHOVITCH, 2019, p. 46).

That said, if the teaching of learning and reading strategies were taught and learned from the early years of schooling (Basic Education through Higher Education), students' academic performance would be favored, as they would learn early on to use efficient strategies for studying, for reading and understanding texts, and for self-regulating their own learning. And, therefore, after leaving school, students would continue to educate themselves, continuously using their knowledge and becoming autonomous learners and proactive protagonists in their learning (COSTA; BORUCHOVITCH, 2019; GOMES; BORUCHOVITCH, 2019).

Recent research has evidenced a positive effect of intervention aimed at teaching high school students learning strategies, highlighting the importance of the teacher's role in teaching learning strategies, especially the use of cognitive strategies, suggesting the possibility of including the teaching of such strategies in high school by the curriculum integration method, in order to promote self-regulation and the development of more autonomous, strategic, and motivated students (SANTOS; ALLIPRANDINI, 2017, 2018, 2020). Similar results were presented by (SILVA; ALLIPRANDINI, 2020), by teaching learning strategies little used by students in Higher Education.

Frequent and effective teaching of learning strategies and specific strategies for reading enhances students' level of self-regulated learning (COSTA; BORUCHOVITCH, 2019). For Zimmerman and Schunk (2008), learning self-regulation is the process by which a person controls, monitors, evaluates, and reflects on his or her own learning. A self-regulated student is one who: plans his study, uses different cognitive and metacognitive learning and reading strategies, maintains a good motivational and emotional level, monitors whether he is learning or not, evaluates his performance (GANDA; BORUCHOVITCH, 2019).

The self-regulated teacher is a condition for promoting self-regulation in students, therefore, "[...] teachers' beliefs and behavior are related to their own experiences and have a strong influence on student engagement and performance" (GANDA; BORUCHOVITCH, 2019, p. 146). Learning to learn also involves the student assuming the role of proactive protagonist in his learning process, performing the exercise of reflection on his way of studying and learning (COSTA; BORUCHOVITCH, 2019).

Based on the foundations of Cognitive Psychology based on the Information Processing Theory, reading is a complex cognitive process, which in addition to depending on
the cognitive factor involves other factors, such as language, memory, thinking, intelligence and perception (GOMES; BORUCHOVITCH, 2019; MARTINS; SANTOS; BARIANI, 2005).

Reading strategies should not only be understood as procedures that facilitate reading comprehension, but also as a process of self-knowledge regarding the reader's own learning process, a capacity that is called metacognition, considered as a conscious process of reflecting on one's personal way of learning, implying the awareness, control and regulation of one's mental process (COSTA; BORUCHOVITCH, 2019). Thus, metacognition allows students to become aware of their learning process.

It is not only for the teacher to teach the reading strategies to facilitate students' understanding of texts, but for the student to assume the role of proactive protagonist in his learning process, performing the exercise of reflection on his way of studying and learning (COSTA; BORUCHOVITCH, 2019).

In the context of academic and professional training, it is revealed the need that teacher training courses and training courses for other professionals in other areas prepare for an autonomous and critical reading training. After all, these subjects will play a certain role and contribute to the transformation of society, as well as for future teachers, who will have among their responsibilities the training of new readers, regardless of the teaching level at which they will work.

Method

This work is a descriptive research that aims to observe and describe carefully the facts and phenomena of a given reality, in order to obtain information about what has already been defined as a problem to be investigated (TRIVIÑOS, 2008). In addition, the research is characterized as quantitative in nature, which presupposes: broad and deep knowledge of the area in which the problems studied are located; domain of theorizations and knowledge of their epistemic contours (GATTI, 2004).

Participants

Table 1, below, presents the total number of research participants, total students per course, total entering and graduating students per course, the periods of data collection and the age range of the research participants. The beginning and final-year students in the survey were
enrolled in the morning, afternoon and evening periods, totaling 274 participants.

