INVESTIGATING SUBJECT-SPECIFIC LITERACY IN A NUTRITION COURSE IN A TURKISH VOCATIONAL HIGH SCHOOL

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DECLARATION OF ORIGINALITY

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- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

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ABSTRACT

Investigating Subject-Specific Literacy in a Nutrition Course in a Turkish Vocational High School

The present study investigated how the students and the teacher learn/teaches the specific content based on Cognitive Discourse Functions (CDF) in learners' mother language (L1) in a vocational high school. This small-scale case study was conducted to examine the "Maternal and Child Health lesson" / "Baby and Child Nutrition" class presented by the content teacher based on the framework of CDF proposed by Dalton-Puffer (2016). Besides understanding how the students gain subject specific literacy in their departmental courses, the study enables me, as a teacher of English language, to plan a CLIL lesson by focusing on the content that the students have already been familiar with in their L1 and the language forms which they use to express their knowledge related to the content area. Thus, it is necessary to observe what the students learn, how they construct the content knowledge and how the teacher uses the materials in the real classroom environment. Furthermore, with the aim of investigating the coursebook, the academic language of the coursebook is analyzed, taking into account Hyland's (2005a) metadiscourse features. Besides, the video records of the lectures are analyzed qualitatively to examine the use of CDF constructs in the classroom interaction and finally the individual interview with the content teacher and focus group interviews with the students are reviewed based on the descriptive analysis method. The findings of the study display that the students and the teacher co-construct the content knowledge with the use of CDF constructs and metadiscourse functions in Turkish Academic Language.

ÖZET

Türkiye'de Bir Meslek Lisesinde Beslenme Konusunda Alan Okuryazarlığı Araştırması

Bu çalışma, bir meslek lisesinde öğrencilerin ve öğretmenin, öğrencilerin ana dilinde (L1) Bilişsel Söylem İşlevlerine (BSİ) dayalı olarak belirli bir içeriği nasıl öğrendiklerini/öğrettiklerini araştırmıştır. Bu küçük ölçekli vaka çalışması, Dalton-Puffer (2016) tarafından önerilen BSİ çerçevesine dayalı olarak içerik öğretmeni tarafından sunulan "Anne ve Çocuk Sağlığı dersi" / "Bebek ve Çocuk Beslenmesi" dersini incelemek için yapılmıştır. Bu çalışma, öğrencilerin bölüm derslerinde konuya özgü okuryazarlığı nasıl kazandıklarını anlamanın yanı sıra, bir İngilizce öğretmeni olarak, öğrencilerin D1'lerinde zaten aşina oldukları içeriğe ve içerik alanıyla ilgili bilgilerini ifade etmek için kullandıkları dil biçimlerine odaklanarak bir CLIL dersi planlamamı sağlayacaktır. Bu nedenle, öğrencilerin ne öğrendiklerini, içerik bilgisini nasıl yapılandırdıklarını ve öğretmenin materyalleri gerçek sınıf ortamında nasıl kullandığını gözlemlemek gerekir. Ayrıca, ders kitabını incelemek amacıyla, Hyland'ın (2005a) üst söylem özellikleri dikkate alınarak ders kitabının akademik dili analiz edilmiştir. Ayrıca, derslerin video kayıtları, sınıf içi etkileşimde CDF yapılarının kullanımını incelemek için nitel olarak analiz edilmiş ve son olarak içerik öğretmeniyle yapılan bireysel görüşme ve öğrencilerle yapılan odak grup görüşmeleri betimsel analiz yöntemine dayalı olarak incelenmiştir. Çalışmanın bulguları, öğrencilerin ve öğretmenin Türkçe akademik dilinde BSİ yapılarını ve üst söylem işlevlerini kullanarak içerik bilgisini birlikte yapılandırdıklarını göstermektedir.

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CHAPTER 1

INTRODUCTION

This chapter provides information about the background of the study. It introduces statement of the problem, the rationale, aims and significance of the study. Finally, it presents the key terms.

1.1 Background to the study

There has been ongoing discussion regarding the effective teaching of a foreign language throughout history. In the search for improved language instruction, researchers in the field of language education have arrived at novel conclusions. Specialists in this domain have proposed an innovative teaching approach in which second language (L2) acquisition occurs within a context related to the curriculum (Swain, 1996). This approach is termed as Content Based Instruction (CBI). The core concept underlying CBI is that learners master a language more effectively when their primary focus is on the subject matter, as opposed to solely linguistic structures. By selecting engaging topics for learners, their cognitive motivation is enhanced. Consequently, learners can draw connections between the new information within the context and their existing knowledge, both linguistically and conceptually. CBI's stance is that language and content should be intertwined, mirroring the natural acquisition of a first language. As the subject matter becomes more complex and challenging for learners to grasp, the language employed to convey their ideas also becomes more intricate. Thus, CBI presents a natural learning environment in which cognitive and linguistic aspects progress in tandem (Alptekin et al., 2007).

Another relatively modern approach that combines both content and language, which is similar to CBI is Content and Language Integrated Learning, CLIL. The core idea of CLIL method is that integrating content and language makes the learning process easier. While investigating the effectiveness of CLIL programs, researchers have primarily focused on the improvement of participants' second language (L2) competence. The findings have generally suggested that CLIL participants tend to make faster progress in their L2 development compared to their peers in traditional foreign-language curricula (Pérez-Vidal & Roquet 2015).

1.2 Statement of the problem

In our context in Türkiye, English is taught as a foreign language (EFL). While teaching English, the method generally used is CBI in which there is a content (any content from any disciplines) and the linguistic forms are used/taught to convey the meaning related to the content. However, my aim in this research is to go beyond CBI and try to apply the CLIL method in my classroom. Before I use the content in the Child Development departmental courses in the English classes and before the combination of the content knowledge with English language , it is vital to examine how the learners perceive the specific content knowledge in their L1 and how the content teacher conveys the meaning related to the specific content. The students' cognitive level of development and their literacy in a specific content area are vital to be examined. In addition to the students' understanding, the way of the teacher who teaches the content and the language used by both the content teacher and the students are worth analyzing to identify the specific language constructs based on the CDF constructs (Define, Describe and Explain) by Dalton-Puffer (2013) in L1 in the lesson. With the valuable information gathered from this study, CLIL lessons will be

able to be planned based on the language structures and vocabulary items commonly used in the specific content, so that as a teacher of English, I can create a CLIL lesson by focusing on those forms and vocabulary items that the students have already been familiar with in their L1. In short, it is important to be aware of what language forms and CDF constructs are used to convey the meaning in L1 by the content teacher and in the coursebook so that I can follow the same pathway to teach the content effectively in English classes based on the CLIL approach.

1.3 Rationale and aims of the study

The aim of the study is to examine the students' subject-specific literacy in their L1 (Turkish) in one of their departmental school subjects, Maternal and Child Health course / Nutrition unit, which is a compulsory course in the Child Development Department in a state Vocational High School in the central part of Turkey, Niğde. Subject-specific literacy in L1 refers to the development of language proficiency and literacy skills in one's first language (L1) within a specific subject area. It is very significant for the students to be competent in the content area to be able to pass the course, thus the materials and the activities used in the lesson to teach the content effectively are worth analyzing to see to what extent the students comprehend the Nutrition content provided in their first language, Turkish, in the lesson.

I have been working as a teacher of English language for ten years. I have taught English in different school categories such as primary, secondary and high school which belong to the Ministry of National Education. The school where I am currently working is a Vocational High School. In this school, there are three departments such as Child Development, Fashion Design and Textile Departments. While I am teaching English to the students studying Child Development, I always

prepare some materials to teach the vocabulary they need to learn for their study area. To be able to prepare a lesson on Baby and Child Nutrition, I need to know what the students have already learned about the subject in their L1 (Turkish). Since we have limited teaching time per week (only 2 hours a week), I need to make a very comprehensive lesson plan for my students. Another reason for teaching English effectively in a limited amount of time is that the students live in an environment in which there are many immigrant citizens. We have immigrant multilingualism growing in Türkiye. That is why my students have to know English related to their job to be able to have effective communication with international people. Since it is very likely to work with non-native speakers of Turkish in their job environment, it is necessary for them to learn discipline specific English which is called ESP (English for Specific Purposes). However, this discussion is beyond the scope of this study. Therefore, I am not going to deal with it in detail but I will do this study having this issue in my mind.

Another reason leading me to do this research is that there is a lack of study on the subject specific literacy on health and nutrition as a departmental course in a school in the related literature. The number of studies conducted on subject specific literacy in a specific context at high school level is also limited because of the difficulty of observing the students' understanding of a specific topic in a real classroom environment.

1.4 Significance of the study

The findings of the study will generate valuable implications for designing curriculum and teaching techniques in specific content areas both in Türkiye and across the world. This study will contribute to understanding how the knowledge in

their departmental course is constructed by the 9th graders. It will also make a valuable contribution to the related literature.

1.5 Definition of terms

Classroom Interaction: the use of interaction as a way of negotiating meaning and assisting learning by teachers and students (Walsh, 2011).

Classroom Talk: is an effective way of teaching and learning in that it helps students and teachers communicate knowledge and understanding (Edwards-Groves et al., 2013).

Literacy: In the past, literacy was narrowly defined as the capacity to read and write. However, its scope has significantly broadened today. It encompasses various forms of communication, including writing, speaking, and even visual modes, which students commonly encounter and need to become proficient in when studying academic subjects (Morton, 2020).

Subject Specific Literacy: the development of language proficiency and literacy skills within a specific subject area (Shanahan & Shanahan, 2008).

Academic Language: the language which is used in educational settings to acquire the specific content and to communicate a deeper comprehension of the content to learners. As academic language transmits abstract, technical and complicated ideas of various fields, it entails learners to think and act as experts, for instance, in science, math and history, etc. That is why academic language is different from everyday language (Gottlieb & Ernst-Slavit, 2013). Academic language is learned and used in academic or school settings in which the focus is on a specific content.

Cognitive Discourse Functions (CDF): refers to cognitive processes, such as Categorize, Define, Describe, Evaluate, Explain, Explore, Report, related to

comprehending academic content occurring in linguistic patterns in the classroom. These linguistic patterns establish a bridge between content and language (Dalton-Puffer, 2013).

Content and Language Integrated Learning (CLIL): is an approach to teach/learn a specific content through the medium of a second or foreign language with the aim of learning/teaching both the content and the language (Marsh, 2000).

CHAPTER 2

LITERATURE REVIEW

This chapter presents information about the theoretical background of the study.

In order to be successfully literate in a specific content, it is necessary to be aware of the strategies and approaches that are effective for learning the content. As it is stated in Coyle & Meyer's chapter in 2021, it is a known fact that deeper learning is directly connected to subject specific ways of constructing and communicating knowledge, which is also in relation to transferable knowledge entailing deep understanding of specific subjects which leads to the development of subject-specific literacy.

In this respect, it is vital to know what Subject-Specific literacy is and where it originated from. According to Shanahan & Shanahan (2008), the learners need subject-specific literacy to comprehend and interpret the texts and the content related to a specific subject area.

2.1 Literacy

Before delving into the specifics of subject-specific literacy, it is crucial to understand what "literacy" is.

Traditionally, literacy means having basic reading and writing skills to comprehend and express information. However, over time, definitions of literacy have changed, always including reading and writing skills. Recent definitions have expanded in more complex aspects of these skills, aiming to differentiate between basic literacy, which is inadequate for modern life, and the advanced literacy skills crucial for success in the 21st century, both in work and social life (Shanahan, 2019).

Focusing on literacy entails considering that various academic subjects, such as science and history, possess distinct forms of communication, usually manifested in specific text types or genres commonly employed. For instance, a typical genre in science is the laboratory report, detailing the process and outcomes of an experiment, while in history, it may involve an historical account that not only narrates events but also provides explanations. Llinares et al., (2012) highlights the importance of literacy by stating that to master a school subject, one must be capable of understanding and creating the appropriate texts or genres, both in written and oral forms, through which knowledge in that particular subject is conveyed.

2.2 Literacy types

Literacy types and the differences among three types of literacy are necessary to be taken into consideration in order to grasp the theoretical background of the present study. Disciplinary literacy, content area literacy, and subject-specific literacy are three distinct terminologies, despite their apparent similarity, as they each refer to unique aspects of literacy within the context of education. According to Shanahan's definition (2019), disciplinary literacy refers to the literate practices unique to the specific social environments within different academic fields. These environments are shaped by the subject matter which is studied on, how it is studied and standards of evidence employed in each discipline. Disciplinary literacy emphasizes the application of reading, writing, and communication skills within specific academic disciplines, such as history, science, or mathematics. It involves understanding and using the specialized language, texts, and practices associated with each discipline. On the other hand, content area literacy focuses on developing reading and writing abilities across various subject areas, with an emphasis on comprehension and

critical thinking across diverse topics. It is more broad in scope and is applicable across different academic subjects. Lastly, subject-specific literacy hones in on the specific skills and knowledge needed to comprehend and communicate effectively within a particular subject, such as medical literacy or legal literacy. Despite these subtle distinctions, all three forms of literacy play crucial roles in empowering students to engage meaningfully with academic content and succeed in their educational journey.

Understanding these differences helps educators and policymakers to tailor instructional approaches and support systems more effectively, fostering a well-rounded and comprehensive approach to literacy development.

Education experts are increasingly interested in disciplinary literacy, recognizing the importance of students acquiring not only basic reading and writing skills but also the specific language abilities necessary to comprehend and engage with various types of texts encountered in their academic subjects. The notion put forth by ELIS (2013) is that different disciplines possess unique ways of thinking and using language, and students may struggle to fully grasp the subject matter if they do not become proficient in the corresponding language and thinking practices. Shanahan & Shanahan (2014) puts the emphasis on literacy instruction in science, history, literature, and mathematics, as stated in the Common Core State Standards (CCSS), has prompted teachers to reconsider their current teaching methods in these subject areas.

As for the differences between content area literacy and disciplinary literacy, initially, content area literacy and disciplinary literacy may seem synonymous, as a content area can be viewed as a discipline itself. However, Fang and Coatoam (2013) acknowledge that disciplinary literacy and content area literacy are approaches to

academic literacy development in the content areas. The main focus of content area literacy is on study skills which are essential for students to learn from subject specific texts. In contrast, disciplinary literacy emphasizes on the knowledge and the abilities to create, communicate and utilize the knowledge in a specific context. Despite the distinction made by Fang and Coatoam, many teachers tend to use these terms interchangeably. The issue with treating them as equal is that teachers then equate the definitions and practices of the two terms. According to Shanahan and Shanahan (2014), many teachers still lack a clear understanding of the differences between content area literacy and disciplinary literacy.

