

Students' understanding of different text types: strategies to identify and enhance students' conceptual understanding

La comprensión de los estudiantes de los diferentes tipos de texto: estrategias para identificar y mejorar la comprensión conceptual de los estudiantes

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ABSTRACT

This article evaluates students' conceptual understanding using the think-aloud method. The participants, four students who were studying the last year of the Spanish ab initio course in an international school in Prague, volunteered to take part in the think-aloud protocols. The results show that the think-aloud method helps to get a better sense of students' understanding of different text types.

Keywords: think-aloud, ab initio, Spanish, text types, conceptual understanding

RESUMEN

Este artículo evalúa la comprensión conceptual de los estudiantes mediante el método de pensamiento en voz alta. Los participantes, cuatro estudiantes que cursaban el último año del curso ab initio de español en un colegio internacional de Praga, se ofrecieron a participar en los protocolos de pensamiento en voz alta. Los resultados muestran que el método de pensamiento en voz alta ayuda a tener una mejor idea de la comprensión de los estudiantes de diferentes tipos de texto.

Palabras clave: pensar en voz alta, principiantes, español, tipos de texto, comprensión conceptual

1. INTRODUCTION

In this study we will evaluate students' conceptual understanding using the think-aloud method. Understanding will be measured based on research findings of the following questions: What are students' understanding of different text types? Why is it important to teach different text types in the classroom and how is it taught? Are these efficient ways of teaching text comprehension? Does the think-aloud method help to get a better sense of students' understanding? What evidence of understanding does think-aloud provide?

Findings will help evaluate to what extent using think-aloud activities can be beneficial to improve teaching practices around genre within the Language ab initio IB course. Looking at the framework adopted by IB, it is very important for language acquisition courses to understand and demonstrate conceptual understanding because it allows students to develop both disciplinary and interdisciplinary understanding. Students need to understand the meaning of the task in order to apply the appropriate register and tone to the context, choose the correct text type for the purpose and audience and incorporate conventions of the chosen text type. The think-aloud method could be an effective technique to model how to use comprehension strategies before, during and after reading the task. The application of this method can help students to learn through the process of sharing ideas and answering the teacher's questions. Not only makes them internalise the dialogue and reflect on the task, but it also lets the teacher monitor the students' comprehension and knowledge. For Piaget (pp. 123-128, Barnes, 1992) learners must 'construct' models of the world, but the experiences on which they are based do not come from nowhere. They are responses to activities and talk that they have shared with other members of the community.

2. LITERATURE REVIEW

There are different ways of learning but without perception and understanding, students would not be able to comprehend anything. Understanding is a continuum process where senders and receivers of spoken or written messages modify or acquire new knowledge. Learning more about how students think and process information helps teachers to gain a better understanding and allows them to develop new techniques of helping students to deal with their learning difficulties.

According to Bakhtin (1986), understanding is essentially a dialogic process because life is dialogic and a shared event. For Vygotsky (pp. 123-128, Barnes, 1992) people learn to participate not only in activities but also in the meanings which inform them. However, understanding, which can occur in dialogue, is a more complex and extensive cognitive activity. It requires critical thinking, learning and problem solving. The ability to think critically about a concept is what help us to evaluate the accuracy and truthfulness of statements and information we read and hear. For Locke (1960), understanding is based on experience, it is a form of mental representation. Schulz (2018) also argues in his book *Efficient Cognition* that representational decision

making is more cognitively efficient than non-representational decision making. Considering Locke and Schulz's arguments, using mental representations of the context, the intended audience and purpose, provides a way to help to accurately describe details and deliver the message effectively. This way, learners develop a deeper understanding of a text than when they just process words, phrases, and clauses in the text (Bos, L.T., de Koning, B.B., van Wesel, F. et al.2015).

