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Examining Sign Language Interpreter Support for Students with Hearing Loss in Vocational Courses

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ABSTRACT

The purpose of this study is to examine the process of sign language interpreter support provided in vocational courses to students at the School for the Handicapped, a special education institution in Turkiye where all of the students have hearing loss. Eight freshmen students in the Architectural Drafting Associate Degree program of the Department of Architecture and Urban Planning at School for the Handicapped participated in the study. The study, conducted as action research, revealed that the interpreter support provided increases the motivation of the students and positively affects their success. However, several factors such as the used sign language not meeting a standard, professional terms not having equivalents in SL, and the frameworks for the roles and responsibilities of the educational sign language interpreter not being determined resulted in problems in the research process. The translation modes were arranged according to the flow of the course, taking into account the characteristics of the students and the course, and were carried out with a dynamic equivalent and literal interpretations. It has been determined that there is a need for standardization of Turkish sign language, development of professional terminology in sign language, research and legal regulations regarding the training and employment of interpreters under national conditions. This study provides a new framework for collaborative practices in vocational courses with students with hearing loss and educational sign language interpreters.

Keywords: Sign Language; Concept Instruction; Deaf Interpretation; Educational Interpreting; Mode of Interpreting; Turkish Sign Language

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ARTICLE INFO

Received: 5 October 2024 | Revised: 2 December 2024 | Accepted: 5 December 2024 | Published Online: 20 December 2024
DOI: <https://doi.org/10.30564/fls.v7i1.7838>

CITATION

Karasu Sivas, G., Istel, C., 2024. Examining Sign Language Interpreter Support for Students with Hearing Loss in Vocational Courses. Forum for Linguistic Studies. 7(1): 196–207. DOI: <https://doi.org/10.30564/fls.v7i1.7838>

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1. Introduction

In Türkiye, where preschool, primary and secondary education is compulsory, students with hearing loss receive their education in an inclusive environment, regular or boarding special education schools. There are no regulations regarding the pre-school and critical period in language acquisition, resulting in students with hearing loss not to be supported in a standard way from birth to kindergarten. One of the most important problems at this stage is missing the critical period in acquiring the mother tongue. When schools' teaching approaches are examined, it has been determined that different methods such as the auditory-verbal method, sign language or total communication are applied in line with teacher competencies and requests from institutions^[1, 2]. It has been found that a significant number of these students possess reading and writing skills at the primary school level, with some unable to progress beyond this even by the secondary school level. As a result, they lag behind their peers in terms of reading comprehension and writing skills development^[3-5] (School for the Handicapped Archive Data). In his research conducted with twenty students studying at a boarding students with hearing loss vocational high school, Selvi^[2] found that the students' readiness levels were low and there was a lack of organization regarding the teaching methods used. While some of the teachers advocated sign language sign language, it was determined that they did not have the proficiency in this language and could not communicate effectively with the students. In a study conducted by Ilkbasaran^[6], which gathered insights from teachers and administrators at a high school attended by students with hearing loss, it was revealed that participants had significantly low expectations regarding the education and training available for these students. Consequently, the students graduated with literacy levels insufficient to meet their daily living and employment needs.

The education and training processes of countries are shaped by their education policies. In Türkiye, comprehensive legal regulations regarding special education were made in 1997 and 2005. The Special Education Services Regulation published in 2018 was updated in the process and became almost complete for the education of individuals with special needs^[7]. However, when it comes to practicing the aforementioned laws and regulations, various problems are faced. The enactment of the MNoE law in Türkiye in

1953 led to the cessation of sign language use in schools for students with hearing loss. This ban was rooted in the belief that auditory-verbal education was essential for the education of hearing-impaired individuals and that the use of sign language would hinder children's ability to speak. The repercussions of this decision continue to be evident in the processes of standardization, teaching, and dissemination of Turkish sign language^[8].

MNoE initiated the first comprehensive studies on Turkish sign language in the 1990s, culminating in the publication of the first "Turkish Sign Language Guide" in 1995. The enactment of the disability law in 2005 facilitated the incorporation of Turkish sign language into educational settings. Currently, it is observed that individuals with hearing loss utilize sign languages that lack nationwide standardization, with variations specific to their schools, cities, or distinct hearing-impaired communities.