Over the past few years, the literacy rates among teenage students have remained stagnant, even though younger students' reading abilities have shown noticeable enhancements. While schools have successfully maintained the same literacy standards achieved for adolescents, there has been no progress in advancing their literacy levels beyond that point. Throughout history, the focus of literacy instruction has been on teaching fundamental skills like decoding, fluency, and basic comprehension strategies. These skills are broadly applicable to most texts and reading situations across different subjects. This approach is reasonable when dealing with younger children. As it is stated in Shanahan & Shanahan's study in 2008, however, as students progress through the grades, it becomes problematic because many literacy skills and texts become highly specialized, requiring unique approaches, which makes improving subject specific literacy skills necessary.

The notion of utilizing literacy skills in various subject areas has remained relatively unchanged for over a century (Brozo, et al., 2013). However, the introduction of the Common Core standards has presented a challenge to this traditional concept, as the literacy profession has been developing a newer approach

called “disciplinary literacy.” According to Fang (2014), disciplinary literacy emphasizes the importance of fostering students' ability to participate in social, semiotic, and cognitive practices that align with those of experts in specific disciplines. This approach differs from content area literacy, which focuses on teaching specific literacy skills in certain content areas, rather than imparting skills that can be applied across various subject areas.

Shanahan and Shanahan (2008) conducted a study on disciplinary literacy. The study focused on investigating how experts in specific subjects and secondary content teachers engage with disciplinary texts, employ comprehension strategies, and subsequently instruct these strategies to adolescent readers. Their project aimed to challenge the conventional notion of content area literacy, which views it as a basic set of skills adaptable to diverse texts and reading situations. While acknowledging the partial correctness of this perspective, Shanahan and Shanahan argued for the necessity of advanced literacy instruction that extends beyond the classroom and prepares students for real-world applications. They concluded that disciplinary literacy, defined as guiding students to effectively navigate the unique demands of reading and writing within specific disciplines, surpasses traditional conceptions of content area reading.

Traditionally, there has been an effort to turn every content-area teacher into a reading teacher by urging them to teach these general-purpose strategies. However, this approach has not been widely embraced by teachers in specific disciplines, nor has it been particularly effective in significantly improving reading achievement on a large scale. According to Shanahan & Shanahan (2008), more recent treatments and the findings from their study propose that as students advance in their education, reading and writing instruction should align more closely with the subjects they

study. In other words, the instruction should be tailored to support and reinforce their performance with the specific types of texts and interpretive standards required in different disciplines or subjects approaches.

Within this respect, Moje (2008) states that disciplinary literacy involves instructing students about "what the privileged discourses are, when and why such discourses are useful, and how these discourses and practices came to be valued" (p. 100). Conceptualizing subject areas as discourses implies a shift in instructional methods. Teachers would not only teach the content of a discipline but also educate students on how and when to apply literacy skills within that discipline. However, Moje (2008) acknowledges the challenges involved in implementing disciplinary literacy and initiating the necessary changes. Some of these challenges include navigating the subcultures that exist between different disciplines, limited opportunities for teachers to engage extensively with various disciplines, and the constraints of the typical secondary school day. Moje's personal definition of disciplinary literacy, shaped by prior research and classroom experiences, emphasizes viewing each discipline as a distinct discourse. Moje concludes by suggesting that addressing these questions and challenges can contribute to creating an ideal educational environment for disciplinary literacy. While she does not provide direct strategies or methods for application, Moje (2008) suggests that building instructional programs specifically tailored to disciplinary literacy may be the most effective approach, rather than simply encouraging content teachers to incorporate literacy teaching practices and strategies.

2.3 The relationship between genre theory and subject specific literacy

In the studies based on literacy, genre theory is inevitable to be mentioned. Genre is conceptual, socially acknowledged methods of employing language. It is founded on the notion that individuals within a community typically have no trouble identifying resemblances in the texts they frequently utilize, and can rely on their recurring encounters with such texts to interpret, comprehend, and potentially produce them with relative ease (Hyland, 2007). Genre theory is a concept within the field of linguistics and communication that focuses on understanding how different types of texts or discourses are structured, shaped by conventions, and used to convey specific meanings within particular social contexts. When applied to subject-specific literacy in a specific content area, such as baby and child nutrition, genre theory becomes a powerful tool for analyzing, teaching, and communicating knowledge effectively.

Genre theory allows educators and students to recognize the typical structures, language patterns, and rhetorical features found in texts related to a specific content which is “Baby and Child Nutrition” in the scope of this study. By understanding these conventions, individuals can better comprehend and produce materials specific to this subject (Hoey, 2001). As educators, we have the capacity to participate in specific types of writing, like lesson plans, student assessments, and feedback documents. This allows us to bring a level of proficiency to how we comprehend and compose familiar texts. To put it more precisely, as in the Hoey’s (2021) statements in which we possess a reservoir of prior knowledge that we can use to our advantage when reading and writing, enabling us to convey our thoughts and ideas with competence and effectiveness.

Subject-specific literacy involves not only understanding the content but also conveying it to others. In this sense, genre theory helps individuals tailor their communication to the expectations of their audience, whether they are addressing parents, healthcare providers, or researchers. This ensures that the message is clear and meaningful. Hyland (2004) emphasizes that genre theory encourages a critical approach to texts. For instance, students can analyze different types of texts in the context of baby and child nutrition, to understand the goals and intentions behind them. This analytical skill is crucial for evaluating the quality and reliability of information in the field.

In vocational education as in the present study, genre theory prepares students for their future careers. It equips them with the ability to produce reports, diet plans, and other materials relevant to baby and child nutrition. Students can apply their knowledge of genre conventions to different areas, making it a versatile skill applicable to various academic and professional contexts. Genre theory is a valuable framework for promoting subject-specific literacy in a specific content area like baby and child nutrition since it enables students to navigate, produce, and critically analyze texts effectively, thereby enhancing their ability to both understand and communicate knowledge in their chosen field.

2.4 Knowledge construction

While teaching a specific content, knowledge construction is another vital topic to be taken into consideration. Knowledge construction in learning a specific content refers to the active and dynamic process through which individuals actively engage with information, experiences, and concepts to build their understanding and meaning in a particular subject area. Rather than passively receiving knowledge, learners are

encouraged to actively explore, analyze, and synthesize information to construct their own mental representations of the content. This process involves critical thinking, reflection, and problem-solving, enabling learners to develop a deep understanding of the subject matter. By constructing their knowledge, individuals become active participants in the learning process, making a bridge between new information and their prior knowledge and experiences (NRC, 2000). This active engagement facilitates a deeper level of comprehension and promotes the transfer of learning to real-world situations. Knowledge construction in learning a specific content empowers learners to become independent thinkers, capable of applying their understanding to novel challenges and contributing to the advancement of knowledge in their chosen field.

According to the Piagetian perspective, knowledge development involves an active and constructive process. However, Piaget's theory has been criticized for its limited consideration of the role of teaching and classroom communication in the learning process, as it seemed to overlook the significance of social factors in development stated by Bruner (1997). Nevertheless, it is essential to note that Piaget (1977/1995) did recognize the importance of social interaction in the development of knowledge.

Chapman (1991) argued that while Piaget did examine the role of social factors in development in his early work, and also in his more famous research program on how children's knowledge evolves through interactions with the physical world, he never effectively combined these two dimensions of development. To address this, Chapman proposed an integration of Piagetian and Vygotskian theory, summarized in his concept of the “epistemic triangle.” This concept suggests that

knowledge is shaped both through an individual's interactions with the world and through their social exchanges with others concerning their experiences of the world. Anderson and Krathwohl (2001) emphasize four distinct types of knowledge and their correlation with the cognitive aspect of Bloom's taxonomy of thinking abilities, inadvertently combining C-Cognition and C-Content. The knowledge categories are identified as factual, conceptual, procedural, and metacognitive knowledge. To illustrate, Coyle & Meyer (2021) illustrate procedural knowledge as the understanding of subject-specific skills, techniques, and methods. The multi-dimensional nature of knowledge underscores the importance of linking learning prioritization based on knowledge and competence.

The multi-dimensional nature of knowledge highlights the importance of integrating both knowledge-based and competence-based approaches in prioritizing learning. Counsell (2018) similarly distinguishes between substantive knowledge, which is based on established facts and disciplinary knowledge, which involves understanding how that knowledge is constructed, revised, and interpreted using subject-specific skills like inquiry, reasoning, and argumentation. Essentially, different types of knowledge necessitate different forms of language for exploration, analysis, and explanation. This underscores the significance of clearly defining and making the conceptual demands visible and associated skills required for the subject content, as it is crucial for promoting deeper and high-quality learning.

2.5 Classroom interaction

Another point to be taken into consideration is that the interaction between the teacher and the student is vital for joint knowledge construction (Doiz & Lasagabaster, 2021). Hence, it is necessary for the students to be active participants

of the activities which are crucial for knowledge learning (Garcia & Lin, 2016). In order to achieve active participation of the students, it is necessary for teachers to motivate students' participation. To do this, the content teacher observes the students during the classroom and scaffolds each student according to their need. Scaffolding plays a crucial role in the learning process of any subject, providing a solid foundation for students to acquire new knowledge and skills. Vygotsky's concept of the Zone of Proximal Development (ZPD) is connected to the idea of scaffolding. Vygotsky (1978) defines the Zone of Proximal Development as the "gap between the current developmental stage, established by independent problem-solving, and the potential developmental stage, revealed through problem-solving with the assistance of adults or in partnership with more adept peers" (p. 86). In the context of education, scaffolding refers to the support and guidance provided by teachers or more knowledgeable peers to help learners bridge the gap between what they already know and what they need to learn. By breaking down complex concepts into manageable chunks and providing clear instructions, scaffolding enables students to grasp difficult ideas more easily. It offers a structured framework that gradually fades as learners gain confidence and independence in their understanding. Scaffolding also promotes active engagement and critical thinking by encouraging students to ask questions, explore different approaches, and make connections between prior knowledge and new information. Through scaffolding, learners receive personalized assistance tailored to their individual needs, enhancing their comprehension, problem-solving abilities, and overall learning outcomes in the subject at hand. Ultimately, Hammond (2002) signifies the importance of scaffolding lies in its ability to empower students, building their confidence and competence as they navigate the challenges of learning and master the complexities of the subject.

The teacher's role in encouraging the students to learn a specific content is vital. According to the study carried out by Lin and He (2017), both the teacher and the students used spoken and written language, gestures, visual images and facial expressions in the dynamic flow of interactions and activities during the classroom. In another study Pun and Tai (2021) observed the students' joint knowledge construction with the help of their teacher in the science lesson and they used multimodal resources for learning and meaning making during the lesson. It can be resulted from these studies that the students co-construct the knowledge with their teacher and their peers.

2.6 Classroom talk

There is a widespread agreement regarding the significance of classroom talk in constructing knowledge and subject specific literacy reported by Mercer (2000). According to Mercer (1995, 2000), classroom talk can be categorized into three types: exploratory, cumulative, and disputational. In exploratory talk, the key characteristic is the explicit use of reasoning methods, which are observable and accountable to everyone involved. These methods include questioning one's own and others' assumptions, providing reasons for claims, offering clear evaluations and critiques, and engaging in persuasive discussions. When challenges arise, participants present reasons and propose alternatives. The intention behind these challenges is to expose and share the reasoning processes, allowing others to refine and reconstruct their understanding collaboratively. It is evident from this description that exploratory talk promotes cooperative interaction among participants. Dalton-Puffer (2016, p. 30) recognizes conversation as the primary medium through which knowledge is constructed, and individuals are brought into existence through

dialogue. However, the process of knowledge construction through conversation necessitates a deliberate and observable focus. It should be apparent in the way learners are equipped with the necessary language skills to actively participate in communication that revolves around knowledge. This includes understanding and utilizing the various patterns, structures, and vocabulary that are relevant to meaningful and shared construction of knowledge. Ultimately, this facilitates the creation and mutual accessibility of knowledge among individuals. On the other hand, cumulative talk occurs when participants collaboratively construct a shared understanding and knowledge base by accumulating pieces of knowledge that are unquestioningly agreed upon. It involves the development of knowledge through mutual agreement. Unlike exploratory talk, where reasoning is explicitly presented and subject to scrutiny based on publicly available knowledge, cumulative talk holds participants accountable only to each other. Mercer (2000) states that knowledge in cumulative talk is based on personal mutual agreement and is not necessarily supported by external or public sources of knowledge.

The final category, disputational talk, represents a highly restrictive and competitive form of social interaction where individuals are unwilling to consider the other person's perspective and continuously assert their own views (Mercer, 2000). This lack of engagement hinders participants from gaining new insights and understanding. In disputational talk, the main focus is on making one's views heard rather than aiming for mutual comprehension. Participants adopt a defensive stance to restrict and limit knowledge development instead of building on and expanding it. An essential characteristic of disputational talk is its oppositional nature. As a consequence of the negative emotional atmosphere in disputational talk, participants actively seek to protect and maintain their individual identities, rather than forming a

collective identity. Unlike exploratory talk, where opinions are explored and justified based on publicly available knowledge, disputational and cumulative talk do not clearly demonstrate how knowledge claims are justified and may rely on personal opinions. The distinction between disputational and cumulative talk lies in the defensive and oppositional tone of disputational talk compared to the positive and supportive nature of cumulative talk.

According to Atwood et al. (2023), when students are given opportunities to express their ideas in a classroom environment, encouraged to talk about their views, having their perspectives acknowledged, or asked to provide reasons, they are more inclined to engage in exploratory discussions. Mercer (2000) states that among three different types of talk, exploratory talk stands out as the most effective for facilitating learning. By sharing the students' own viewpoints, contributing to the development of others' perspectives, or posing questions, students create conversational threads that their peers and teacher can connect with and further refine through gentle challenges, additions, and modifications. This process aids in the production of knowledge by fostering a more coherent understanding for everyone involved. It appears that this could be a potential pathway for learning, which creates active learning in action.

2.7 Cognitive discourse functions (CDFs)

Another theoretical background on which the present study focused is Cognitive Discourse Functions (CDF) proposed by Dalton-Puffer (2013, 2016). The construct of Cognitive Discourse Functions (CDFs) involves seven common thought processes which are Categorize, Define, Describe, Evaluate, Explain, Explore,

Report as it is shown in Table 1 (see Appendix F). The CDF verbs are used to comprehend the specific subject and to express the ideas related to the content. Tom Morton (2020) claims that there is a gap between the specific subject matter and the learners' literacy levels. He continues that Cognitive Discourse Function (CDFs), as developed by Dalton-Puffer in 2013, forms a bridge between the literacy skills of the learners and the specific subject. The CDF is suggested as a connecting element that facilitates the expression of content learning objectives by bridging the gap between academic subject matter and the necessary literacy and language skills to convey that knowledge effectively. The central idea is that educational objectives in various subjects often consist of verbs representing specific cognitive actions, such as defining, evaluating, and explaining, etc. These cognitive operations have distinct linguistic expressions that can be taught to students. The CDFs serve as a vital link between cognition and language, acting as a bridge that connects content learning objectives, the particular types of communication associated with academic subjects, and the language required to articulate knowledge and thoughts effectively (Morton, 2020). In a study conducted by Doiz and Lasagabaster (2021), they found out that CDF constructs are useful tools to gain information about which linguistic competences are specified in a specific context.