Table 1 – Distribution of participants per course and period, year of data collection, age group and gender

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Year of data collection</th>
<th>Course Period</th>
<th>Number of participants</th>
<th>Age group</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Beginners</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Final – year students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedagogy</td>
<td>2019 and 2020</td>
<td>115</td>
<td>63</td>
<td>17 a 54</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>17 a 28</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Letters</td>
<td>2019 and 2020</td>
<td>13</td>
<td>9</td>
<td>17 a 28</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Law</td>
<td>2020</td>
<td>50</td>
<td>24</td>
<td>17 a 33</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors

Data Collection Instrument

The scale used was translated and adapted by Kopke Filho (2001), based on the results of Goetz and Palmer's (1991) research on students' perceptions of the frequency with which they use reading strategies in academic texts.

The instrument is composed of twenty items, each item followed by five answer options: always (5), frequently (4), sometimes (3), rarely (2), never (1). Its structure allows us to insert it as an example of a Likert-type scale. Thus, if the values of the perception of the frequency of use of reading strategies by the research participants indicate 5 or close to this value, the greater is the perception of the frequency of use of reading strategies for the study of academic texts. The item statements are presented by statements about the reading process/production, and are distributed on the Scale as follows: Before starting the actual reading of the text, with four items (1 to 4); During reading production with ten items (from 5 to 14); After reading the text, with six items (15 to 20).

We highlight two examples of the items distributed in the Scale, as follows: (1) Before beginning the actual reading of the text: Do you lightly examine the entire text? Thinks about the purpose or need for reading; (2) During reading production: Underlines main ideas or words? Relates the information in the text to his/her beliefs or knowledge of the subject; (3) After reading the text: Evaluates how much you understand of the text and goes back to those
parts whose understanding you do not feel confident about? Do you try to paraphrase or summarize the text?

Procedures

Initially, the project was submitted to the Committee for Ethics in Research involving Human Beings of the researched institution and was approved, according to Opinion number 3.692.048.

In 2019, the students of the Pedagogy and Literature courses were invited to participate in the research and informed about the relevance, objectives, justification, risks, and benefits, so that they could be duly clarified in person. Then, the virtual link to the Free and Informed Consent Form was made available and, if they agreed to participate, the Reading Strategies Scale (KOPKE FILHO, 2001) was presented via Google Forms, accessed from the students' cell phones. To send the survey link, we requested the e-mail addresses of the beginner and final year students of the different courses. The data collection with the students of the Pedagogy course in the periods (Morning and Evening) was carried out in the years 2019 and 2020, with a duration of 10 to 15 minutes and in class time assigned for this purpose, with the authorization and presence of the professor of the discipline of that time.

Underage students/participants were instructed to ask for authorization from family members or guardians by reading and signing the Informed Consent Form (ICF) - Child and Adolescent Model, and by underage adolescents signing the Informed Consent Form (ICF).

However, as few students participated in the study, the survey was sent online to the students, but there was no response from the participants, probably because it was the end of the second semester. Thus, the research was resumed in 2020 with the students of the Language course and the study was carried out with the students of the Law course. For this, contact was made with professors and coordinators of both courses via e-mail to schedule the collection. At this time, considering the context of the covid-19 pandemic, the research was carried out entirely online, and no longer in the respective classrooms. In this context, the students received an e-mail, in which they were invited to participate in the research and were given the necessary clarifications about the relevance, research objectives, justification, risks, and benefits of the research, so that they were duly clarified.

The option to use the Google Drive tool for data collection and analysis was due to the fact that it is easily accessible, free, of unlimited use, and that it provides the data to be obtained, in a clear and organized way, through Microsoft Office Excel.
Results and Discussion

For the analysis of the data obtained through the application of the Reading Strategies Scale (KOPKE FILHO, 2001) a descriptive and inferential analysis was performed using the SPSS software. The data collected from the students of the Pedagogy, Literature and Law courses were calculated according to the distribution of distinct weights for each of the frequencies: Always = 5, Often = 4, Sometimes = 3, Rarely = 2, Never = 1, with the Scale characterized by three main moments of reading: before starting reading itself, during reading, and after reading.