In 2012, the MNoE prepared the first "Turkish Sign Language Dictionary", which was subsequently updated in 2015. However, it is seen that the sentence examples provided in both dictionaries did not reflect the grammatical structures unique to Turkish sign language; instead, they illustrated a signed form of the spoken Turkish language^[9]. Establishing that Turkish sign language possesses its own distinct grammar, the "Turkish Sign Language Grammar Book" was published in 2015. Following this development, it has been determined that Turkish sign language has its grammar, that it was not created by a group or an expert, that it has a visual-spatial modality specific to sign languages, and that Turkish sign language has inadequate and incorrect grammar given that it does not exhibit an articulatory morpheme typology like Turkish^[8].

When the process of acquiring Turkish sign language by students with hearing loss was examined, it was determined that individuals with hearing loss whose parents were also hearing-impaired learned this language within the family, while those who were not were able to obtain Turkish sign language knowledge at home managed to meet their needs at a fundamental level among family members and communicated with additional signs, gestures and facial expressions developed by themselves^[10]. Furthermore, it is seen that students with hearing loss are learning sign language primary and secondary education processes from their friends or teachers in the schools they attend^[11].

Starting from the 2016–2017 academic year, a Turkish sign language course has been included in the first-grade programs of students with hearing loss primary schools and course materials have been prepared. A year later, Turkish sign language courses were expanded to second and third grades^[12]. However, there are question marks regarding the quality and effectiveness of these courses, which were planned for only two hours per week. In research conducted by Tutuk and Melekoglu^[13], the teaching and implementation of these courses were described as ‘various efforts towards teaching Turkish sign language’. They suggested that the curriculum and materials used during those two hours should be developed, Turkish sign language education should be provided in early childhood and should be disseminated to wider audiences, especially the child’s with hearing loss immediate environment and teachers.

Applications regarding Turkish sign language teaching to educators in Türkiye began in 2013. The ‘Turkish Sign Language Teaching’ course started as an elective course in all higher education programs for candidate teachers, and two years later, it was included in the scope of compulsory courses in “Special Education Teaching” programs. However, the course being provided for only two hours a week over one academic term, and the instructors not having sufficiency over Turkish sign language are considered as crucial limitations regarding the efficiency of the course^[9, 14].

Another issue that needs to be emphasized within the scope of the purpose of this research is the characteristics of the educational interpreters. In their research aiming to determine the problems related to sign language education in Türkiye, Selvi and Yildirim^[15] stated that there are no legal regulations for sign language teaching in Türkiye, the criteria for sign language instructors have not been established, and incomplete or incorrect teaching is frequently encountered in Turkish sign language education practices in the research they have carried out. Upon review of the existing literature, it was found that no prior study had been conducted regarding the characteristics and qualifications of educational interpreters in Türkiye. And that awareness of educational interpreting, which requires many qualifications, is limited. Due to the great limitation in the Turkish literature on educational sign language and interpreting, information and data obtained from international sources are presented in the literature review. Below, it is aimed to convey the basic

elements of the research by explaining the characteristics and competencies of educational sign language interpreting.

2. Literature Review

Educational Sign Language interpreters are qualified interpreters who provide communication support and access to students, teachers and staff in school settings that require sign language. The relevant international literature showed that research on educational interpreters was mainly focused on inclusion environments due to the influence of the educational policies and educational methods applied in the countries^[16–24]. Sign language interpreters use various translation modes and methods during translation^[21]. Translation modes consist of consecutive and simultaneous translation. It is stated that consecutive translation provides more accurate translations compared to simultaneous translation^[25]. Translation methods at the semantic level are literal translation and dynamic equivalent translation. Literal translation is a translation in which the exact meaning of the information, thought or emotion is directly conveyed. Dynamic equivalent translation is a translation in which the interpreter produces an equivalent interpretation. In this method, the interpreter can follow the grammar of the sign language while explaining the teacher’s potential implied meanings or clarifying anything that the student with hearing loss thinks might be confusing^[21]. In the whole process, interpreters use finger alphabet to convey terms/concepts that do not have a sign language equivalent. The mode and interpretation methods used in translation have a significant effect on students with hearing loss. In two studies on the subject, when the success averages of classes where sign language interpreters made dynamic equivalent translations were compared with classes where they made literal translations, it was determined that the classes where the dynamic equivalent translations were used were more successful, but it should be noted that the difference was not statistically significant^[26, 27]. This is thought to be due to differences in the amount of information and explanations included by interpreters. De Wit & Sluis^[19] examined the quality of sign language interpreters in the Netherlands from the perspective of students with hearing loss. The results of the study found that students with hearing loss primarily preferred interpreters who provided dynamic equivalent and understandable translations. The study sug-