In this MA thesis, among the CDF verbs, Describe, Define and Explain will be our focus to investigate the classroom environment, learning materials and learning processes in terms of the learners' subject specific literacy in a course on Nutrition for babies and children. The purpose of the study is to examine what the students learn, how they learn the specific content, what kinds of activities are used to learn/teach the specific content and why the teacher uses those activities and materials based on the CDF by Dalton-Puffer (2013).

2.8 Metadiscourse functions

Another significant theoretical framework on which the present research relies is Hyland's classification model of metadiscourse (2005a). According to Hyland (2000), metadiscourse is defined as the linguistic features used to structure a discourse or express the writer's perspective towards the content or the audience (p. 109). With the use of metadiscourse features, writing serves as a form of social interaction between the writer and reader. Writer employs metadiscourse features in order to convey the message effectively to readers. As in all genres, metadiscourse features are utilized in academic texts as well. Writers can enhance the quality of academic writing through the skillful utilization of metadiscourse functions (Letsoela, 2014). Another important theoritical background of the present study is Hyland's stance and engagement framework (2005) offering a comprehensive approach to understanding classroom interaction by focusing on how speakers and writers express their attitudes, feelings, and commitments towards their statements and their audience. Stance involves the ways in which language users convey their perspectives, including the use of hedges, boosters, attitude markers, and self-mentions to express certainty, importance, and personal involvement. Engagement, on the other hand, pertains to how speakers and writers involve their audience, using directives, questions, shared knowledge, and reader mentions to actively engage and guide them through the discourse. In a classroom setting, applying Hyland's (2005) framework can help educators create more interactive and responsive learning environments. By consciously employing stance and engagement strategies, teachers can better connect with students, clarify their instructional intentions, and foster a more dynamic and inclusive classroom discourse. This approach not only enhances comprehension and participation but also helps build a supportive community where

students feel valued and motivated to contribute (Kramar, 2019). Therefore, it is necessary to examine metadiscourse markers based on Hyland's stance and engagement framework in the coursebook and classroom talk in order to investigate the language through which the message is conveyed to the learners.

2.9 The use of L1 in CLIL classes

The use of a learner's first language (L1) and translanguaging in Content and Language Integrated Learning (CLIL) serves as a dynamic approach to enhance both subject comprehension and language proficiency. Translanguaging, which involves the fluid use of multiple languages, allows students to leverage their entire linguistic repertoire to make sense of complex content, thus facilitating deeper understanding and retention. Incorporating L1 strategically within CLIL not only supports cognitive processing by making new information more accessible but also empowers students by validating their linguistic identities. This approach fosters an inclusive classroom environment where linguistic diversity is seen as an asset rather than a barrier. García & Li Wei (2015) states that through translanguaging practices, students can draw on their L1 to scaffold their learning, engage more actively in discussions, and develop stronger metalinguistic skills by constantly navigating and connecting different linguistic codes. Ultimately, the integration of L1 and translanguaging in CLIL enhances both educational equity and the effectiveness of language and content instruction.

According to Li (2018), the notion of codeswitching has also a significant role in teaching of / through a foreing language, which is different form translanguaging. Code-switching refers to the practice of alternating between languages within a single communicative episode, based on the idea that different

languages exist as distinct structural and cognitive systems. Analysis of code-switching typically aims to identify the specific languages involved and may perform a structural or functional examination of the language switching process during a particular communicative instance (Li, 2018). In contrast, translanguaging emphasizes the process of meaning-making, focusing on how individuals utilize a range of linguistic, cognitive, and multimodal resources to construct meaning and understanding.

2.9.1 Why not CLIL through L1?

Even though there are controversies about the use of L1 in CLIL, L1 plays an important role in CLIL classrooms, in that code-switches or translanguaging are inevitable practices during the learning process through CLIL (Lasagabaster, 2013). In a research study carried out by Lasagabaster (2013), 35 CLIL teachers took a questionnaire about their perspectives on including the native language (L1) into their CLIL classes. The results of the study revealed that overall, the teachers expressed supportive views toward using the L1 as it encourages the students to use the language and to comprehend the content. In another study conducted by Gallagher and Colohan (2014), they investigated the use of L1 in CLIL and they reached the conclusion that the use of code-switching and translanguaging based on an intentional target can be beneficial in teaching and learning process. The researchers recommend the language teachers to use L1 as a teaching tool in language learning contexts. In a nutshell, the findings of both studies reveal the same conclusion favoring the role of L1 in CLIL classes.

In the CLIL literature the use of L1 is considered as a supportive tool in a foreign language learning process however, the use of varieties of L1 for a specific

purpose makes it a separate language different from daily L1. For instance, there are diverse types of Englishes based on the purpose of usage such as English for Science and Technology (EST), English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). As for the Turkish Academic Language, there are various jargons of the Turkish language such as Turkish for Medicine, Turkish for Engineering, Turkish for Science, Turkish for Law, Turkish for Business, Turkish for Tourism etc. Turkish Academic Language can be regarded as a separate language just like different varieties of English.

According to the study conducted by Bayyurt and Akbaş (2014), it was observed that bilingual (Turkish & English) graduate students had no difficulty in understanding and writing academic articles in English, but they had difficulties in Turkish articles. The students have been taught in English and they are instructed about how to write an academic article. That is why they do not have difficulty in academic English. However, they have difficulty in understanding and using Turkish in academic writings even though Turkish is their native language. The findings of this research show that Turkish has distinct features as an academic language, thus Turkish academic language can be taught as a different language.

Considering that CLIL methodology is not limited to teaching in English only, other languages or a different type of a specific language can also be employed in CLIL as well. Turkish academic language is a type of language as it is mentioned above, hence, teaching a specific content in Turkish academic language can be admitted as CLIL since the aim is not to teach the language itself. In other words, the aim is to teach the specific content via a discipline specific variety of Turkish language so that the students can learn the linguistic forms of it and use them effectively in their field of study.

CHAPTER 3

METHODOLOGY

The research context, research questions, participants, data collection and analysis are presented in this chapter.

3.1 The research context

In the context of this small-scale case study, "literacy" refers to more than just basic reading and writing skills. It encompasses a broader set of competencies that enable individuals to engage effectively with the subject matter. Subject-specific literacy in the “Baby and Child Nutrition” class of the departmental course involves defining and describing key concepts, explaining dietary patterns, applying nutritional knowledge in daily life, and communicating effectively.

In the scope of this study, the language of instruction, the lectures and all of the materials employed in the classroom are provided in the students’ L1 so that they do not have difficulty in conveying their ideas freely and comfortably. Using their home language makes their conversation about their daily life experiences easier and also, they can easily extend it to the target content knowledge with the help and leading of the content teacher (Li, 2022).

The school where the present study is conducted is a state vocational high school offering three departments which are Child Development, Textile and Fashion and Design departments. The students who participated in this research study in Child Development Department and they are 9^{th} graders taking Maternal and Child Health lesson which is a departmental course.

In this study, data triangulation method is used as data were collected in three different ways which are coursebook analysis, lecture video recordings and interviews with the teacher and the students.

3.2 Education system in Türkiye

According to the report published by the Ministry of National Education (2023), education is conducted in schools based on age-specific programs and levels designed for individuals. Formal education encompasses pre-primary, primary, secondary, high school, and universities/higher education institutions. Pre-primary education is not compulsory within the Turkish National Education System. Compulsory education consists of four-year primary schools, four-year secondary schools offering various program choices such as imam and preacher schools, and onward general, and four year high school education including general, vocational, and technical education institutions and vocational education centers providing four-year compulsory formal education. The general high school education institutions are science high schools, social sciences high schools, Anatolian high schools, Anatolian Imam and Preacher high schools, fine arts high schools, and sports high schools. These levels provide four-year compulsory formal or non-formal education based on education (MEB, 2023).

Children aged 36-68 months who are under the age of compulsory primary education can receive pre-primary education which is not compulsory. In pre-school education, children learn a variety of fundamental skills that are crucial for their development such as social skills, language development and cognitive development. Besides the curriculum designed for pre-school education, some private schools offer foreign language education and other activities like swimming, chess etc. English

classes in pre-school education are only offered in some of the private kindergartens (Batır, 2021).

Compulsory primary school education comprises children between the ages of 6-10. The aims of primary schools are to provide basic knowledge and skills for higher education in accordance with the curriculum. Besides fundamental courses in the primary school curriculum such as Maths, Turkish, Social Sciences and Science, the age of teaching English as a foreign language has been 6.6 years of age corresponding to the second grade since 2012 (MoNE). The students have 2 hours of English lessons per week during primary school education. The number of English lessons can change in private schools providing more opportunities for foreign language education.

Students who have finished their primary school education and who have not exceeded the compulsory education age by the end of September (registration time) are enrolled in the secondary school or Imam and Preacher secondary schools through the e-School system, depending on the residential address details in the national address database (MEB, 2023). The number of English lessons is 4 for 5th, 6th, 7th and 8th graders in secondary schools (Tuzcu, Eken, 2021). In Turkey, the academic year is divided into two semesters, each covering 19 weeks. By the time students complete Grade 8, they will have received 836 hours of English education (Tuzcu Eken, 2021). However, the situation is different in most of the private secondary schools providing longer hours of English lessons than the curriculum designed by the Ministry of National Education.

As to high school education, it encompasses general, vocational, and technical institutions, as well as vocational education centers (MEB, 2023). They offer a compulsory four-year formal education following secondary school

education. High school education institutions offer education and training for four years, providing both boarding and/or day basis education. Upon graduation from these schools, students receive a diploma depending on the program they have completed. High school education prepares the students for higher education, aligning with their interests, enthusiasm, and capabilities (MEB, 2023). It also provides general culture during a compulsory education period of at least four years following secondary school. According to the data published by MEB (2023), there are various types of general high school education institutions such as science high schools, social sciences high schools, Anatolian high schools, Anatolian Imam and Preacher high schools, fine arts high schools, and sports high schools. On the other hand, vocational high school institutions are vocational and technical Anatolian high schools, vocational training centers, and multiprogram Anatolian high schools (MEB, 2023).

According to the latest updates in the English language teaching curriculum, in state high schools in Türkiye, there are 4 hours of English lessons in 9th grade. In high schools other than vocational high schools, there are still 4 hours of English in grades 10, 11 and 12. However, in vocational high schools, the number of English lessons in grades 10, 11 and 12 decreases to 2 (MEB, 2023).

The language of national education in Türkiye is Turkish, that is why; all of the schools offer education in Turkish except for some private schools and some universities.

The students in the Vocational High School where the study is conducted have education in their L1, Turkish. They also have English as a compulsory course for 4 lessons a week.

3.3 Research questions

The purpose of this study is to investigate the knowledge construction of 9th graders in the context of their field of study. The scope of this study comprises the 9th grade learners' acquisition of specialized knowledge and skills related to the specific content, "Baby and Child Nutrition". During the investigation of the learners' knowledge construction in a specific content, the CDF constructs will be taken into consideration. It involves the ability to define, describe and explain the information specifically within the context of nutrition.

The research questions of the study are following:

1. How is knowledge conveyed in the "Maternal and Child Health" coursebook in a Turkish vocational high school?
2. How is knowledge constructed in a "Baby and Child Nutrition" class in a Turkish Vocational High School through the analysis of teacher / student talk?
2. What are students' perspectives on knowledge construction in a "Baby and Child Nutrition" class in a Turkish Vocational High School?

3.4 Participants

As it is a small-scale case study, the convenience sampling is used in the research to determine the participants. There are 21 9th graders, who are 14-15 years old, studying in the Child Development Department at a state Vocational High School in Niğde,Turkey.

The participants are the 9th grade students who study in the Child Development Department at the 75th Year Mehmet Göker Vocational High School in Niğde, Turkey. The students volunteer to be part of the study. All of the students and

their families are informed about the study and they signed the consent forms. The study is conducted with a convenience group because there is only one class of 9th graders studying in the Child Development Department and another reason is that the researcher is working as a teacher of English at the same school. The age of the participants range from 14 to 15. There are 21 female students in the classroom. The Child Development Department is mostly preferred by the female students, that is why, almost all of the students are female each year. At the time of the research, the researcher will be teaching at the same school, thus it is easy to reach the participants face to face.

As to the social and economic profile of the students, almost all of the students are coming from low socio-economic levels. 18 students stay in the dormitory funded by the Ministry of National Education during the school year. Their parents are farmers livin in the different villages of Niğde. 3 of them commute to the school every day.

The academic level of the students is also low. The 8th grade students take the High School Entrance Exam at the end of the 8 school years in Türkiye. Both their exam grades and the grade point average are taken into consideration while choosing the high school to study for the next four years. The students whose grade average are 240 out of total 500 points can enter a Vocational High School. As to their department choice, the students fill a form after three weeks of orientation program at the vocational high school. They can choose three departments offered by the school (Child Development, Fashion and Design and Textile Departments) from the most wanted to the least wanted according to their interests and abilities. The first 30 (at most) students whose first preference is Child Development are registered to this department.

Another participant of the study is the content teacher at the Child Development Department. There are four content teachers teaching in the Child Development department at the same high school, however only one of them wanted to take part in the study voluntarily. The content teacher is informed about the study and she signed the consent form. The content teacher offers the Maternal and Child Health course for 9th graders during the 2023-2024 education year. She will be teaching this course for two semesters.

The content teacher in this study is a graduate of the Child Development Department at Selçuk University in Konya. She has been teaching content courses in the Child Development Department at a Vocational High School for 15 years, and she has been working in the 75th Year Mehmet Göker Vocational High School for 8 years. She is married and has two kids.

3.5 Data collection and analysis

In this small-scale case study, the coursebook "Anne ve Çocuk Sağlığı" (Maternal and Child Health) is analyzed. In the analysis of the book, all of the verbs, nouns and adjectives written in the excel format and the frequency of each word form is calculated. The linguistic forms in the book are inputted into the Microsoft Excel Program and classified according to the linguistic forms such as tenses, pronouns, passive voice and modals.

Another data collection tool is the video recordings of the face-to-face lectures. The lectures given by the content teacher and the interactions between student-student and student- teacher are video recorded. Before the data collection procedure, ethical approvals are received from the research ethics committee of Boğaziçi University and the Ministry of National Education. The content teacher, the

students and their parents are informed about the scope of the research, ethical approvals and methods for securing the students' identities such as using "Student 1, Student 2" instead of their names and the students are volunteered by signing the consent forms. Their parents also signed consent forms because the students are under 18 years old. After ethical permissions are obtained, the lectures on "Baby and Child Nutrition unit / Maternal and Child Health Course" are video recorded. For the recording, the camera was situated on the backside of the class to capture the whole class.