Some studies (Broer, Aarnoutse, Kieviet & Leeuwe, 2002) show that teachers in primary education provide little guidance on reading comprehension and studying. Although students are given the opportunity to practise reading strategies, they are often not taught actual approaches to reading. The same happens with text production. Students need to be provided more direct guidance to write successfully. There is evidence that mental representations are needed to, for example, tell a story or identify a theme in it. They also enhance writing descriptions or idea generation in creative writing work (Bos, L.T., de Koning, B.B., van Wesel, F. et al.2015). Therefore, it is very important to use effective strategies in the classroom in order to help students to increase their reading comprehension, text production and critical thinking. For example, the think-aloud strategy used in this study has been identified as an effective instructional tool because it fosters the development of critical thinking and involves the articulation of the thinking process by helping students to clarify their mental representation of the situation under consideration. It also requires the learner to stop periodically, to reflect on how a text is being processed and understood, and to relate orally what reading strategies are being employed (Baumann, Seifert-Kessell & Jones, 1992; Block & Israel, 2004). Molly Ness (2016) explores in her investigation how to better prepare early career teachers to conduct think-aloud in their classrooms. She says that an essential element in teaching children to effectively comprehend text is the use of teacher-led-think-aloud. Wilhelm (2001) describes the process including the following steps:

1. Select a short section of a text.
2. Select a few relevant and purposeful strategies.
3. Explain the purpose for reading and a deliberate focus on particular strategies.
4. Read the text aloud to students while modeling the chosen strategies.
5. Make students to annotate the text.
6. Brainstorm of cues and strategies used.
7. Teach students to generalise the strategies.
8. Reinforce think-aloud with follow-up lessons.

Another recommendation is to make predictions, develop mental images, link prior knowledge and monitor comprehension (Ness M., 2016). The think, pair and share strategy, which was used in this study, is also beneficial because while students work together to solve a problem or answer the questions assigned, teachers can monitor and support them. This task allowed students to brainstorm together and learn from their partners, explain, interpret, compare and make connections between facts and ideas. These performances of understanding activities also let students demonstrate and develop their understanding of important knowledge and skills (Cerbin B., Kopp K., 2004-2014).

There are a few factors like content, form, intended audience, medium or channel, that influence the nature and construction of a genre; however, it is primarily characterised by the communicative purposes that it is intended to fulfil (Bhatia V. K., 2014). Bhatia suggests to consider some of the following steps in order to undertake a comprehensive investigation of any genre: know the layout of the personal and professional text types, define the speaker/writer of the text, the audience, their relationship and their goals, identify the topic/subject/extra-textual reality which the text is trying to represent, study the conventions (linguistic, social, cultural, academic, professional) that govern the use of language in such institutional settings. V. K. Bhatia (2014) also proposes to place the genre-text in a situational context by looking at one's prior knowledge or experience of the world. Bhatia's steps have been applied in this investigation as the structural aspects of texts plays an important role in text comprehension and enables the learner to identify the main ideas of the texts. Research under primary and secondary school children shows that learners can understand and remember texts in a better way if they have knowledge of different text structures (Broer, Aarnoutse, Kieviet & Leeuwe, 2002).

In order to investigate students' understanding of text types, it is important to consider that one of the objectives in language acquisition courses in the IB diploma programme is to understand, analyse and reflect upon a range of written, audio, visual and audio-visual texts. Students can address this objective by demonstrating their conceptual understanding, for example, by responding appropriately in written tasks using a variety of text types and developing a coherent and organised response on a range of topics. Looking at the *Language ab initio guide* (IBO, 2020), learning language through conceptual understanding is fundamental to successful communication and should be developed in language acquisition courses. Teachers should encourage students to think about language and culture, thus IB syllabus includes some questions in case teachers want to use them as tools. The questions are based on the following criterions:

- Audience: students understand that language should be appropriate for the person(s) with whom one is communicating.
- Context: students understand that language should be appropriate to the situation in which one is communicating.
- Purpose: students understand that language should be appropriate to achieve a desired intention, goal or result when communicating.
- Meaning: students understand that language is used in a range of ways to communicate a message.
- Variation: students understand that differences exist within a given language, and that speakers of a given language are generally able to understand each other.