gests that many sign language interpreters lack awareness of the professional needs and expectations of students with hearing loss.

There are ethical rules that educational sign language interpreters are expected to follow. These rules are that the interpreter should convey what is said in an equivalent way, be impartial, not express their opinions to the speakers, and comply with the rule of confidentiality^[17, 22]. Before being employed, interpreters should be given clear and appropriate job descriptions^[16], and they should be allowed to use different forms of interpreting, including simultaneous and consecutive interpreting, to increase translation accuracy. Another striking result of the studies conducted in the inclusive environment is that sign language interpreters are given various tasks by the school administration and teachers, such as giving private lessons, teaching sign language, grading homework, disciplining students^[16, 20], helping students with their homework, and helping to plan lessons with teachers^[16, 28]. These duties undertaken by the educational sign language interpreters appear to conflict with the roles and responsibilities of the interpreter^[16]. In order to address the multiple roles and potential conflicts that interpreters face, it is important for school administrators and educators to be clear about expectations^[22].

In Türkiye, where there is a great need for educational sign language interpreters, there is a need for studies on courses to be carried out with the support of educational sign language interpreters for university education. The reason for this students with hearing loss who have gone through the primary and secondary education processes and reached higher education are known to be still facing problems. Additionally, most individuals with hearing loss who graduate from high schools in Türkiye cannot access university education. Vast majority of the individuals with hearing loss in Türkiye continue their university education in the Integrated School for the Handicapped, a special higher education institution consisting of only hearing-impaired students or within inclusive education in various universities. It has been determined that hearing-impaired individuals receiving education in an inclusive environment are individuals who became hearing impaired after the critical period in language acquisition or who have moderate/mild hearing impairment and had an early-access to hearing-aids^[29]. It can be said that those with limited language skills tend to

go to School for the Handicapped. During the institution's foundational years, School for the Handicapped predominantly delivered education using the auditory-verbal method. Subsequently, as part of the school development project conducted between 2005 and 2009, a novel vocational education model was built based on the Balanced Literacy Instructional Approach, which did not involve a sign language interpreter. This model underwent scrutiny through multiple doctoral theses and projects^[3, 5, 30, 31]. Over time, the auditory-verbal method has given way to total communication. Hence, the study holds significance in terms of incorporating sign language interpreters into the vocational education framework applied within the School for the Handicapped.

In the research, the terminology teaching process in a vocational course for students with hearing loss studying at a college was examined. The purpose of this article is to explore the educational interpreter process provided. Therefore, only data and findings regarding the sign language interpreter support are presented. In this context, the research questions are as follows:

- (1) How were the lessons carried out?
- (2) What are the aspects that worked well?
- (3) What are the problems experienced and suggestions for implementation?

3. Methodology

The research methodology employed is Action Research, a form of inquiry also known as teacher research, which aids in identifying focal points within comprehensive school planning and assessment studies. It also enriches professional understanding and practices within teaching and learning. These are studies in which data are collected and analyzed in a cyclical systematic manner in order to reveal problems related to the implementation process or to understand and solve a problem^[32, 33].

3.1. Setting

Founded in 1993, School for the Handicapped is the first and only school in Türkiye that provides vocational education to students with hearing loss at the higher education level. The school offers undergraduate programs in graphic and ceramic arts and associate degree programs in computer

operations and architectural drafting. Since 2015, sign language interpreter support has been provided in courses upon request by the instructor responsible for the vocational course. It cannot be said that the sign language used in the school is standard Turkish sign language. One of the reasons for this is that Turkish sign language is not standardized. For this reason, the use of the term sign language instead of Turkish sign language in the findings and discussion was deemed appropriate by the researchers.