The cases from the video recordings related to the usage of academic language in a specific content area are transcribed and they are analyzed according to Hyland's (2005a) classification model of metadiscourse and on the basis of Define, Describe and Explain constructs of CDF by Dalton-Puffer (2013) in order to investigate how the students construct knowledge related to their departmental subject.

In the meantime, the students and the content teacher are interviewed to investigate what they learn/teach, how they learn/teach, what types of materials and activities they use and why they choose those materials and activities.

Interview with the instructor includes six questions eliciting the instructor's perspectives about teaching process, course materials and activities used during the lectures on the content "Baby and Child Nutrition". The instructor was interviewed one week after the lectures on "Baby and Child Nutrition" unit finished. During the interview the conversation between the instructor and the researcher was audio recorded. Subsequently, the interview was transcribed by the researcher.

The interview questions were structured according to the following topics;

- What/How the instructor teaches

- What types of materials and activities the instructor used
- How the instructor Describes/Defines/Explains terminology

Two weeks after the lectures, 3 groups of 3 students were chosen among volunteering students. The students were asked 6 questions to learn about their understanding of the content in their L1, their views about the classroom interaction and the materials they used to learn the content. The students were also asked about their ideas on how they would use their literacy skills and content knowledge on "Baby and Child Nutrition" in their career and daily life in the future. After the focus group interview sessions were completed, the audio-recordings were transcribed by the researcher.

The focus group interview questions were structured according to the following topics;

- What/How the students learn
- What types of materials and activities the students used
- What the students think about the usefulness of the content in their future life.

With the use of various data collection methods such as coursebook analysis, lecture recordings and interviews, data trialingulation method is used to have a comprehensive understanding of the phenomena in the present study.

3.6 The analysis of the coursebook

The coursebook used in this lesson is "Anne-Çocuk Sağlığı (Maternal and Child Health)" which is published by the Turkish Ministry of National Education.

The book is analyzed by compiling all verbs, nouns, and adjectives in an Excel format, and then determining the frequency of each word form. The forms of the

vocabulary items used in the coursebook are classified manually. The data obtained from the coursebook is analyzed quantitatively to display the frequency of linguistic forms. For the detailed description of the linguistic forms utilized in the coursebook, the data is also analyzed based on Hyland's classification model of metadiscourse (2005a).

3.7 Metadiscourse features in the coursebook

In academic writing, hedges play a role in enabling writers to create a sense of distance from the message within the text or conceal their presence. Hedges refer to linguistic expressions that convey a lack of complete commitment to the truthfulness of a statement or serve as a deliberate effort to obscure the true intentions of the authors. Examining the utilization of hedges in Turkish academic writing unveils how the author distributes the responsibility for interpreting their assertions with the reader.

In Turkish academic writing, the utilization of hedges is notable. Fidan (2002) conducted a study analyzing scientific articles across various disciplines in Turkish academic journals and books. Her investigation, based on Hyland's (1998) taxonomy of metadiscourse markers, revealed a significant presence of hedges in Turkish academic discourse. Notably, Fidan found that Turkish academic writers employ more textual metadiscourse markers, particularly hedges, than interpersonal ones. This suggests a prevalent tendency among Turkish authors to incorporate linguistic expressions indicating a degree of uncertainty or caution in their academic writing, aligning with the conventions of metadiscourse in the Turkish academic context. The use of hedging allows the author to reduce their impact in an essay and emphasize the provisional nature of their statements.

As hedges are useful and mostly used tools in academia, the students are mostly exposed to the forms of hedges. Therefore, it is important to investigate the role of hedges in knowledge construction in academic knowledge learning.

In this study, the vocabulary items used in the whole coursebook are analyzed in terms of academic language constructs in Turkish. The features of Turkish language are classified as in Table 2 (see Appendix G) by many researchers in different works as in Güclü, (2022). Based on these linguistic features of Turkish language, hedging devices are also examined.

CHAPTER 4

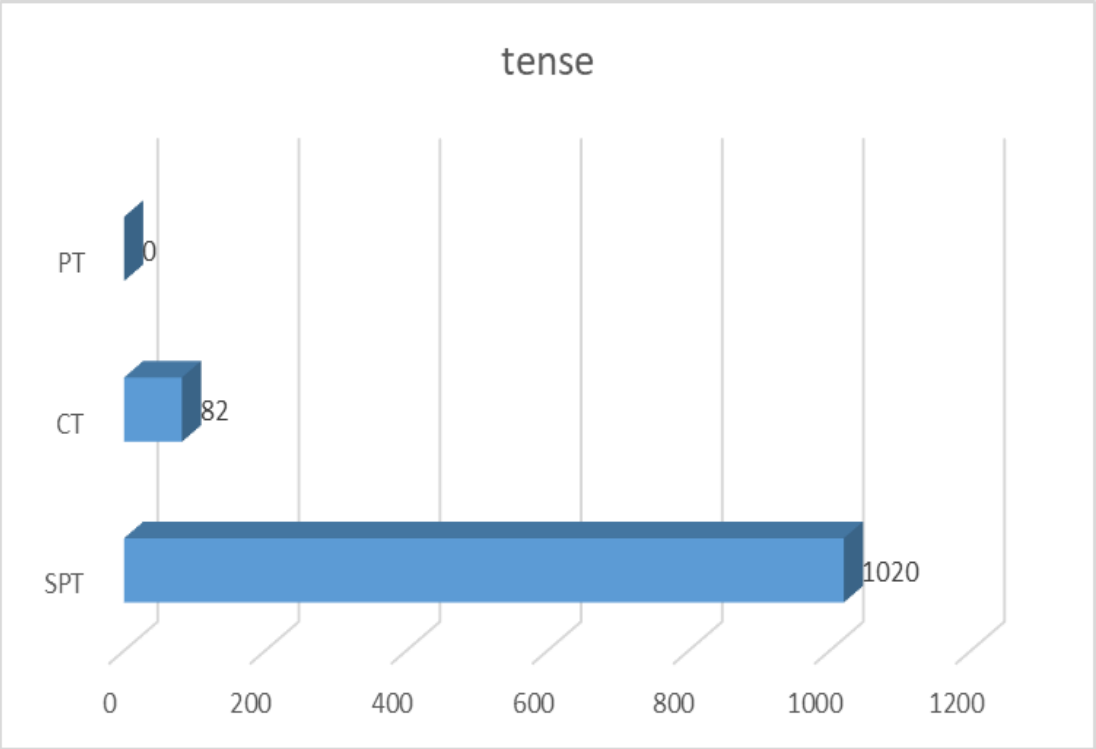
FINDINGS

In this chapter, the findings of the analysis of the coursebook, video records of the lectures and interviews with the teacher and the students are presented respectively.

4.1 The results of the coursebook analysis

The verbs used in the coursebook are analyzed based on tenses, active- passive voice forms, modal suffixes and pronoun suffixes as they are shown in Table1. The findings of the analysis show that;

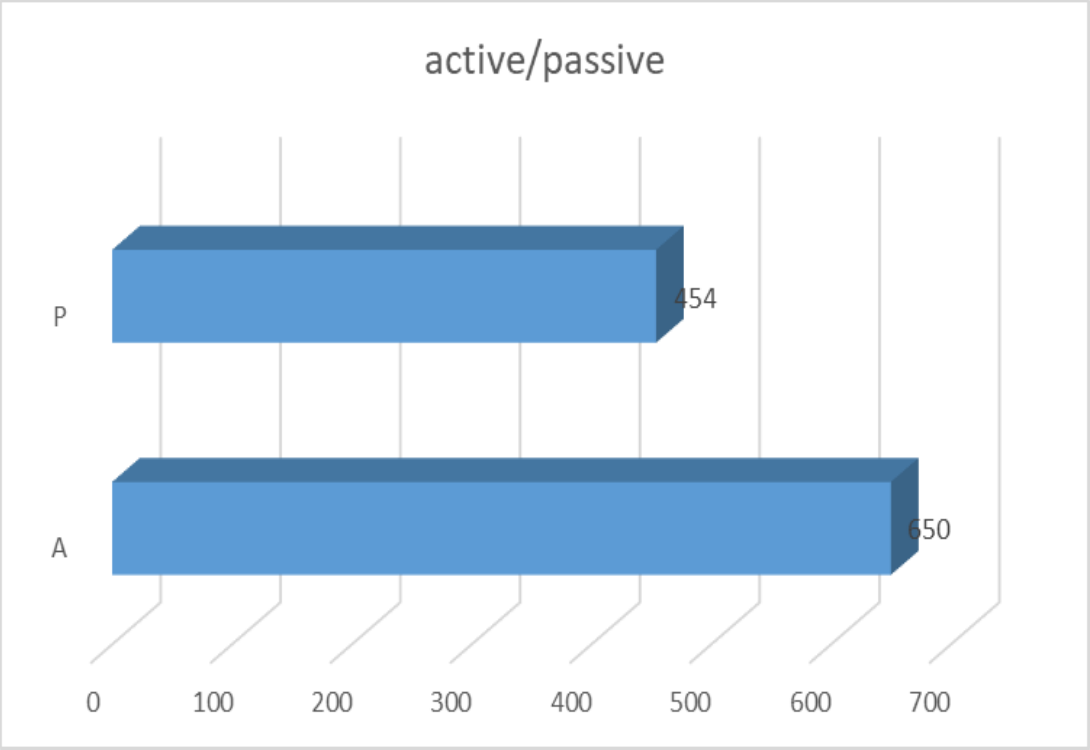
Figure 1. Tenses



In the coursebook, 1105 verb forms are used and the verbs are mostly in Simple Present Tense. The present simple tense predominates in academic writing and is

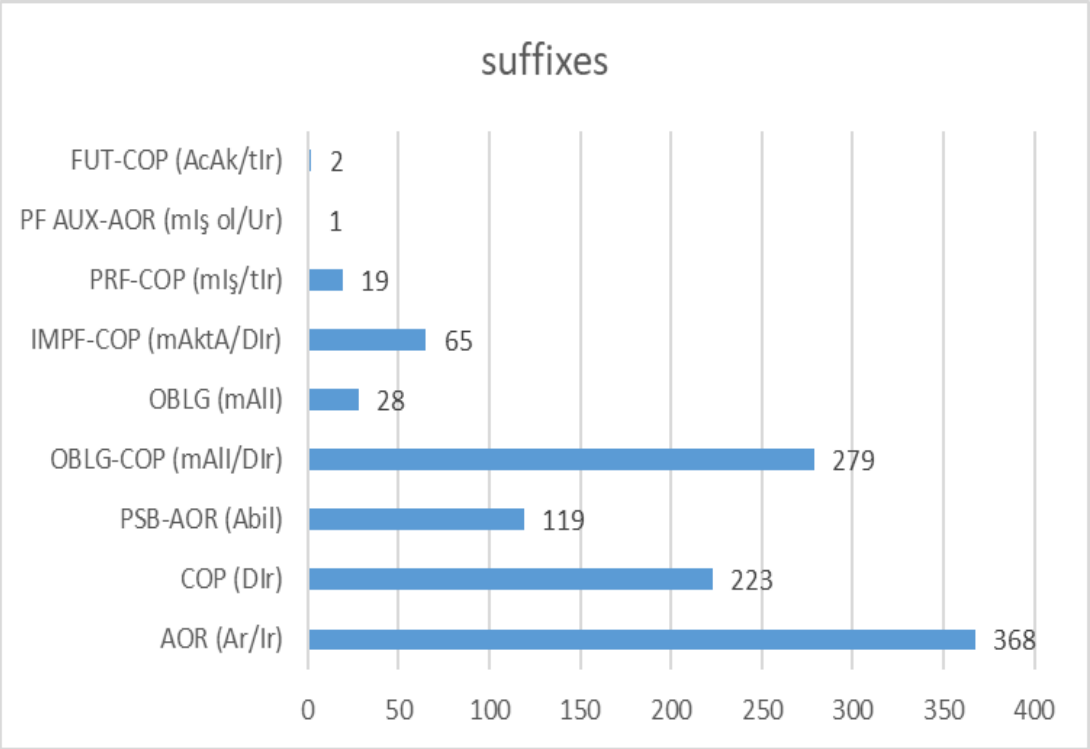
typically regarded as the default choice unless there is a specific rationale for opting for a different tense. There are some occurrences of Compound Tense (-mAktAdIr & -mIştIr) (only 82). Past simple tenses are never used in the "Maternal and Child Health" coursebook.

Figure 2. Active / passive forms



The number of active verbs is higher than the passive ones in the coursebook. However, there is a considerable number of passive forms employed in the coursebook. As the book is a coursebook written for the purpose of teaching academic content, the passive form is also used in a significant amount. Passive form is used as a hedging device by which the writers do not show total commitment to the subject as Doyuran (2009) states that employing the passive voice diminishes the authors' presence in the text, thereby lowering the likelihood of disagreement and resulting in reduced accountability in their writing.

Figure 3. Modal suffixes



In the coursebook, nine different modal suffixes are employed. These modal suffixes are used to refrain from the belief and reasoning related to the writer's position (Hyland, 1998). In Turkish academic language, some of the suffixes, AOR (Ar/Ir), OBLG-COP (mAlI/DIr), COP(DIr) and PSB-AOR Abil-(A/I)r, are considerably used to function as hedging markers.

According to the results of the manual analysis of the verb endings used in the coursebook, the most frequently used suffix which is observed in 368 cases is AOR (Ar/Ir) as hedging markers. Aorist (Ar/Ir) has assumptive reading besides the generalization meaning in Turkish academic language (Erguvanlı-Taylan, 2018).