Boyd and Ikpeze (2007) examined one seventh-grade teacher's instructional approach for teaching students about the integration of Little Rock's Central High School by using multiple text types to enhance their conceptual understandings. Their findings suggest the teacher's use of multiple text types required a systematic and strategic juxtaposition of texts along with questioning, resulting in a teacher-centred approach. Nevertheless, a teacher-centred approach neither facilitates nor empowers a learner's autonomous study-skills and subsequently lifelong learning skills (Trilling

& Fadel, 2009). If students want to know and understand the appropriate purpose, audience and register of texts, multiple text types must be reviewed and observed from different angles and taught in a way where students collaborate and communicate with one another.

3. RESEARCH DESIGN

3.1 Method

The think-aloud method was used in this qualitative research in order to answer the questions of this study and maintain and improve the cognitive abilities of the participants. This method is most suited since the research involved descriptive and explanatory questions to understand students' cognitive processes. Using the think-aloud strategy helped to monitor students' thinking as they read different tasks and improved their comprehension of the task by explaining the thoughts and ideas that came to their minds.

The think-aloud method is considered as one of the most effective ways to assess higher-level thinking processes as it allows to capture the individual's immediate thoughts (Özcan, Imamoglu & Katmer Bayrakli, 2017). It also helps to determine specific areas of weakness in students processing skills, different types of errors and strategies used during problem solving. Özcan, Imamoglu and Katmer Bayrakli (2017) used the think-aloud method in their study to investigate students' mathematical problem-solving processes and their performance at solving the problem. According to these authors, using the think-aloud method to investigate students' mathematical problem-solving processes empowered the result of their study. They also suggested that thinking-aloud could be used as a teaching method. Sönmez and Sulak (2018) examined the effect of the thinking-aloud strategy on the reading comprehension skills of 4th grade primary school students. According to their findings, the teaching of the thinking-aloud strategy developed the reading comprehension skills of the students. However, there are some studies that question the validity of data obtained from think-aloud. As claimed by Someren, Barnard and Sandberg (1994), the think-aloud method introduces two threats to the validity of the verbal processes: incompleteness due to synchronisation problems and invalidity due to problems with working memory. Therefore, a written assessment was integrated in this study as well in order to collect more accurate data and analyse it in a proper way.

3.2 Sample

Four participants were involved in this study who were selected from an International School in Prague, Czech Republic. The participants were students from year 13 who have been studying Spanish ab initio and preparing for the IB examinations in May 2021. The age of the participants was 17 years.

3.3 Data collection and procedure

Due to the COVID-19 pandemic, the think-aloud session had to be conducted by zoom and students were put in two break-out rooms to work in pairs. Each session lasted 10 minutes approximately. First, as Gibson (1997) suggests, students were given some guidance about the think-aloud process to reduce the 'cold start effect' and encourage them to take part in the research and achieve and produce the expected outcomes. The think-aloud process was recorded and transcribed which helped not only to identify the information that was concentrated on during the discussion, but also to have a better understanding of students' responses and thinking processes. According to Hopkins (1995), recording is one of the most popular teacher research methods and the transcripts were excellent for this situation because it was a particular interaction between the teacher and two students. The recordings were used only for the purpose of this study. Students were given a past Spanish ab initio paper that consisted of a writing task of 70-150 words from a choice of three tasks and a choice of three text types for each task. In pairs, students were given time to think-aloud and choose the correct text type for each writing option. There were some guided questions that students needed to answer and that helped them to make decisions when undertaking the task. The questions were as follows:

- Which text type do you think is more appropriate for the context, purpose and audience?
- Do you need to use formal or informal language?
- Who is the audience?
- What are some of the conventions you need to use for the chosen text type?

It has been proven in other studies that without some demonstrations and practice students may not report their thought processes frequently or thoroughly enough to meet the researcher's needs. Thus, the strategy of retrospective questioning encouraged effective think-aloud responses. Sugirin (1999) used a KEEP TALKING sign to remind participants to verbalise all thoughts without addressing them in speech which might interfere with those thoughts (Charters E., 2003). Students were just remained to think aloud by using hand signals and informal written notes were taken about what was being verbalised.