The school aims to provide accessible education by considering the characteristics of the ‘least restrictive environment’ for each student in respect to the country’s education system and the characteristics of students with hearing loss^[34].

3.2. Participants

3.2.1. Students

The research was conducted with eight students who were attending the first year of the School for the Handicapped, Architectural Drafting Associate Degree Program

in the fall semester of the 2022–2023 academic year. As a result of the Language Competency and Placement Exams conducted by the School for the Handicapped, Fundamental Turkish Preparatory Coordination Office in the first week of the academic year, it was determined that the students’ literacy levels were at the primary and secondary school level and that two students communicated by speaking while the other students were using total communication method^[35, 36]. Student information is provided in **Table 1**. Before the research, the students were informed about the purpose and process of the research, and their written permissions were obtained on 03.10.2022.

Two students, S6 and S8, and relied on sign language and writing for communication due to becoming hearing impaired during the critical period. In contrast, S7, who had moderate hearing impairment, was able to communicate verbally, received inclusive preschool education, and was supported by private education institutions. The other students utilized the total communication method for their communication needs.

Table 1. The demographic and educational characteristic of the students.

Student No	Age/Gender	Degree of Hearing Loss (Better Hearing Ear)	Age of Onset of Hearing Aid	Age of Onset of Hearing Imp.	Communication Methods	Parent Edu.	Preschool	Elementary School	Secondary School
1	19/F	118 dB HL	9						
2	22/F	95 dB HL	—						
3	23/M	117 dB HL	10	Congenital	Sign Language and Writing	---	---	Special Ed. School	Special Ed. Vocational High School
4	21/M	107 dB HL	5						
5	20/F	119 dB HL	7						
6	23/F	110 dB HL	8 CI	4	TC*	Special Edu. and Reh. Center	Special Ed. School		
7	22/M	69 dB HL	6	Congenital	Speaking		Inclusion	Inclusion	Inclusion
8	38/M	110 dB HL	6	4	TC*		---		

* Total Communication.

S2, S3 and S4 received one year of education in the Intensive Turkish Preparatory Program as a result of the Language Competency and Placement Exams held at the beginning of the 2021–2022 academic year. After successfully completing the courses of Intensive Turkish Preparatory Program, they continued from the first year of their associate degree program. The students’ opinions on the mode of sign language interpreting were taken on 30/05/2024.

3.2.2. Sign Language Interpreter

The sign language interpreter, an early-aided, moderately hearing impaired, and a CODA (Child of Deaf Adults)

individual, has completed their secondary education in an inclusive setting. Commencing their university career as a civil servant in 2007, they spent five years in the Construction Works Technical Department and six years in the health unit. During their tenure in the health unit, they began working as a sign language interpreter for the communication of patients with hearing loss. In 2015, they temporarily attended classes at SfH if there was a demand for translation support, and as of 2018, due to demand, they were assigned as a sign language interpreter at School for the Handicapped for two years, followed by an additional assignment in 2020 at the

Faculty of Open Education. Currently, they provide interpreting and translation support for courses at School for the handicapped. Holding sign language interpreter certificates from state-administered exams, they were not required to obtain additional certifications or renew existing ones periodically after being appointed sign language interpreter at the university. Apart from their university role, they serve as a sign language interpreter in various institutions including ministries, bar associations, the Turkish National Federation of the Deaf, and television channels. Within the university where the research was conducted, they stand as the sole sign language interpreter. With an experience of more than 2400–2760 hours, meeting the threshold for near-native fluency^[37], an interview was conducted with the sign language interpreter on 08/05/2023 to delve into their educational background and professional journey.