Thus, if the values of the frequency of reading strategy use by the research participants indicate 5 or close to this value, the greater the frequency of reading strategy use for the study of academic texts.

Considering the descriptive statistics of the numerical variables (scale scores), Table 2 shows the mean and standard deviation values of the frequency of use of reading strategies (before, during and after reading) in the study of academic texts by course (Pedagogy, Letters and Law).

Table 2 – Average, standard deviation of the frequency of the use of reading strategies (before, during and after reading) in the studies of academic texts per course (Pedagogy, Letters and Law)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>N</th>
<th>Average</th>
<th>SD</th>
<th>Average</th>
<th>SD</th>
<th>Average</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogy</td>
<td>178</td>
<td>3.76</td>
<td>0.69</td>
<td>4.12</td>
<td>0.54</td>
<td>3.38</td>
<td>0.73</td>
</tr>
<tr>
<td>Letters</td>
<td>22</td>
<td>3.97</td>
<td>0.87</td>
<td>4.15</td>
<td>0.49</td>
<td>3.66</td>
<td>0.82</td>
</tr>
<tr>
<td>Law</td>
<td>74</td>
<td>3.93</td>
<td>0.54</td>
<td>4.07</td>
<td>0.41</td>
<td>3.55</td>
<td>0.64</td>
</tr>
<tr>
<td>Average</td>
<td>274</td>
<td>3.88</td>
<td>0.70</td>
<td>4.11</td>
<td>0.48</td>
<td>3.53</td>
<td>0.73</td>
</tr>
</tbody>
</table>

As can be observed, the results indicated that in relation to the use of reading strategies per course, Pedagogy, Letters and Law students most frequently used the reading strategies (during reading), respectively with averages of (4.12), (4.15) and (4.07), with the highest average (4.11). Thus, during reading is the phase of monitoring, in which the reader must relate the text to previous knowledge about the subject worked in the text, in addition to recognizing what and how much he or she is understanding and also think about the possible consequences of this new information (KOPKE FILHO, 1997).
Considering the three moments related to the study of academic texts, it was possible to verify that they use more strategies during the reading, followed by before the actual reading of the academic text and, finally, after the reading. Similar data were seen in Joly, Santos, and Marini (2011), who identified that the greatest use turned to during reading, followed by before and after reading.

Table 3 below shows the mean and standard deviation values when comparing the frequencies of the use of reading strategies (before, during and after reading) by beginning and final-year students in the Pedagogy, Letters and Law courses.

Table 3 – Average, standard deviation when comparing the frequencies of use of reading strategies (before, during and after reading) by beginning and final-year students of Pedagogy, Literature and Law

<table>
<thead>
<tr>
<th>ETAPA DO CURSO</th>
<th>BEFORE</th>
<th>DURING</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Sd</td>
<td>Average</td>
</tr>
<tr>
<td>PEDAGOGY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginners</td>
<td>115</td>
<td>3,72</td>
<td>0,69</td>
</tr>
<tr>
<td>Final – year students</td>
<td>63</td>
<td>3,83</td>
<td>0,69</td>
</tr>
<tr>
<td>LETTERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginners</td>
<td>13</td>
<td>4,27</td>
<td>0,55</td>
</tr>
<tr>
<td>Final – year students</td>
<td>09</td>
<td>3,53</td>
<td>1,08</td>
</tr>
<tr>
<td>LAW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginners</td>
<td>50</td>
<td>3,94</td>
<td>0,57</td>
</tr>
<tr>
<td>Final – year students</td>
<td>24</td>
<td>3,91</td>
<td>0,87</td>
</tr>
<tr>
<td>Average</td>
<td>274</td>
<td>2,60</td>
<td>0,74</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors

By applying the Mann-Whitney test in relation to those beginning and ending the Pedagogy course, the results showed significant differences in relation to the use of strategies after reading (p=0.07). As for the comparative results among students in the Language Arts course, significant differences were evident between beginners and completers in relation to the use of strategies before reading (p=0.05) and during reading (p= 0.008), showing no significant difference in relation to the use of strategies after reading.
The data indicated a lower use in the frequency of the use of reading strategies by the concluding students in relation to the beginning students of the Letters course, which needs to be further investigated on the context variables related to the teaching and learning process. As for the students of the Law course, no significant difference was presented between the beginners and the concluintes regarding the use of reading strategies (before, during and after reading).