After this initial investigation, students were asked to complete the writing task to see if they had demonstrated further understanding. The collection of this data allowed for comparison of the results and for more complete information (Fonteyn M., Kuipers B., Grobe S., 1993).

3.4 Ethics

Some ethical issues could have arisen because the study took place in a school-setting and involved the participation of students of 17 years old. The areas of ethical concern were: the informed consent process, anonymity and confidentiality. In order to prevent these issues, it was necessary to use an assent protocol and ask for consent. The Principal and students were informed via email about the investigation for their consent and approval. In order to protect students' privacy and ensure their anonymity, no personal data relating to age, gender, ethnicity, religious affiliation or

sexuality was collected. The generated data like the recordings and transcripts were kept securely until the completion of this study and it was used purely only for the purposes of the research project. It was important to let students know that the investigation could be effective and beneficial for their examinations as it might have helped them to have a better and deeper conceptual understanding.

4. FINDINGS

The findings of the think-aloud session and written assessment helped to answer the questions of this research. Table 1 shows the three writing tasks that students were asked to think-aloud.

Sección A		
Completa una tarea. Elige entre las opciones dadas un tipo de texto apropiado para la tarea elegida. Escribe entre 70 y 150 palabras.		
1. Te has mudado a un barrio nuevo y quieres compartir tus impresiones con otros jóvenes de tu ciudad. Escribe un texto en el cual expliques cómo es el barrio, qué te gusta de él y qué te gustaría cambiar. Además, cuenta cómo te gusta pasar el tiempo libre allí.	Blog	Carta
2. Imagina que eres un/a emigrante que acabas de llegar con tu familia a un país hispano. Escribe un texto en el cual describas tus impresiones sobre el nuevo país. Cuenta cómo te sientes, compara tu nueva vida diaria con la vida en tu país de origen y menciona lo que más echas de menos.	Carta	Postal
3. Estás viviendo interno en un colegio y tu rutina diaria es muy diferente a la que tenías en tu casa. Escribe un texto a tu familia en el que expliques cómo es tu rutina en el nuevo colegio y lo que echas de menos o extrañas.	Mensaje de texto	Carta

Table 1. Writing tasks

First, students, in pairs, read the selected passages aloud to monitor their understanding, clarify the meaning of the unknown and look for context clues. There were some questions about some vocabulary words but, in general, the comprehension of the texts was good.

Questions	Session 1 students' observations	Session 2 students' observation
Do you have any questions about the vocabulary? (Teacher)	Not really... <i>te has mudado</i> but otherwise I think I get pretty much what is about (Student 1, task 1) Eh... <i>cuenta cómo te sientes</i> . You have to write about your new routine and what is new (Student 1, task 2)	<i>Te has mudado</i> (Student 3, task 1) Not sure what <i>mudado</i> is (Student 4, task 1) Maybe <i>acabas de</i> (Student 4, task 2)

Table 2. Session 1 protocols

It can be seen from table 2 that three students weren't sure about the meaning of *te has mudado* (you have moved). Student 1 did not know the meaning of the sentence *cuenta cómo te sientes* (tell how you feel) while student 4 was not sure about the meaning of the expression or verbal periphrasis *acabas de llegar* (just arrived). The link between vocabulary and comprehension is strong throughout students' education and can often be attributed to differences in their comprehension capabilities. When students do not have access to the meaning of words representative of the concepts and content of what they read, it can cause difficulty in their comprehension of texts, limits their ability to make a connection with their existing background knowledge, inhibits their capacity to make coherent inferences, and impacts their ability to reason. Thus, it is very important to teach vocabulary to students because it expands and refines their existing conceptual knowledge and enhances their comprehension and understanding of what they read (Rupley, Nichols, Mraz & Blair, 2012).

Since students did not encounter many unfamiliar words, they were asked then to verbally express their thoughts about the appropriate text type for each task taking into account the context, purpose and audience of the task. The four students demonstrated good conceptual understanding. The choice of the text type was appropriate for each task, however, students in session 2 had two possible options for task 1.