3.2.3. Researchers

Three researchers served on the validity committee of the study. The research data were collected by the second author of the article, who completed her undergraduate and graduate education in the Department of Architecture and has a PhD in the field of education of students with hearing loss. The first author, who has a bachelor's, master's, and doctorate degrees in the field of individuals with hearing loss education, teaches reading-writing and professional language courses at the school. Both researchers use sign language at a basic level. The third researcher, who graduated from the teaching of the hearing-impaired undergraduate program, took part in validity and reliability studies besides the validity committee. All researchers have 28 years or more of experience in the field of education of the hearing impaired.

3.3. Data Collection and Analysis

This article presents the findings obtained from the data collected in six courses, which the sign language interpreter attended between October 17, 2022, and December 26, 2022, in the Construction Terminology I course in the fall semester of the 2022–2023 academic year. Pre-test and post-test data were collected one week before and after these dates.

Qualitative and quantitative data collection methods and techniques were used in the process. The collection and analysis of the qualitative data were carried out simultaneously. The research data consists of video recordings

(16'27"), lesson plans and reflective assessments (9 pieces), pre-tests and post-tests based on the criterion, validity committee meeting minutes (18 pieces) and audio recordings (13'40"), student materials (individual dictionaries/files/notebooks), semi-structured interviews, student information and audiograms. In this article, the data collected in 45'x2 lesson hours in six weeks were analyzed. The collected data and the results obtained were reported by correlating them with each other and with the literature.

3.4. Validity and Reliability of the Data

The research process was monitored by the validity committee, overseeing the quality of the data and its implementation^[32, 38]. Validity studies of the pre-test and post-test questions were prepared as a test, based on the criterion, and conducted by obtaining expert opinion. Two researchers assessed the test results, and an inter-rater reliability calculation was conducted. A unanimous agreement of 100% was reached in the inter-rater reliability assessment^[39].

4. Findings and Discussion

4.1. Lesson Process with Sign Language Interpreter

The weekly lesson, the practitioner's work process and the validity committee meetings cycle of the research are presented in **Figure 1**. According to the purposes of this article, the process under the title of 'Conducting the Course with sign language interpreter' in this cycle is presented by relating it to other titles in the cycle.

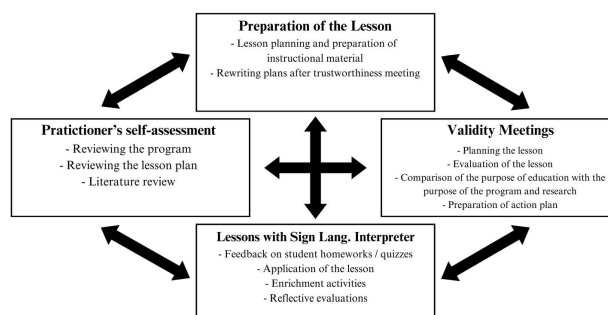


Figure 1. The weekly instructional cycle.

The sign language interpreter, who was actively working in a different unit of the university, came to SfH only during class hours throughout the research process to pro-

vide interpretation support. They were not assigned any other task other than interpreting. The sign language interpreter made their translations simultaneously, organized and fluently. During the research process, they followed the grammar of the sign language with the dynamic equivalent interpretation translations they made, explained the potentially implied meanings of the educator and made an effort to clarify terms that they thought were difficult for the students to understand^[21]. At the same time, the sign language interpreter seemed to be determined to make efforts towards effective communication by fully understanding the student and contextual needs, ensuring the clarity and understandability of messages, providing feedback to enhance clarity, and focusing on visual cues in the environment^[18, 19, 23, 24].

There was no collaboration work before or after the lesson between the researchers and the sign language interpreter, and no information about the course content was provided. The fact that the course notes were not given to the sign language interpreter in advance did not cause any problems in transferring the course content. It is thought that this situation is due to the sign language interpreter's experience in the educational environment in which they provided support and students' characteristics^[40] and the qualifications of the research team (Lesson Plan and Reflective Journal Entries, 24/10/2022, 21/11/2022 and 12/12/2022; Validity Meeting; 8 and 14).

However, at the beginning and end of the education period and with evaluations and validity committee meetings during the process; all precautions were taken to prepare lesson plans and materials in accordance with the language levels and academic needs of the students^[1, 30, 41-43]. The fact that SfH is a private education institution was effective in taking these precautions.