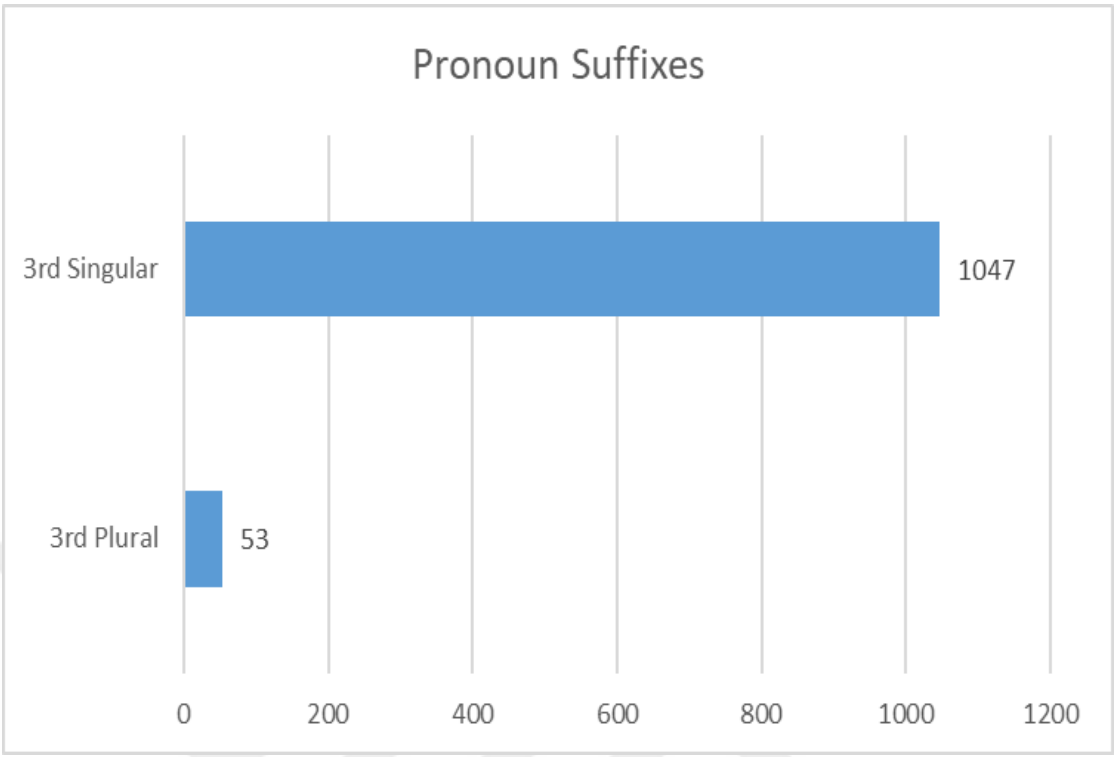
The second most frequently used suffix is OBLG-COP (mAlI/DIr) which has inferential reading functioning as a hedging device (Doyuran, 2009). However, in the coursebook analyzed in the present research, the use of -DIr after -mAlI indicates the meaning of obligation and necessity as it is stated in Kocaman's Turkish linguistic

study (1990). In Turkish academic language OLBG-COP (mAlI/DIr) is employed to express the meaning of obligation and necessity besides inferential meaning. In the Maternal and Child Health coursebook, these suffixes are used as the indicator of necessity as the book generally mentions the essential things to do for the health of mother and baby.

The next most frequent suffix is COP (DIr). The suffix COP (DIr) has two main purposes. The first aim is conveying a high level of certainty in a formal and academic context as in the context of the present research and the other is indicating probability (Kerimoğlu & Aksu, 2015). In the "Maternal and Child Health" coursebook, the suffix COP(DIr) focuses on the meaning of certainty and generalization in academic context.

The last frequently used suffix in the coursebook is PSB-AOR Abil-(A/I)r. According to Kerslake (1990), the suffix PSB-AOR Abil-(A/I)r is used as the grammatical indicator of possibility in the Turkish language.

Figure 4. Pronoun suffixes



In the coursebook, the most frequently used pronoun is the 3rd person singular. In most of the formal, academic writing, the third person pronouns are commonly used as it is an objective discourse. The third person pronouns are also considerably used to generalize the findings of an academic research. Using the third person pronouns in academic coursebooks enables writers to be beyond their own personal experiences and bias, thus it can provide a fair atmosphere for the student readers. Furthermore, the use of the third person pronoun with the copula -DIr gives the meaning of certainty, persistence and probability to the stative and action verbs (Korkmaz, 2007). In the Maternal and Child Health coursebook, the most commonly used pronoun is the 3rd person singular pronoun as the book has an academic content.

4.2 The findings of the analysis of the video records of the lectures

4.2.1 The CDF constructs in the analysis of the lectures

In this small-scale descriptive case study, the video recordings of the lectures are transcribed and subsequently categorized based on the Define, Describe and Explain criteria established by the CDF Construct. The coding process involves aligning segments of participant dialogue with the underlying communicative purpose of specific CDF types. This coding is applied to both teacher and student language. However, in this study, there are cases where Describe and Explain constructs are used together since it is difficult to differentiate between Describe (Betimlemek) and Explain (Açıklamak) constructs in Turkish. However, in the data analysis Describe is used to investigate what the things are like while Explain is used to examine how and why the things happen based on the category provided by (Dalton-Puffer, 2013).

The importance of the "Define and Describe" constructs within Cognitive Discourse Functions (CDFs) cannot be overstated when it comes to subject-specific literacy studies. These constructs are fundamental for gaining a deep understanding of any subject matter. Through clear definitions and detailed descriptions, students and researchers can build a strong foundation of knowledge. This, in turn, enables effective communication, critical thinking, and problem-solving within the given field. "Define and Describe" constructs ensure that key terms and concepts are accurately and comprehensively explained, facilitating not only learning but also the exchange of ideas and findings among scholars. In essence, these constructs serve as the cornerstones of subject-specific literacy, supporting the acquisition of expertise and the advancement of knowledge in a wide range of academic and professional disciplines. The construct Define (identify, characterize) gives information about

what the thing is, on the other hand the construct Describe (label, identify, name, specify) tells what the thing is like (Dalton-Puffer, et al., 2018).

When it comes to the present research context, Define and Describe constructs provide a solid foundation for clear communication, precise understanding, and professional growth. In a vocational high school, where practical knowledge is key, a comprehensive grasp of baby and child nutrition is vital. "Define and Describe" constructs empower students to accurately define terms, describe concepts, and discuss nutritional principles with clarity. This knowledge is crucial for future professionals, enabling them to provide the best care and support for infants and children, setting the stage for a successful and fulfilling career in the Child Development Department.

In addition to the CDF constructs Define and Describe, the construct of Explain is also essential to be examined in the scope of this study as the occurrences of this construct in the lectures are considerable. Even though Explain is a separate category as a CDF construct, it is sometimes difficult to differentiate Describe from Explain since in the Turkish language, the terms “describe (betimlemek)” and "explain (açıklamak)" share overlapping meanings as mentioned in the previous section. The construct Explain is employed to analyze the data consisting of why and how things happen so that it is differentiated from Describe (Dalton-Puffer, et al., 2018). However, there are cases that they are used together in some of the classroom conversations where the instructor gives a detailed description and also results or causes of a phenomenon.

In addition to the CDF constructs, the cases from the transcription of the lecture given by the content teacher are analyzed in terms of the some features of metadiscourse functions such as pronoun suffixes (1st person plural “Biz”, Inclusive

we and Exclusive we). In this research, occurrences of both inclusive "we" and exclusive "we" are tallied as metadiscursive elements as in the metadiscourse model by Hyland (2005a).

4.2.2 Knowledge co-construction in face-to-face lectures

The Maternal and Child Health course is taught face-to-face in the classroom for 3 hours a week. The main material of the course is the Maternal and Child Health textbook issued by the Ministry of National Education. The teacher announces the topic to be covered one week in advance and students come to class prepared. The teacher has the digital version of the coursebook on the smartboard so that she can refer to it while giving the lecture. The teacher gives the lecture by explaining the content in detail.

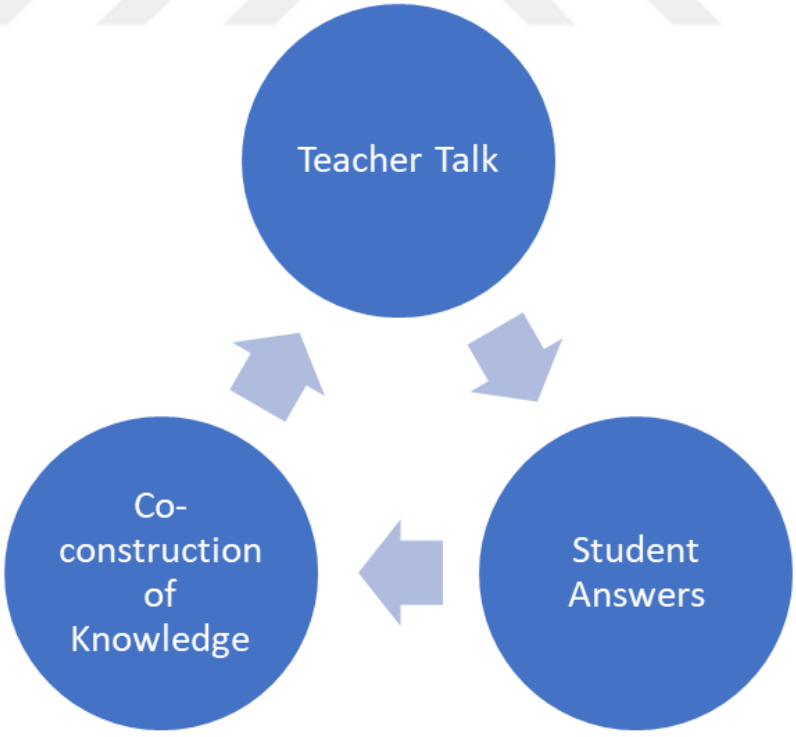


Figure 5. Phases of knowledge co-construction in the classroom

During the lesson, the teacher often asks questions to the students in order to check students' comprehension and the students answer them. Classroom interaction consists of the teacher's lecture, questions and student responses. The teacher gives feedback to the students based on their answers by confirming their answers, reformulating their sentences or correcting them (Llinares & Lyster, 2014). As it is shown in Figure 5 knowledge is co-constructed with the interaction of teacher and students via question and answers. In the first phase of the lesson, the teacher introduces the content and asks the students to share their previous knowledge if they have any. Subsequently, the teacher explains the topic and asks comprehension questions to check the students' understanding or wants them to give examples related to the topic. Then the students respond to the questions and they learn the content thanks to question-answer interactions during the lectures and feedback provided by the teacher.

4.2.3 The use of metadiscourse and cognitive discourse functions to construct knowledge in nutrition class

The extracts of the lecture recording on "Baby and Child Nutrition" are presented below. In the transcripts, the conversation between the content teacher and the students are numbered as chunks and the person who is talking in the extract is identified as the content teacher "CT." Recognizable individual students are denoted as "S1," "S2," and so forth, while unidentified voices are expressed as "S" for an individual voice and "Ss" for multiple voices. The omission of irrelevant utterances is marked by three dots "…". CDF constructs which are Define, Describe and Explain are shown by the use of square brackets "[ ]". Metadiscourse functions such as inclusive "we", exclusive "we" or other pronouns are expressed by parentheses "(

)". Other interaction types such as questions, prompts, feedback, reformulation of the student answers comprehension checks are shown by the use of curly brackets "{ }".

Extract 1.

1	CT:	[Beslenme nedir?] <DEFINE> Kim söylemek istiyor? Beslenme? What is nutrition? Who wants to say? Nutrition?
2	S1:	[İnsanın büyümesi, gelişmesi için sağlıklı, vücuda sağlıklı yiyeceklerin vücuda alınmasına beslenme denir.] <DEFINE> The intake of healthy, healthy foods for human growth and development is called nutrition.
3	CT:	(Evet, güzel). <CONFIRMATION> [Vücudumuzun büyümesi, gelişmesi,sağlıklı olabilmesi için gerekli olan öğeler var. Bütün beslenme öğelerinden dengeli ve yeterli bir şekilde vücudumuza aldığımızda da (biz) buna ne (diyoruz) arkadaşlar?] ... <DEFINE>, <INCLUSIVE WE> Yes, it is good. There are elements that are necessary for our bodies to grow, develop and be healthy. What do we call it, friends, when we get all the nutritional elements in a balanced and sufficient way?
4	Ss:	[Beslenme] <DEFINE> Nutrition
5	CT:	[Yeterli ve dengeli beslenme (diyoruz).] <RESTATEMENT / DEFINE> We call it adequate and balanced nutrition. Peki, bebeklik dönemini düşünecek olursak, doğal beslenme diye bir (tanımımız) var.<INCLUSIVE WE> [Doğal beslenme nedir?] <DEFINE> Well, if we think about infancy, we have a definition of natural nutrition. What is natural nutrition?
6	Ss:	Anne sütü Breast milk
7	CT:	{Harikasınız.}<CONFIRMATION>{Tamamen anne sütüyle beslenme durumuna biz ne (diyoruz)? .<INCLUSIVE WE>

<PROMPTING/ DEFINE>
You are wonderful. What do we call only breastfeeding?

8 Ss: Doğal beslenme.
Natural feeding.

In the first line, the content teacher initiates the conversation by asking a definition of a content word. Then, student 1 replies to the question by giving a definition. In line 3, the student answer is confirmed by the teacher and then the teacher restates the definition by completing the missing parts in the student's response. The content teacher modifies the definition to align with the specifications of the canonical form. After she gives the full definition, she asks the students to tell the terminology for the repeated definition in line 4. The content teacher's questions-answers to check the students' understanding and expecting them to give definition of the word and also asking for the terminology for the given definition shows that the students and the content teacher co-construct the knowledge by using the Define function of CDF repeatedly (Dalton-Puffer, 2007a). Dalton-Puffer (2007b) has examined Define, Explain and Hypothesize functions of CDF in Austrian CLIL classrooms. She aims to understand how these functions are employed in the classroom interactions. According to the results of Dalton-Puffer's study (2007b), the communication in the classroom is characterized by a series of Initiation-Response-Feedback sequences. Through these interaction sequences the students seek for information and the instructors provide information with the aim of collaboratively constructing the content knowledge. As in the study of Dalton-Puffer (2007b), the feedback provided by the instructor in the first extract aims to collaboratively construct knowledge with the usage of the Define function of CDF.

In line 4, the instructor prompts the students by stating the canonical definition of the terminology and then wants them to identify the terminology. Via question and answer interaction, the instructor aims to check the students' comprehension and encourage them to participate in the class actively, which helps construct knowledge collaboratively.

In line 5, the teacher introduces another term, using the inclusive pronoun "we" to emphasize a shared content community and foster a comfortable learning environment. This choice aligns with the idea of prioritizing collective thinking over individual perspectives (Hyland, 2005a). To be more precise, it illustrates the instructor's shared social identity, where the students are acutely aware of social norms while formulating their arguments (Hyland, 2002).

In the first extract which displays the beginning of the lesson, the teacher uses only define construct. She asks the students to define the relevant term, then reformulates their answers and repeats the definition. In this way define construct is used repeatedly.

Extract 2.

1	CT:	{Harikasınız.} <CONFIRMATION> Peki, bir de (yapay beslenmemiz) <INCLUSIVE WE> var. [Yapay beslenme ne olabilir?] <DEFINE> That is great. Well, we also have unnatural nutrition. What could unnatural nutrition be?
2	S2:	[Anne sütünün yetersiz kaldığı durumlarda kullanılabilir.] <EXPLAIN> Can it be used in cases where breast milk is insufficient...
3	CT:	{Evet} <CONFIRMATION>, [bunlar ne olabilir? … Anne sütüne yakın sütler olabilir.] <DESCRIBE / PROMPTING> Yes, what could these be? ... It could be milk close to breast milk.