Table 3 shows that students in session 1 selected firmly the blog for the first task while students in session 2 were doubting between the blog and the personal diary. Strategic questions were addressed in order to help students to improve their conceptual understanding and complete the task successfully. It can be seen that students 3 and 4 gained a better understanding of the text and chose the blog for the specific context, purpose and audience. For the second task, the four students selected the personal diary:

- (1) There is no audience and you are just reflecting on how the new life in the country is (student 3).
- (2) I agree, write a text to describe your impressions which seems to be for yourself (student 4).
- (3) I think it's for yourself so it's a diary (student 2).
- (4) Yes, because you arrive there and if you want to write about those things, the people are already there and you don't really need to write to them because they live there (student 1).

Questions	Session 1 students' observations	Session 2 students' observations
We have three text types: a blog, a letter and a personal diary which one do you think it's the most appropriate for the context, purpose and audience? (Teacher, task 1)	I think of a blog because...it says to compare my impressions with other young people. Writing a letter and a personal diary, you can't compare it with other people (Student 1) Yes, the same reason (Student 2)	<i>Yo creo</i> blog, ...well the task asks you to write about the area where you live and how you spend the time and what you like about it and you can share that with other readers who possibly want to move to that area as well (Student 4) It could also be a personal diary because you can also write personal stuff. It's between a blog and a personal diary (Student 3) I agree (Student 4) There is no audience... Oh, yes, there is... <i>jóvenes de tu ciudad...</i> so blog it's the best text type because you don't know who they are and it's the best way to communicate with them (Student 3) No, a diary is more a reflection for yourself (Student 4)
Who is the audience? (Teacher, task 1)	<i>Jóvenes</i> (Students 1 & 2)	Maybe people who are very close to you... when you die and they want to read about yourself hehe...
Does a personal diary have an audience? (Teacher, task 1)	-	A title, the name of the person writing the blog, some blogs have the timing sometimes (Student 3) There are also base paragraphs in a blog. It's easy to read (Student 4)
What are the conventions we need to use to write a blog? I mean the layout of the blog (Teacher, task 1)	You need a title, a date, an introduction, a body and a closing. Sometimes there is the author's name (Student 1)	-
Do you need to use formal or informal language to write a blog?	I agree (Student 2) Informal... I feel like blogs are more casual, a conversation between the readers and the writer (Student 1) I agree (Student 2)	-

Table 3. Session 1 & 2 protocols

For task 3, students 1 and 2 were clear that the letter was the correct text type for the task, but students 3 and 4 were doubting between the letter and the text message as it can be seen in table 4.

Questions	Session 1 students' observations	Session 2 students' observations
What text type is appropriate for this task: a message, a letter and a personal diary?	Possibly a letter because you have to write to your family (student 2) Yes (student 1)	I don't think it's a personal diary and <i>carta</i> is too formal for the family so it should be <i>mensaje de texto</i> (student 3) Yeah... <i>Posiblemente mensaje de texto o carta</i> (student 4) Yes, but it doesn't specify it. I'm not sure exactly what <i>mensaje de texto</i> is (student 3)
Are there formal or informal letters?		Informal <i>carta</i> for families (student 4)
What does <i>mensaje de texto</i> mean?	- -	Text message (student 4) I do <i>carta</i> probably because it describes stuff about your college and fits well to a letter. Text messages seem to be shorter (student 4) Yes (student 3)

Table 4. Sessions 1 & 2 protocols

Again, students answered some strategic questions which benefited to expand their knowledge of the different text types. They gave reasons for the particular choice of the text type- message/letter- and applied their conceptual understanding by making connections with the context, purpose and audience. They continued thinking-aloud the layout and language conventions of the selected text type- an informal letter which helped them to organise their ideas and structure their writing before the assessment.