"Construction Terminology I" is a course which teaches the fundamental terms that students will use in their professional lives. In the course, the written and oral forms, visuals or figures of the terms and their definitions were given together, which is previously shown to be supporting effective teaching in various studies^[1, 30, 42]. Lecture notes were given to students one week in advance^[44]. During the lessons, the texts were read aloud/signed by the instructor and students, and then the students were asked to narrate the texts. Throughout the process, concepts and information were conveyed to the students through sign language. Mur-

phy^[45] states that sign language can effectively convey the content of university courses. When the test results, which were taken as the reference for the research criterion, are examined, it is seen that while the average of the pre-test data was 20.4 points, the average of the post-test data was 75.

4.2. Well-Functioning Aspects of the Lessons

During the research process, it was observed that the sign language interpreter made it easier for students to understand the lesson and increased their interest in the lesson. The interpreter exhibited various repetitive behaviours such as deciding to repeat terms and definitions on their own, asking students to repeat them, and giving different examples related to the subject. While some of these behaviours can be considered as good aspects, it has been determined that some of them caused problems regarding classroom management and disrupted the effectiveness of the lessons (Lesson Plan and Reflective Journal Entries, 24/10/2022, 7/11/2022, 14/11/2022 and 12/12/2022). The aspects that worked well in the lessons carried out with sign language interpreter are as follows: making the lesson easier for the students, increasing the participation of the students who communicate with sign language in the lesson, contributing to the development of turn-taking skills, being effective in providing common interest, correcting the students' erroneous expressions, praising the students, and occasionally creating an enjoyable classroom environment. It is thought that the fact that the sign language interpreter is CODA and experienced and familiar with the course content is effective in creating this educational environment^[46]. In addition, being a CODA has been effective in establishing effective communication with the students and understanding the contextual needs and deaf culture^[34].

4.3. Problems Experienced in the Lessons and Their Solutions

The problems experienced are grouped under two categories as the problems experienced with the sign language used and the sign language interpreter. The problems related to sign language are that Turkish sign language is not standardized and most of the terms of Building Construction do not have an equivalent in sign language. Despite intensive studies in the last twenty years in Türkiye, Turkish

sign language has not been standardized and has not been adopted completely by the hearing-impaired population^[8,9]. This situation has also reflected on the lessons. It has been determined that first-year students from different cities and educational environments of the country use even the words they use in daily life (e.g., clean, homework, emotion, etc.) in different ways with sign language^[2].

The problem was partially overcome in the process due to the translation mode and experience of the translator providing sign language support in the research and her effective and adequate use of sign language.

Students with hearing loss who participated in the study are students with limited language and conceptual development. Since most of the terms such as 'structure, column, basement, statics, geology, ground survey, foundation application' do not have equivalents in the sign language used, they were translated with fingerspelling and were supported with visuals. This situation can be interpreted as a dynamic equivalent translation and is inevitable in the use of sign language in vocational training^[47]. The transfer of a concept with fingerspelling and/or written format is not sufficient for effective teaching. To ensure the students' understandings, the terms transferred with fingerspelling were shown in different forms, written on the board by the teacher, translated with sign language, read aloud or signed repeatedly, and written by the students in their notebooks and individual dictionaries. Considering that spreading the teaching process over a longer period of time and intensive repetitions are needed for the development of individuals with hearing loss vocabulary, terms and definitions were repeated with homework and enrichment activities throughout the research process^[3, 30, 43]. However, it should not be overlooked that these studies will not be sufficient for meaningful and permanent learning. Concept development plays an important role in the development of individuals thinking and communication skills. Therefore, it is critical to provide support appropriate to the needs and levels of individuals with hearing loss in order to effectively develop their language skills at all stages of their education.