4 S3: [Suyla karıştılır.] <DESCRIBE>
It is mixed with water.

5 CT: {Başka neler olabilir? … Başka?} <QUESTION>
What else could it be? ... What else?

6 Ss: Mamalar
Formula

7 CT: {Mamalar olabilir, başka?} <CONFIRMATION / QUESTION>
It could be a formula, what else?

8 S1: Meyve püresi
Fruit puree

9 CT: Ama daha bebek ya … (ne yapabiliriz?) <INCLUSIVE WE> {İşte, sütler dedik, mamalar değil mi arkadaşlar?} <RHETORICAL QUESTION> [Bu ikisi. Eğer, bazı durumlarda anne sütü verilememesi durumunda, ne zaman olur bu?] <EXPLAIN> …
But he is just a baby ... what can we do? We said milk and formula, right friends? These two. If, in some cases, breast milk cannot be given, when does this happen? ...
[Anne sütü gelmeyebilir, sütü olmayabilir, bebek hastanede yatıyor olabilir, yoğun bakım süreci olabilir değil mi?] <EXPLAIN RHETORICAL QUESTION> Bu dönemlerde eğer bebek anne sütünü alamıyorsa biz o zaman (ne yapacağız?) <INCLUSIVE WE> … {bebeği mutlaka ve mutlaka beslememiz gerekiyor değil mi?} <RHETORICAL QUESTION> …
Breast milk may not come, there may be no milk, the baby may be hospitalized, there may be an intensive care period, right? In these periods, if the baby cannot receive breast milk, then what do we do?... we need to feed the baby, right?
[Sütleri 1'e 1 ya da 2'ye 1, 3'e 1 oranında bebeğin durumuna göre ne (yapacağız)?… (sulandıracağız.) Yani inek sütünü hemen olduğu gibi bebeğe (vermiyoruz).] <EXPLAIN / INCLUSIVE WE> {Tamam mı arkadaşlar?} <COMPREHENSION CHECK>
What do we do with the milk in a ratio of 1 to 1 or 2 to 1, 3 to 1 according to the condition of the baby? ... we dilute it. So, we do not give the cow's milk to the baby immediately. Okay, friends?

[Nasıl (yapıyoruz) o zaman? Diyelim ki bebek 1. ayında anne sütünü aldı ya da hiç alamadı o zaman 3te 1 arkadaşlar. 3 su (vereceksek) 1 süt (katıyoruz).] <DESCRIBE / INCLUSIVE WE> {Anladık mı?} <COMPREHENSION CHECK> …

How do we do it then? Let's say the baby received breast milk in the 1st month or not at all, then 1 in 3, friends. If we give 3 water, we add 1 milk. Do we understand? ...

[Ya da 2. aya (geldik). 2. ayda yarı yarıya süt ve su dengesini (koruyacağız).] <DESCRIBE / INCLUSIVE WE>

Or we have come to the 2nd month. In the 2nd month, we will keep the balance of milk and water half and half.

[2. aydan sonra arkadaşlar ne (yapabilirsiniz)? 3'te 2 süt (koyabilirsiniz), 3'te 1 su (koyabilirsiniz)] <DESCRIBE / SECOND PERSON PLURAL> [ama yine (sulandıracağız), dikkat (ediyoruz),] <DESCRIBE / INCLUSIVE WE> {tamam mı?} <COMPREHENSION CHECK>

After the 2nd month, friends, what can you do? You can put 2 out of 3 milk, you can put 1 out of 3 water, but we will dilute it again. We pay attention, okay?

[Çok da tavsiye (etmiyoruz) işin açığı neden?] <EXPLAIN / EXCLUSIVE WE>…

We do not recommend it very much, why?

[Bir kere, alerjen olma ihtimali çok yüksek. Bebeklerin de alerji geliştirebilmesi çok yüksektir. O yüzden devam sütleriyle devam etmek çok daha makbul aslında.] <EXPLAIN>

First of all, the possibility of allergens is very high. It is also very likely that babies can develop allergies. So, it is actually much more preferable to continue with follow-on milks.

{Anlaşıldı mı burası?} <COMPREHENSION CHECK>

Is this clear? …

10 Ss: Evet, anlaşıldı.

Yes, understood.

The instructor asks for the definition of a terminology related to the content via questions in the first line of the extract 2. The student 2 gives an explanation about the condition in which formula feeding is necessary by explaining the reasons such as mother might be hospitalized and there might be lack of breast milk. In line 3 the instructor gives a prompt and asks for the definition again. Subsequently student 3 gives a description of how to use milk other than breast milk to feed the baby. The instructor insists on the description and the exemplification of the related terminology. The students give examples in the lines 6 and 8. Thanks to question-and-answer interaction, the students try to define the terminology by using their previous knowledge and world knowledge. After making the students think about the terminology, the instructor gives the full explanation of the terminology in line 9. The instructor explains the situations where formula feeding is necessary and gives a broad explanation with the causes of feeding the baby with any milk other than breast milk. After mentioning the conditions in which this type of feeding is necessary, the instructor gives a detailed description of the preparation of formula feeding by giving the proportions of milk (other than breast milk) and water mixture. The instructor gives a detailed explanation for the first month and the second month to show how formula feeding differs as the baby grows up. In this part of the lecture, the instructor frequently uses the combination of two CDF constructs which are Explain and Describe. However, in the beginning of the lecture she strats with Define to remind the students of the terminology then she explains the phenomenon and describes the process. The instructor describes the feeding process and then explains how to do that in a more detailed way. The sequences of CDF constructs in this part of the lectures go like Define – Explain – Describe – Explain.

As to the use of pronouns, reader pronouns are the clearest indicator of a lecturer's engagement with the audience. During the lecture in extract 2 the instructor uses mostly inclusive "we" aiming to involve the listener in the discussion and foster a shared understanding between the speaker and the audience. The instructor employs the inclusive pronoun "we" to highlight a shared content experience and promote a supportive learning atmosphere, which shows parallelism with Hyland's Stance and Engagement Framework. However, at the end of line 9, the instructor uses the pronoun second person plural. There is only one example of the use of second person plural in extract 2 even though there are other instances in other extracts. The aim of the instructor is to include the students as novice learners of the field into the process of preparing formulas. According to Hyland, "you" and "your" are rarely found in academic writing (2005, p. 182). However, "you" is more commonly used in spoken discourse due to the audience's actual presence.

However, the instructor uses inclusive "we" immediately after she includes the students into the process and then joins the shared knowledge community again. According to Hyland (2005), exclusive "we" refers solely to the writer/speaker, highlighting the separation between the speaker and the audience as in the present study.

In line 10, the instructor uses exclusive "we" to show that she is the expert of the content so that she states an advice related to formula feeding by using exclusive pronoun "we". The instructor gives expert explanation and definition of the related terminology. By doing so, the instructor explains the reasons for not recommending milk other than breast milk to feed a baby.

In this extract, the instructor often checks the students' understanding by employing comprehension check questions such as "Anlaşıldı mı?" (Understood?)

and “Tamam mı?” (Ok?). In the analysis of a specific content learning discourse, this particular conversational action is termed a "Comprehension Check" (e.g., Long and Sato 1983) and is deemed essential for providing the modified input that improves learning. As in the examples the data reveals that in naturalistic classroom conversations, these actions may occur frequently and rapidly.

Co-constructed explanations, question-answer interactions and comprehension checks help the students construct the necessary knowledge for their study and the instructor supports the students to co-construct knowledge during the learning process.

Extract 3.

1	CT:	[Peki. Bir de üçüncü olarak beslenme (şeklimizde) karışık beslenme var ama onun öncesinde ben, ek gıdada biberonla (veriyoruz) ya şimdi bu çocuk diyelim ki anne sütünü alamadı, evet anne sütünü alamadı biz, peki, anne sütünü, o sütleri ya da mamaları ne ile (vereceğiz) çocuklara?] <EXPLAIN / INCLUSIVE WE / QUESTION>
		Okay. And thirdly, there is mixed nutrition in our diet, but before that, I said, we give it with bottles in supplementary food, now let's say this child could not get breast milk, yes, we could not get breast milk,
well,		how are we going to give breast milk, those milks or formulas to infants?
2	S4:	[Kaşıkla] <EXPLAIN>
		With a spoon
3	S5:	[Biberonla] <EXPLAIN>
		With a baby bottle
4	CT:	[Kaşıkla, biberonla, başka? … Ben size bir şey söyleyeyim mi? Enjektörler var ya … Eğer çok küçükse enjektörlerle de verilebilir.] <QUESTION / EXPLAIN>
		Spoon, baby bottle, what else? ... Can I tell you something? There are

injectors... If it (a newborn) is very small, it can also be given with injectors.

[Hani nasıl? … Şu iğneli kısmı (atıyorsunuz), iğneli kısmı. Sadece o küçük ince bir yer var ya… Onu neden yapıyoruz biliyor musunuz?] <DESCRIBE / SECOND PERSON PLURAL / RHETORICAL QUESTIONS>

You know how? ... You throw away the part with the needle, the part with the needle. It is just this little thin place... You know why we do that? ...

[Ola ki ilerde çocuk ilerde tekrar anne sütünü emmeye başlayabilme olasılığı varsa ya da işte bebek hemen biberona alışmasın diye. Neden alışmasın (diyoruz)? Bakın burada biberonun aslında bir sürü dezavantajı var. Nedir birinci dezavantajı?] <EXPLAIN / EXCLUSIVE WE>

In case there is a possibility that in the future the child may start breastfeeding again, or so that the baby does not get used to the bottle right away. Why do we say not to get used to it? Look, there are actually many disadvantages of the baby bottle. What is the first disadvantage?

[Hijyenik değildir. Değil mi? Biliyorsunuz annenin meme ucu o kadar hijyenik olması zaten beklenemez çünkü biliyorsunuz plastik bir yapıdır en nihayetinde.] <DESCRIBE / EXPLAIN / RHETORICAL QUESTION>

It is not hygienic. Right? You know, you can not expect a baby bottle to be as hygienic as a mother's nipple because, you know, it is a plastic structure after all.

[İkincisi; bebeğin çene ve diş yapısında bozukluk olabileceğinden dolayı çok önemli ilk etapta. Sonrasında da şöyle bir durum var; bebek hiç zorlanmadan, hiç emmeden, hiç çekmeden biberondan süt gitmeye başlayacak. O zaman bebek hiç kendini yormayacak. Hatta bu ileriki süreçlerde neye neden oluyor biliyor musunuz? … Bakın, çiğnenmesi gereken ya da daha katı gıdalara geçtiği zaman bebek ne yapacak?] <EXPLAIN / RHETORICAL QUESTIONS>

Secondly, it is very important in the first place because the baby's jaw

> and tooth structure may be disordered. Afterwards, there is a situation like this; the baby will start to get milk from the bottle without any difficulty, without any sucking, without any pulling. Then the baby will not tire itself at all. In fact, do you know what this causes in the future?... Look, what will the baby do when it switches to foods that need to be chewed or more solid foods?...

In the third extract, the instructor uses Explain and Describe sequences while the instructor is creating a situation and asks the students for solutions to the imaginary case. While doing this, the instructor uses inclusive "we" to imply a sense of cooperative participation within the same content community (Hyland, 2005). The students respond to the question by giving examples. The instructor reformulates the students' answers then asks for more examples. After a short waiting interval, she gives the expected answer. The instructor gives a detailed description related to the usage of injectors to feed an infant. In her description she uses the pronoun second person plural to foster a sense of collective engagement and shared responsibility among students as novice learners of the content. This linguistic choice helps to break down individual barriers of the students and reinforces the idea that they are in a joint content community. Additionally, the use of the second person plural emphasizes a sense of unity, promoting a supportive atmosphere where students feel connected to each other and to the shared goal of acquiring knowledge (Güçlü, 2022). In employing this linguistic approach, the instructor not only imparts information but also cultivates a sense of community within the classroom, ultimately enhancing the overall educational experience for everyone involved.
The instructor continues explaining the reasons for using the injector for feeding the baby by using exclusive "we" to emphasize her expertise in the field. The instructor checks the students' understanding immediately after she gives an expert explanation

related to the content, in that the instructor restructures the knowledge to provide comprehensible input for the students (Foster & Ohta, 2002). The instructor encourages the students to think about the topic via questions. McCormick and Donato (2000, p.197) state that "questions serve as active and interactive instruments to foster collaboration and to support the development of understanding and clarity." The instructor gives an imaginary situation and makes the students think about it then gives an explanation so that the students can be engaged in the process of making meaning and constructing the knowledge. The classroom talk in this part of the lecture can be classified as exploratory talk as the instructor and the students grasp the meaning collaboratively (Mercer, 2000).

Extract 4.

1 CT: {Evet, bakın ek gıdaya geç başlamanın birinci ve en önemli sonuçlarından bir tanesi neydi, arkadaşlar?} <RHETORICAL QUESTION> … [Beslenme yetersizliği. … Malnütrisyon da (diyoruz biz) buna.] <DEFINE / EXCLUSIVE WE>
(Yes, look, what was one of the first and most important consequences of the late introduction of supplementary food, friends? … malnutrition. ... We also call it malnutrition.
[Vitamin yetersizliği gelişebiliyor çünkü çocuk artık yaşına ve gelişim düzeyine uygun vitaminleri ya da mineralleri alamadığı için ne oluyor arkadaşlar?] <EXPLAIN / RHETORICAL QUESTION> [Vitamin yetersizliğine neden oluyor.] <EXPLAIN>
Vitamin deficiency can develop because the child is no longer getting the vitamins or minerals appropriate for their age and developmental level. It causes vitamin deficiency.

In the fourth extract, the instructor asks for the most important outcomes of starting supplementary food late, then the instructor gives the answer because of the students'

limited knowledge to respond to this question. The instructor gives the answer as "beslenme yetersizliği" (malnutrition), then she gives the synonym word "malnütrisyon" (Turkish equivalent of the English word "malnutrition") for the same terminology as it is widely used in academia. In this interaction, there is an example of both Define and Explain as the instructor defines the term with its synonym and then explains the results of delaying to begin supplementary food. The sequence of the CDF constructs is as following: Define – Explain.

The instructor uses exclusive "we" to give the synonym word as it is shown at the end of the line 1. The instructor gives an expert explanation about the terminology; thus, she excludes herself from the novice learners this time. The instructor continues giving prompts to get descriptions of the asked terminology. Then the instructor repeats the answer.

In this extract, it is observed that the instructor gives the definition and explanation for the content word then she restates the explanation by paraphrasing so that the students are exposed to the content knowledge several times to grasp the meaning and construct the content knowledge. In line 2, there is an instance of using paraphrasing by the instructor. Paraphrasing is one of the useful ways of defining a terminology (Dalton-Puffer, 2007b). By paraphrasing the definition given at the beginning, the instructor aims to expose the students to the content knowledge several times and facilitate the students' understanding of the content.

Extract 5.

1 CT: [Evet, bir sonraki konumuz ek gıdaya nasıl (başlamalıyız) ve başlarken nelere dikkat (etmeliyiz), Student 10, söyle bakalım.] <DESCRIBE / QUESTIONS / INCLUSIVE WE>
Yes, our next topic is how we should start supplementary food and what we should pay attention to when we start, Student 10, tell us.