For the second part of the research, students had to complete a written assessment which assessed the ability to communicate in writing for a variety of purposes. In order to fulfil the requirements of this assessment, students needed to show, through their use of text type, register and style, that they understood the concepts of audience, context, purpose, meaning and variation (Language ab initio guide, 2020). The aim of the second research was to compare students' thinking processes with their writing performance. Students had to choose a task and write between 70-150 words using the appropriate tone and register and including the layout and language conventions of the chosen text type. The think-aloud session helped students to develop their conceptual understanding as they chose the appropriate text type for the task, expressed ideas with fluency and accuracy and communicated clearly and effectively. Their responses incorporated some of the conventions of the selected text type. All students achieved a high mark in their written assessment, but only student 2 scored 15 out of 15 based on three assessment criteria: language, message and conceptual understanding. Before using the think-aloud method in the classroom, students' written grades were between 9-10 out of 15. After the think-aloud protocols, student 1, student 3 and student 4 improved their marks by scoring 12-13 out of 15.

5. DISCUSSION

The aim of this research was to have knowledge of students' understanding of the different text types and enhance their conceptual understanding. Therefore, the questions of this research were related to students' understanding of the different text types and the evidence of understanding that think-aloud provides. According to the think-aloud session protocols and the written assessment, students demonstrated good conceptual understanding. They were able to choose the appropriate text type for each task by making explanations, observing their comprehension and activating their prior knowledge. The think-aloud strategy helped to monitor students' thinking processes and get a better sense of their understanding. Students read aloud, asked for clarification and looked for context clues to make sense of what they read. Taking into account Bhatia's suggestions (2014), students placed the genre-text in a situational context by looking at their prior experience of the world, knew the layout of the personal text types (blog, personal diary and letter), defined the audience and used the language conventions of the text type.

According to the findings, it can be seen that the think-aloud strategy positively developed the comprehension skills of students and had a positive effect on their knowledge of the text types and conceptual understanding. This result can be compared with the investigation of sixth grade students' think-aloud processes while solving a mathematical problem verbally. In the opinion of Özcan, Imamoglu and Katmer Bayrakli (2017), the use of the think-aloud method empowered the results of their study. Sönmez and Sulak (2018) also agree that the teaching of the thinking-aloud strategy has positively developed the reading comprehension skills of 4th grade primary school students.

Another aim of this study was to explain why it is important to teach different text types in the classroom and how it can be taught in an efficient manner. As stated in the literature, students are not frequently taught techniques to read (Broer, Aarnoutse, Kieviet & Leeuwe, 2002). To overcome this problem, Ness (2016) encourages teachers to monitor students' comprehension, for example, by thinking aloud. Wilhelm (2001) also suggests, among other things, to read the text aloud to students while modelling some strategies such as questioning, identifying the main idea of the text and using prior knowledge, and to reinforce the think-aloud. Bearing in mind the objectives of language acquisition courses discussed in the literature review, the think-aloud strategy helped students to understand, analyse, and reflect upon the text types. They were able to respond appropriately, developing a coherent and organised response in the written assessment.

6. CONCLUSION

This study was crucial to help students to understand the meaning of the written tasks and choose the appropriate text type for the context, purpose and audience. Based on research findings, students developed their conceptual understanding of language, by communicating clearly and effectively, understanding and using language to a specific context and audience, and expressing ideas with fluency and accuracy.

Students were encouraged to make use of their critical thinking and transfer those skills to the target language. The think-aloud strategy is an effective technique in teaching the IB language acquisition courses and it should be promoted in order to improve students' comprehension of the different text types. Sönmez and Sulak (2018) suggest in their research that further studies could examine the effect of the think-aloud strategy on speaking, writing and listening skills. The results of the written assessment also show the positive effect of think-aloud strategy on students' writing skills. Students performed very well, demonstrated good writing skills and scored higher marks based on the language, message and conceptual understanding. Three students achieved 12 points out of 15 and one student achieved the total marks. Ness (2016) explores in her investigation how to better prepare early career teachers to conduct think-alouds in their classrooms. She says that an essential element in teaching children to effectively comprehend text is the use of teacher-led think-alouds and that effective teacher think-alouds positively affect student achievement. Considering Ness suggestions, teachers should incorporate these techniques in their teaching practices.

This investigation has been addressed within the settings of a specific context. Thus, future studies can be carried out to address the same research problem in different settings or context. In addition, more investigations can be conducted on how to teach students to recognize different text types and boost their conceptual understanding.

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