The problems experienced with sign language interpreter were determined as; problems experienced in the translation mode, translating while the researcher was reading aloud, confusion regarding roles and responsibilities, the style of wording, and showing negative behaviour. One of the

most important problems regarding the translation mode was that sign language interpreter completed and translated the incomplete or limited language coming from the students. She translated the missing words that the students conveyed with fingerspelling by completing them, and the expressions/sentences consisting of only words as sentences suitable for the Turkish spoken language grammar. Translations made by dynamic equivalent translation have advantages and disadvantages^[22]. This situation caused the researcher to evaluate her students incorrectly from time to time during the lesson and led to accepting the incomplete answers given by the students. For example, in the lesson related to 'Ground Survey Process'; students spelt 'A, P and L' and 'A' letters with fingerspelling, and the sign language interpreter translated both expressions as 'Application is made.' Similarly, the student's statement 'The project is made.' was translated as 'The project is prepare.' (Lesson Video, 21/11/202). Due to this problem, the researcher felt the need to make various efforts to verify the statements from the students in most translations, such as by having them repeat the answer or writing it on the board lesson (Plan and Reflective Journal Entries, 7/11/2022; Validity Meeting No, 14).

In the research, considering the characteristics of the course and the students and the purpose of the course, a model has been formed in terms of translation mode, in which dynamic equivalent translation was to be used when translating sign language interpreter to the student and literal interpretation to be used when translating the sign language from the student. Research shows that it is appropriate to use both dynamic equivalent and literal translations together depending on the determined the translation mode^[40, 47]. At the end of the research process, the opinions of the six students who communicated with the sign language regarding the translation mode were obtained. Four of the students stated that the translation with literal translation was their preference. They stated the reason for their demand was to receive the information or idea conveyed completely. This statement led to the opinion that the students' awareness of their own language and conceptual development levels are limited. The results of different research conducted with university students with hearing loss show that these students have various preferences regarding the translation mode. In Moser's^[48] study, participants preferred both modes by 53% to 47%, while in Locker's^[46] study, participants wanted standard American

Sign Language translation instead of literal translation. And in Viera and Stauffer's^[49] studies, participants preferred literal translation by a high percentage. Marschark et al.^[26] stated that students with hearing loss are competent in understanding dynamic equivalent or literal translation regardless of their preferred IE method and skill level.

Another important problem experienced in the process was that the sign language interpreter persistently continued to translate while the teacher was reading the text projected on the board word by word. During the lessons, the sign language interpreter started simultaneous translation (4 times) during the oral text readings and was warned by the instructor. The sign language interpreter made objections such as 'Teacher, they don't understand, they won't understand', 'Translation is necessary (Lesson Videos, 24/10/2022, 31/10/2022 and 7/11/2022). The researcher warned the sign language interpreter during and after the lessons, and the reason was explained. The sign language interpreter did not repeat this behaviour after the lesson dated 14/11/2022. It is thought that sign language interpreter's insistence on translating with sign language during the structured reading aloud stems from her beliefs about the education of students with hearing loss (Lesson Plan and Reflective Journal Entries, 7/11/2022; Validity Meeting No, 8 and 14).

Other problems experienced were determined as; arriving late to all classes (5–8'), communicating with other students on non-class topics in times where the teacher gives individual feedback to other students and various similar occurrences, checking homework and quizzes simultaneously with the teacher and giving feedback even though it was not requested by the research team, getting angry with the students when they answer incorrectly and proceeding to tell the correct answer, experiencing confusion regarding their roles and responsibilities, using inappropriate wording and showing negative behaviours in communication with students. The interpreter was warned about these problems during and after the lesson, and as a result of the warnings, the frequency of their behaviours decreased but did not completely disappear. It is believed that through their interventions with the students, they tried to integrate themselves as a member of the class, assumed the role of the teacher, and held conviction in the correctness of their actions (Plan and Reflective Journal Entries, 21.11.2022).

Since the sign language interpreter had been working

as an interpreter at the university since 2015, it was not deemed necessary to make a detailed job description before the research. It was concluded that this situation was due to the fact that the research team members had not received interpreter support in their classes before. The other reasons for the encountered problems are thought to stem from the absence of a clear and explicit job description for the sign language interpreter based on the institution's purpose prior to recruitment^[16], the lack of clear delineation of roles and responsibilities, and possibly from the sign language interpreter's personality traits. Additionally, it is presumed that these issues persist in their sign language interpreter practices currently and that it has been ongoing at the university for nine years. In the conditions under which the research was conducted, the most important suggestion for solving the problems conveyed is that faculty members should learn sign language and a sign language interpreter should be employed on a permanent basis. The roles and responsibilities of this sign language interpreter should be defined prior to employment. In addition, interpreters should be continuously evaluated^[20, 41] and necessary measures should be taken to support their professional development^[40, 50].