2 S10: [Ek gıdalar ilk önce deneme olarak verilmeli.] <DESCRIBE>
Supplementary foods should be given on a trial basis at first.

3 CT: {Çok güzel.} <CONFIRMATION> [Bakın miktarı önce az (tutuyoruz) sonra gittikçe, yedikçe, bebek onun tadına vardıkça, bebek sevdikçe ne (yapıyoruz)?] … <DESCRIBE / RHETORICAL QUESTION / INCLUSIVE WE>
It is very good. Look, we keep the amount small at first, and then as it goes, as it eats, as the baby tastes it, as the baby likes it, what do we do?
[Hem miktarı (artırıyoruz) hem de (çeşitlendiriyoruz).] <DESCRIBE / INCLUSIVE WE> {Nasıl (çeşitlendiriyoruz)?} <DESCRIBE / QUESTION / INCSLUSIVE WE>
We are both increasing the amount and diversifying it. How do we diversify?
[Diyelim ki yoğurt. Yoğurt vermeye (başladık). Önce 1 kaşıkla sonra 2 kaşıkla sonra miktarı (artırdık). Sonra (biz) o yoğurdun içine ne (koyabiliriz)?] <DESCRIBE / INCLUSIVE WE / RHETORICAL QUESTION>
Let's say yogurt. We started giving yogurt, first with 1 spoon, then with 2 spoons, then we increased the amount. Then what can we put in that yogurt?
[Meyvelerle meyveli yoğurt (yapabiliriz), değil mi? Bakın hem ne (yaptık), miktarı (artırdık) hem çeşidi (farklılaştırdık), çeşitlendirmiş (olduk).] <DESCRIBE / RHETORICAL QUESTION INCLUSIVE WE>
We can make fruit yogurt with fruits, right? Look what we have done, we have increased the amount and diversified the variety.

In this part of the lecture, the instructor provides the students with a prompt related to a new topic they are going to discuss during the lesson and asks the student 10 for an explanation about how to start supplementary food for the infants. The student gives the correct answer but incomplete. The instructor gives positive feedback to the answer by saying “çok güzel!” (very nice). Then the instructor reformulates the student’s answer to give the complete explanation. In this extract, the instructor notably uses inclusive “we”, which makes a shared learning environment to construct the content knowledge.

The instructor continues asking for an explanation by providing a trigger for the students. Subsequently, the instructor gives an example related to the question and explains it herself as the students prefer silence for the question. The instructor asks for more details about starting supplementary food for the babies, however the process of starting supplementary food and the ways of diversification of the food are described by the instructor herself. The instructor describes the process of preparing a supplementary food (yogurt example) and explains how to make it more nutritious and delicious for babies. The instructor uses Describe repeatedly to make sure that the students grasp the content knowledge.

Dalton-Puffer (2007b) states that asking students to provide descriptions and reasons serves as a prompt that encourages them to engage in more extended discussions. Typically, these prompts involve questions introduced with words like "how" and "why," leading to the elicitation of detailed explanations and justifications. In line 3 there is a clear example of providing prompts for an extended description but the students are not volunteering to answer the question. The reason for this might be their lack of knowledge about the topic. They prefer listening to the instructor in order to grasp the meaning and to construct the content knowledge.

Extract 6.

1	CT:	{5 aylık bir (bebeğimiz) var artık ek gıdaya (başlıyoruz) tamam mı?}<INCLUSIVE WE / RHETORICAL QUESTION> [İlk olarak hangi gıdalarla (başlayacağımızdan bahsetmiştik). Yoğurt, sebze püreleri, meyve püreleri, değil mi arkadaşlar?] <DESCRIBE / RHETORICAL QUESTION / INCLUSIVE WE> We have a 5-month-old baby and now we are starting supplementary food, okay? We talked about which foods we will start with first. Yogurt, vegetable purees, fruit purees, right friends? {Neydi ilk etapta başlayacağımız ek gıdalar?} <QUESTION / INCLUSIVE WE> [İlk etapta püre haline getirilmiş çocuğun yerken, biliyorsunuz daha dişle yok, bu yüzden çiğnemesi, yutması kolay bir şekilde kıvamını (ayarlayacağız).] <DESCRIBE / INCLUSIVE WE> {Anlaşıldı mı?} <COMPREHENSION CHECK> What are the supplementary foods we start with in the first place? In the first place, you know, they do not have teeth yet, so we will adjust the thickness so that it is easy to chew and swallow. Is that clear?
2	Ss:	Evet Yes
3	CT:	[6. Aya kadar neydi?] <DESCRIBE / QUESTION> What was it until the 6th month?
4	Ss:	[Anne sütü] <DESCRIBE> Breastmilk
5	CT:	[Sadece anne sütü.] <DESCRIBE> {6 ve 7. aylarda artık biz neye (geçiyoruz)?} <QUESTION / INCLUSIVE WE> Breast milk only. In the 6th and 7th months, what are we moving to?
6	Ss:	[Ek gıda.] <DESCRIBE> Supplementary food

In the extract 6, the instructor wants the students to recall what they have learned in the previous lesson by providing them with some examples. The instructor uses inclusive “we” in this part of the lecture, which means the shared content community with the students.

At the end of line 1, the instructor asks for the description of supplementary food to give the infants at first. The students stay silent and then the instructor gives additional prompts by describing the physical characteristics of infants to eat food. The instructor provides the students with prompts to recall the previous lecture by using the pronoun second person plural as in “biliyorsunuz, arkadaşlar” (you know, friends). The instructor emphasizes on the students’ knowledge construction since they are the new learners of the content. Afterwards, the instructor checks the students’ understanding by asking a question “Anlaşıldı mı?” (Understood?).
In line 3, the instructor asks for the description of the given period in terms of types of feeding an infant. The students describe the food preference for that period with a brief answer. Then the instructor reformulates the students’ short answers with a complete one as it is required in canonical form. In line 5 the instructor asks for the description of another period and the students answer the question with a short answer again, which is the similar process in line 3. In this part of the lecture the instructor uses only “Describe” construct of CDF repeatedly to give a detailed descripton of the feeding process.

During the lecture, the instructor initiates the interaction via questions and the students respond to them, subsequently the instructor provides feedback, which exemplifies a scaffolding technique. In Hyland’s Stance and Engagement Framework, it is stated that questions in academic discourse are employed to spark interest and motivate the reader or listener to engage with an issue as an equal participant in the discussion (Hyland, 2005). Recognized as a potent tool for fostering human interaction, questions have been essential in promoting teaching and learning processes for a long time. Thanks to this approach the instructor and students collaboratively construct content knowledge in the learning process.

Co-construction of knowledge in the native language (L1) is a similar process to the learning in a second language (L2). In Dalton-Puffer's research study (2007b), the researcher analyzes classroom talks in various CLIL (Content and Language Integrated Learning) classrooms such as History, Physics, Biology, Geography etc. in different Austrian schools. The findings of the study show that the messages and their interpretations are collaboratively formed by the conversational partners (the instructor and the students) as their interaction progresses. Through the interaction between the instructor and the students, knowledge is co-constructed.

Extract 7.

1 CT: [Sıvı besinlere, yumuşak, ezilmiş kıvamdaki besinlere artık (geçiyoruz). Bu neydi?] <DESCRIBE / INCLUSIVE WE / RHETORICAL QUESTION>
We are moving to liquid foods, soft, mashed foods. What was that? ...
[Yoğurt, taze sıkılmış meyve suları, sebze suları, pekmez, yumurta sarısı ki başlangıçta 8'de 1'i. Bakın yumurtayı düşünün arkadaşlar, hayal (edin). Önce yumurtanın sarısıyla (başlıyoruz) ve sarısının da 8'de 1'ini sadece (verebiliyoruz).] <DESCRIBE / INCLUSIVE WE>
{Bunu hiçbir zaman unutmayın.} <SECOND PERSON PLURAL>
Yogurt, freshly squeezed fruit juices, vegetable juices, grape molasses, egg yolks, initially 1 in 8. Look, think about the egg, friends, imagine it. We start with the yolk and we can only give 1 in 8 of the yolk. Never forget this.)
[Daha sonraları, bunu artırarak devam (ettirebiliyoruz). 8 ile 11 ay arasında artık pütürlü kıvam… artık yavaş yavaş böyle hafif hafif pütürlü gıdalara (geçebiliriz).] <DESCRIBE / INCLUSIVE WE>
[Pütürlü ne demek? Onu bir açıklayalım önce. … Artık püre kıvamında değil de hafif çiğnemesi için olanak sağlayacağı besinler (veriyoruz).] <DEFINE / RHETORICAL QUESTION / INCLUSIVE WE>
Later on, we can continue to increase this. Between 8 and 11 months,

we can gradually move on to a slightly lumpy food... a lumpy food with a slightly lumpy structure. What does grainy mean? Let's explain that first. ... We no longer give puree but foods that will allow them to chew slightly.

2 S1: [Rende] <DESCRIBE>
Grated

3 CT: {Rendelenmiş mesela. Başka?} <DESCRIBE / REFORMULATION / QUESTION>
Grated, for example. What else?

4 S5: [Ezilmiş.] <DESCRIBE>
Mashed

5 CT: {Ezilmiş, onu hafif ezilmiş yani püre haline (getirmiyoruz) artık.} <REFORMULATION / INCLUSIVE WE> [Çünkü artık (biz biliyoruz) ki 8 ile 11. aylar arasında çocuğun neyi var artık?] <EXPLAIN / INCLUSIVE WE / QUESTION>
It is mashed, we do not puree it anymore. Because now we know that between the 8th and 11th month, what does the child have?

6 Ss: [Dişleri] <DESCRIBE>
Teeth

7 CT: [Dişleri var artık çiğnemesi için olanak (sağlıyoruz).] <DESCRIBE / REFORMULARION / INCLUSIVE WE>
Now that he has teeth, we give him the opportunity to chew.

8 S8: [9-11 aylar arasında çorbaya ekmek batırıp (vermemiz) olur mu?] <DESCRIBE / QUESTION / INCLUSIVE WE>
Is it okay to dip bread in soup and give it between 9-11 months?

9 CT: [Olur, hafif pütürlü oluyor işte o ekmekler. Ekmek içini (verebiliyorsun).] <DESCRIBE / SECOND PERSON SINGULAR> {Olur, tamam mı?} … <CONFIRMATION / COMPREHENSION CHECK>
Yes, that bread is slightly lumpy. You can give the inside of the bread. Okay?...

10 S8: Tamam hocam.
Okay, teacher.

In extract 7, the instructor initiates the interaction with a description of foods given at the first introduction of supplementary food as a prompt and then asks for examples of those foods. Subsequently, the instructor gives a detailed description of what to do in the early stages of feeding infants with supplementary food. During the lecture, there are many instances of the use of questions displaying parellelism with Hyland's Stance and Engagement Framework. According to Hyland (2005), questions are the ultimate strategy for dialogic involvement, inviting engagement and drawing the interlocutor into a space where they can be guided to the writer's perspective. They arouse interest and prompt the students to investigate an unresolved issue alongside the lecture, acting as an equal conversational partner, sharing in the curiosity and following the arguments direction.

During the description of the feeding process, the instructor wants the students to define the word whose meaning might be confusing for the students. The instructor asks for the definition of the terminology "pütürlü" (lumpy) explicitly as in the example "pütürlü ne demek?" (What does lumpy mean?). Then the instructor gives a detailed and explicit explanation for the terminology. After the instructor's definition of the word, the students give examples of how to make lumpy food in lines 2 and 4. The instructor gives a reformulated version of the students' answers each time. The instructor gives prompts and asks the students for the word related to the given description. The students give a short answer and then the instructor completes the answer by reformulating their responses. The instructor uses CDF constructs as in the sequence of Describe – Explain. However, in only one instance, she uses Define to make sure that the students recall the meaning of the related terminology.

As in most of the cases occurring in the lectures, the instructor uses inclusive "we" to emphasize on the shared content community and to be part of the learning process with the students (Hyland, 2005).

In line 8, the student 8 gives a description of a specific food for the infants and she asks if it is suitable for the infants, subsequently the instructor gives positive feedback by reformulating the students' sentence and encourages the student to construct the knowledge related to the content. Explicitly asking for definition of a confusing word helps students be aware of an important content vocabulary and makes it easier to construct related knowledge (Llinares & Lyster, 2014). Related to this issue Dalton-Puffer (2007b) states that explicitly presenting and engaging in exercises would enhance students' learning of an important content knowledge.

Additionally, thinking explicitly about the definition of a terminology would enhance students' understanding and improve the semantic representation of key concepts in the content they are studying, thereby significantly contributing to their learning in the respective subjects.

Extract 8.

1 CT: [Evet, 12+ bu ne demek?] <DEFINE / RHETORICAL QUESTION> … [Artık 1 yaşına geldi demek (bebeğimiz).] <DEFINE> {1 yaşından sonra da biz artık (bebeğimize ne verebiliyoruz)?} <RHETORICAL QUESTION / INCLUSIVE WE> … [Kolay çiğnenebilen yiyecekler. Bu ne demek?] … <DESCRIBE DEFINE>
Yes, 12+, what does that mean?... It means that our baby is 1 year old now. What can we give to our baby after 1 year? ... Easy chewy foods. What does that mean?
[İşte kıymalı sebze yemekleri, içinde yine pütürlü hani bulgur, buğday tarzı olabilecek çorbalardan, tarhana çorbalarından vs (verilebiliyoruz). Peynir, çok pişmiş tavuk eti, yine aynı şekilde

kırmızı etlerden de, balık etinden de artık ne (yapabiliyoruz), artık yavaş yavaş alıştırmaya (başlıyoruz).] <DESCRIBE INCLUSIVE WE>. {Evet, ek gıdaya başlarken, en önce (başlayacağımız) gıda neydi?} <PROMPTING / QUESTION>
(We can give vegetable dishes with minced meat, soups that may contain bulgur or wheat, tarhana soups, etc. Cheese, well-cooked chicken meat, likewise red meats, fish meat, whatever we can do now, we start to introduce it gradually. .... yes, when we started supplementary food, what was the food we started with first?

2 Ss: [Yoğurt] <DESCRIBE>
Yogurt

3 CT: [Yoğurt, biliyorsunuz anne sütünden de yapılabilir.] <DESCRIBE> {Ama (tercihimiz) neydi?} <QUESTION / EXCLUSIVE WE>
Yogurt, as you know, can also be made from breast milk. But what was our preference?