Table 3 indicates that both beginning and final-year students of Pedagogy and Law courses use more frequently the reading strategies (during reading), presenting the averages of (4.16) and (4.06), by students of Pedagogy course, and (4.07) and (4.06) by students of Law course. During reading is the phase in which the student should be encouraged to elaborate a dialogue with the text, generate questions that facilitate the identification of the main ideas and allow for the monitoring of comprehension (DEMBO, 2000).

In relation to beginning and final-year students of the Language Arts course, it was verified that the average for the use of reading strategies (during reading) was lower for the final-year students, according to the averages (4.39) and (3.80), pointing out that beginners use more frequently the reading strategies (during reading) for the study of academic texts, and highlighting the overall average of (4.09) regarding the frequency of the use of reading strategies (during reading).

According to Table 3, the data show that beginning and final-year students in the three courses investigated use reading strategies (after reading) less frequently, with Pedagogy students (3.48) and (3.21), Letters students (3.86) and (3.37), and Law students (3.54) and (3.56). We emphasize the need for the development of studies aimed at investigating the context variables related to the teaching and learning process that interfere with the study and comprehension of academic texts, which corroborates the idea that learning strategies should be taught to students (ALLIPRANDINI, 2017, 2018, 2020; COSTA; BORUCHOVITCH, 2019; GOMES; BORUCHOVITCH, 2019; SANTOS; SILVA; ALLIPRANDINI, 2020).

The after reading is the phase of evaluation: the reader will analyze how much he retained from his reading, what he understood, check whether or not the hypotheses raised before reading were confirmed and if he is able to perform a paraphrase of what was read (KOPKE FILHO, 1997).

Considering that final-year students of Pedagogy, Letters and Law courses use less frequently the strategies for reading, comprehension and memorization of academic texts in relation to beginning students, as well as less frequently use the reading strategies (after reading) of the academic text, Dembo (2000) suggests the use of some reading strategies to be
used after reading the academic text, such as: summarizing, making a script of the text and elaborating a graphic representation of the content read.

In this sense, we emphasize the need to develop studies focused on this theme, to investigate the context variables related to the teaching and learning process that interfere in the study of academic texts and, especially, to develop interventions aimed at working on strategies for reading comprehension of academic texts throughout these courses, with emphasis, in this work, on working on reading strategies (after reading) with college students.

Thus, it is essential for the study of academic texts the use and understanding of strategies that aid reading comprehension and enhance the students' learning process. Therefore, the need for effective teaching of these strategies is reinforced, especially with regard to the training of undergraduate students.

**Final remarks**

The present research investigated the perception of beginning and final-year students of the Pedagogy, Letters and Law courses at a University in the North of Paraná in relation to the frequency with which they use strategies to carry out the activity of reading academic texts with a view to reading comprehension.

When comparing the results presented by beginning and final-year students of the Pedagogy, Languages and Law courses, the research data showed that final-year students present a lower frequency of use of strategies for reading, comprehension and memorization of the contents of academic texts, and that they use the reading strategies (after reading) to the academic text less frequently.

One of the limitations for the development of this study was the small number of participants from the Language Arts course. This fact may be due to the beginning of the Pandemic due to the coronavirus, because the activities were interrupted for a period of time, which may have caused the difficulty of having a greater adhesion from all the courses researched, especially from the students of the Literature course.

For future research, we emphasize the need to develop studies on this theme, to investigate the context variables related to the teaching and learning process that interfere in the study of academic texts, especially those related to beginning and final-year students from different courses.

It is reinforced for the need for the effective teaching of these strategies, mainly regarding the students' education.
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REFERENCES