In the school where the research was conducted, language and vocational courses are planned to support the development of language and communication skills, and sign language is accepted as an alternative means of communication. Lesson plans, course materials and evaluations are carried out in accordance with the needs and levels of the students. It is observed that students with hearing loss cannot access education in an inclusive environment when they reach university level due to the institutions' inability to support students effectively and sufficiently at all levels of education in the country.

5. Results

In the study, conducted as teacher research, the process of the lessons given with a CODA sign language interpreter experienced in educational interpreting was examined. In the research, it was determined that sign language interpreter, who used sign language effectively and was familiar with deaf culture, positively affected the academic development of the students. Various problems were experienced during the research process. One of these problems is caused by the sign

language interpreter's self-imposed roles & responsibilities, and their personal characteristics leading to various issues. Problems attributed to the sign language interpreter are believed to stem from the interpreter transitioning to the role of a sign language interpreter according to the institution's needs after starting their professional life with a different role, and the lack of a clear and explicit job description after being appointed as a sign language interpreter. Therefore, it is crucial to define job descriptions of the sign language interpreters' when employed temporarily or permanently in special education and other institutions.

Another finding of the research regarding sign language is that the course and student characteristics being taken into consideration when deciding on the mode of sign language translations in educational environments. Dynamic equivalent translation was found to be efficient in the process of transferring information to the student according to the purpose of the lessons; while literal translation was found to be appropriate when translating the sign language coming from the student for evaluation purposes when it comes to arranging the translation mode. It was determined that there was a need to revise the roles and responsibilities of the translator regarding the ongoing sign language interpreter support at the college where the research was conducted. This finding will likely develop sign language translation practices included in the vocational education model implemented at the college.

One of the challenges encountered in the research process is the lack of standardization and the absence of equivalent professional terms in sign language. The non-standardization and limited prevalence of Turkish sign language have a negative impact on the educational experiences of students with hearing loss who rely on sign language for communication. Studies indicate that a significant majority of educators responsible for teaching students with hearing loss in Türkiye lack proficiency in sign language, hindering effective communication with their students. For this problem, which will take a long time to solve, it is recommended that educators and other school personnel responsible for the lessons of students with hearing loss learn sign language and that the lessons be supported with an educational interpreter if requested by the students. It is seen that awareness and studies on educational interpreters are limited in Türkiye. In this context, research and model development for the education and employment of educational interpreters can be

recommended. Although there is a need in the educational environments of students with hearing loss, an assignment of a sign language interpreter is not possible with the current regulations. As part of this study, it is recommended that the Ministry of National Education formulate strategies to promote the use and teaching of sign language, address uncertainties surrounding the educational approaches for individuals with hearing loss, standardize the Turkish sign language and develop vocational sign language. In addition, realistic and applicable research can be suggested in the country conditions to fill the gap in the education, employment, supervision and monitoring of the competencies of interpreters.

It is anticipated that the research findings will provide insights into the essential characteristics that educational institutions' administrators and educators should consider in the employment of sign language interpreters to support classroom processes. One of the limitations of this study is that it was conducted at a specialized higher education institution where vocational training is provided to solely students with hearing loss.

Author Contributions

Conceptualization, G.K.S., C.I.; methodology, G.K.S.; software, G.K.S.; validation, G.K.S., C.I.; formal analysis, G.K.S., C.I.; investigation, G.K.S., C.I.; resources, G.K.S., C.I.; data curation, G.K.S., C.I.; writing—original draft preparation, G.K.S.; writing—review and editing, G.K.S., C.I.; visualization, G.K.S.; supervision, G.K.S., C.I.

Funding

This research received no external funding.

Data Availability Statement

Information about data and materials used in the study is available.

Acknowledgments

We would like to thank all the researchers and the sign language interpreter for their support and contribution.

Conflicts of Interest

The authors declared no conflict of interest.

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