4 S3: [İnek sütü] <DESCRIBE>
Cow milk

5 CT: [O anlamda söylemiyorum ama ev yoğurdu (tercihimiz).] <DESCRIBE / EXCLUSIVE WE> {Tamam mı?} <COMPREHENSION CHECK> … [Hazır, marketlerdeki kutular içinde satılan yoğurtları tercih (etmiyoruz).] <EXPLAIN / EXCLUSIVE WE> [Yoğurt miktarını yavaş yavaş (artırıyoruz) ve yoğurdu ara öğün olarak (veriyoruz). Ya sabah kahvaltıdan sonra, ya öğle yemeğinden sonra vermeyi tercih (ediyoruz), arkadaşlar.] <DESCRIBE / EXCLUSIVE WE>
I do not mean that, but we prefer homemade yogurt. Okay? ... We do not prefer the ready-made yogurt that is sold in boxes in the markets. We gradually increase the amount of yogurt and give yogurt as a snack. We prefer to give it either in the morning after breakfast or after lunch, friends.
[Sebze pürelerine (bakıyoruz). Alerjen oranı en düşük olduğundan dolayı verirken bir tık daha (içimiz) rahat bir şekilde (verebiliriz).] <EXPLAIN / INCLUSIVE WE> [Bunlar ne olabilir? Sebze pürelerinden ilk olarak (verdiğimiz)? … Patates değil mi? İlk aklınıza

gelen patates olmuyor mu?] <DESCRIBE RHETORICAL QUESTION / INCLUSIVE WE>

We are looking at vegetable purees. Since they have the lowest allergen content, we can give them with peace of mind. What would these be? The first thing we give from vegetable purees? ... Potatoes, right? Is not potato the first thing that comes to your mind?

6 Ss: Evet.

Yes.

In extract 8, the instructor explicitly asks for the meaning of the number and the sign "12+" as in the very beginning of line 1. Subsequently, the instructor gives the definition because the students do not volunteer answering the question. The instructor asks for examples of food that they can feed the babies, mentioned in the previous lessons. The instructor provides the students with prompts by saying *"1 yaşından sonra da biz artık bebeğimize ne verebiliyoruz*? … Kolay çiğnenebilen yiyecekler. Bu ne demek?". (After 1 year of age, what can we give our babies? ... Foods that are easy to chew. What does that mean?) The instructor explicitly asks for the definition of a word that might be confusing for the students. Through exemplification the instructor defines the confusing terminology. The instructor wants the students to recall the examples of food such as "kıymalı sebze yemekleri, içinde yine pütürlü hani bulgur, buğday tarzı olabilecek çorbalardan, tarhana çorbalarından vs." (Vegetable dishes with minced meat, soups that may contain bulgur, wheat, tarhana soups, etc.) which were mentioned in the previous lesson. Afterwards, the instructor prompts the students to remember the types of the food that they can feed the baby with at the beginning stage of supplementary food. The students respond to the question by saying "yoğurt" (yogurt). The instructor confirms the students' answer and she reformulates it. The instructor asks for further examples

and the student 3 gives another milk type to make yogurt. Then the instructor realizes that the students misunderstand the question, that is why she reformulates the question and gives a detailed explanation about yogurt feeding from the view of an expert-self. The instructor addresses the students with the pronoun exclusive "we" because she explains the subject as an expert in line 5.

At the end of line 5, the instructor provides prompts to ask the students to explain food types and wants to get more examples from the students. Then the instructor gives the example of the asked food and then she requests for confirmation from the students to ensure that they comprehend the content. The students respond to the teacher with a confirming phrase. Confirmation checks occur frequently in the lecture since the students never signal that they do not understand the content (except from a few exceptions). Therefore, the instructor checks the students' understanding frequently, which is the same as the classroom interaction analyzed by Dalton-Puffer (2007b). In a CLIL History class observed by the researcher, the teacher often applies confirmation checks in order to ensure that the students understand correctly. In this extract, the instructor wants the students to recall and employ their knowledge from the previous classes, because she believes that they can improve their knowledge by adding new information. Therefore, she uses Define construct first to remind the students of the previous knowledge, then she describes and explains the process respectively.

During the interaction, the instructor uses both inclusive and exclusive we in this extract. The purpose of using inclusive we as in most of the other extracts mentioned before is to co-construct knowledge in a shared content community. However, the instructor opts for using exclusive "we" when she gives an expert

explanation about the content which makes the students aware of the topic that they are novice about.

Extract 9.

1	CT:	[Başka? … Ezilebilen böyle ne olabilir?] … <DESCRIBE / PROMPTING> What else? ... What could be so crushable? ...
2	S10:	[Havuç.] <DESCRIBE> Carrot.
3	CT:	{Havuç, olur, çok da güzel olur.} <CONFIRMATION> Carrots, yes, that is good. {Ben mesela kızımda ilk şeyle (başlamıştım),} <FIRST PERSON SINGULAR / SELF MENTION> [kabak hem biliyorsunuz sindirime de çok yardımcı. Patates ve havuçla başlamıştım.] <DESCRIBE> For example, for my daughter's supplementary food period, I started with zucchini, and you know it is very helpful for digestion. I also started with potatoes and carrots. [Muhallebi olabilir arkadaşlar, muhallebi neydi?] … <DEFINE> It could be custard, guys, what was custard? ... [Kullandığımız sütün içine nişasta koyarak yapılabilir.] <DESCRIBE> {Ama şeker yerine arkadaşlar mutlaka ne (kullanalım)?} …<QUESTION PROMPTING / INCLUSIVE WE> It can be made by putting starch in the milk we use. But what should we use instead of sugar, friends? ... {Tabi şeker kullanmayacağız ama yapay tatlandırıcılar da (kullanmayacağız) değil mi? … Ne (koyacağız)?} <PROMPTING / RHETORICAL QUESTION / INCLUSIVE WE> … [Böyle doğal tatlandırıcılar olsun ama.] <DESCRIBE> … Of course we are not going to use sugar, but we are not going to use artificial sweeteners either, right? . . . What are we going to put? . Let's have natural sweeteners like this. ...

4 Ss: [Bal] <DESCRIBE>
Honey

5 CT: [Bal, ama işte 1 yaşından önce balı (önermiyoruz), neden? … Alerjen bir ürün olduğu için] <EXPLAIN / EXCLUSIVE WE> … {Pekmez olabilir başka?} … <PROMPTING / QUESTION>
Honey, but we do not recommend honey before the age of 1 year, why?... Because it is an allergenic product. ... Maybe molasses? ...
[Muhallebiye bazı meyveleri de ekleyerek (veremez miyiz)? Bu meyve şekerleriyle de (tatlandırabiliriz).] <DESCRIBE / RHETORICAL QUESTION / INCLUSIVE WE>
Can not we add some fruit to the custard? We can sweeten it with fructose.

The instructor prompts the students via questions and asks for an example of the food which can be mashed. After the students give an answer, the instructor confirms their answers. Subsequently, the instructor provides the students with more examples from her own experience. The instructor states that “Ben mesela kızımda ilk şeyle başlamıştım, kabak hem biliyorsunuz sindirime de çok yardımcı.” (For example, for my daughter, I started feeding my daughter with zucchini first. You know, it is very helpful for digestion.) The instructor uses the first-person singular pronoun “Ben” (I) to share her own life experience. This example from the extract is similar to what Hyland says in the Stance and Engagement Framework (2005) in terms of personal asides which are remarks the author makes during the progression of the argument. Instead of offering factual or explanatory details, they initiate a brief interpersonal exchange, thereby enhancing the author's connection with the audience. As in the example, the teacher share her personal experience with the students to improve the connection with the students.

In line 4, the instructor asks for a definition explicitly. After a short silence, the instructor describes the cooking process and defines the food. During this part of

the lecture, the instructor uses inclusive “we” to foster a sense of unity and collaboration in the process of knowledge construction.

The instructor prompts the students via questions in order to remind the students of their previous knowledge and explain the answer of the question. The students respond to the question and then the instructor provides the students with feedback with an explanation. The instructor explains the reason for not accepting the students’ answer by stating that “ama işte 1 yaşından önce balı önermiyoruz, neden? … Alerjen bir ürün olduğu için.” (But we do not recommend honey before the age of 1 year, why? ... Because it is an allergenic product.)
The instructor employs the sequences of Describe – Define - Explain constructs respectively to revise the content she has taught before and also add new information.

The instructor uses exclusive “we” to make an expert explanation. In the examples of the classroom talk, the instructor, who is an expert in the topic, employs exclusive "we" in the classroom, to emphasize her expertise and the shared knowledge among her colleagues (Hyland, 2005).

As the lecture continues, the instructor gives other examples to give a complete and correct answer to the question. However, the instructor always uses prompting to make an explanation since she wants the students to contemplate about the content and co-construct the knowledge involving them into the learning process.

4.3 The findings of the analysis of the interviews

The data gathered from the interviews are analyzed based on the following adapted themes by Llinares, Morton and Whittaker’s (2012) to understand the relationship between the language and the content during the process of knowledge construction:

language development, interaction and subject literacies. The themes employed to analyze the interview data are similar to this framework, in that the students' Turkish academic language development, teacher-student and student-student interactions and the students' perceptions on their subject specific literacy on "Baby and Child Nutrition" content are investigated through interview questions. The use of CDF constructs are also examined via interview questions.

4.3.1 The findings of the analysis of the interview with the instructor

The interview with the instructor was transcribed and analyzed based on the themes such as academic language development, classroom interaction and subject literacy by Llinares, Morton and Whittaker's (2012). According to the findings, the instructor states that she gives lectures on the content based on the coursebook provided by the Ministry of National Education. She starts the lectures by asking questions from the students' own life experience related to the topic, for example "nutrition" as in this case. She asks questions to see the students' previous knowledge about the topic and she wants the students to be aware of the topic and brainstorm about the terminologies that will be covered during the lectures (see extract 1).

Extract 1: "I start the lesson by asking questions to measure the students' prior knowledge about the subject, so that they become aware of the terms related to the subject" (see Appendix D, extract 1).

In addition to the coursebook, the instructor states that she uses visual materials and videos published on EBA (Eğitim Bilişim Ağı) (The Education Informatics Network) via smartboard in the classroom.

As to activities in the classroom, the instructor wants the students to make a presentation on a supplementary food they prepared for the infants and also make a diet plan for the infants who are older than 6 months.

The instructor aims to expose the students to content knowledge and Turkish academic language through the coursebook, digital sources and lectures. The students are also expected to use the information they gain at the end of the class by doing the tasks they are assigned by the instructor so that they can construct the content knowledge effectively.

As to the material choice, the instructor expresses that they have to choose curriculum based materials provided by the Ministry of National Education. As there are only a few coursebooks, she sometimes uses the online materials such as scientific articles related to the topic which are appropriate for the students (see extract 2).

Extract 2: “In addition to the books sent by the Ministry of National Education, I include articles on the subject by adapting them to the level of children. I also make use of the presentations and visual materials on EBA” (see Appendix D, extract 2).

The instructor states that she actively uses CDF constructs in her classes especially to introduce a terminology related to the content to the students, the instructor expresses that she explicitly defines the term and describes the process and explains the phenomenon (see extract 3).

Extract 3: “I give clear definitions of the terms related to the subject and explain them with detailed examples. I try to make them understand the subject better by giving real-life examples” (see Appendix D, extract 3).

The instructor uses questions mostly during the lectures since it is important to have an interaction related to the topic. She gets responses from the students and then

gives feedback so that they have an interaction based on the topic and provides the students scaffolding when it is necessary.

As to the students' literacy on "Baby and Child Nutrition", they have some previous knowledge since it is a familiar topic which is in their daily life. However, during the learning process, they realize that they know a little information about the content (Baby and Child Nutrition) and also they have little or incorrect experiential knowledge of the topic (see extract 4). For example, one of the students says that she does not know the disadvantages of bottle feeding and she adds that "my mother always gives food with a baby bottle , not with a spoon, to my little sister". The instructor declares that the student constructs the knowledge and she applies it by sharing the information with her mother and it creates changes in their life.

Extract 4: "When we first start talking about nutrition, children think that they know the subject, but as they progress, they realize that they lack knowledge or correct their incorrect information. It is a bit difficult to break the prejudices of the students at first, to prevent their thoughts such as "we already know", but as they progress in the subject, they already see the reality themselves" (see Appendix D, extract 4).

4.3.2 The findings of the analysis of the focus group interviews with the students

3 Focus group interviews are analyzed based on the same adapted themes mentioned in the previous section. The students in all of the interview groups are in agreement with their instructor about the classroom interaction and the materials they use in class such as coursebooks, visual materials and videos on EBA. Only the students in group 3 state that they have peer teaching with their friends through question and answer sessions outside the class in order to study for the exam (see extract 5).

Extract 5: Group 3: “When we are studying for an exam, we explain something we do not understand to each other with our friends” (see Appendix D, extract 5).

Students indicate that they have already been familiar with the topic “nutrition”, but that they receive more academic and detailed information on the subject. Some of the information they have known before receiving education on nutrition is incorrect or incomplete. For example, one of the students in group 2 says:

Extract 6: “I did not know what foods can be allergenic for babies, but now I know” (see Appendix D, extract 6).

Another student from group 3 states:

Extract 7: “I knew what breast milk was, but I did not know that it was also called natural nutrition” (see Appendix D, extract 7).

The students became aware of the terms related to “Baby and Child Nutrition” and improved their literacy on the subject.

At the end of the lectures and their studies on the unit “Baby and Child Nutrition”, the students express that they are able to define nutrition-related terms and describe the process of preparing supplementary food. Furthermore, they are able to explain why supplementary food should not be started early or late, in conjunction with the causes and consequences (see extracts 8&9).

Extract 8: “I learned more about nutrition. I learned about foods with allergenic effects. I learned terms related to the subject, such as formula feeding, breastfeeding” (see Appendix D, extract 8).

Extract 9: “We learned when and how to start supplementary food and with which foods” (see Appendix D, extract 9).

However, in the first sessions of the lectures, students can talk about the content by using only some of the CDF constructs with the help of their instructor. As they learn

more about the content, the students' utterances consist of more CDF constructs (describe, define and explain). The findings show that the students improve their skills related to the usage of Turkish academic vocabulary they encountered in the content. This conclusion drawn from the interviews is in line with a study by Dalton-Puffer (2018) in which she investigated Cognitive Discourse Functions in Austrian CLIL lessons with a group of researchers. They observed the classroom interaction during the lectures on various subjects such as Biology, History, Economics, etc. They found that the teachers and the students co-construct CDF constructs in their utterances. After the learners realize the linguistic items to express their opinions effectively, they tend to use the CDFs more (Dalton-Puffer, et al., 2018).

Another subtopic to be mentioned is the students' perceptions about the usefulness of the knowledge they acquired. At the end of the interview, the students express that they will be able to use the information they have learned in the nutrition course in two ways in the future. Firstly, they think that this information will be very useful in their personal lives regarding the feeding of a baby they will look after in their personal lives. Secondly, they think that this information will be very useful in their careers in child development, for example, when working in a nursery. Moreover, they are aware of their literacy skills on the topic "Baby and Child Nutrition", in that they feel confident in reading and understanding academic texts related to this content (see extracts 10 & 11).

Extract 10: "The information I learned in the course was very useful for my little brother's transition to supplementary food. Also, in the future, when I work in a daycare center, I can share it with the parents of the students and inform them" (see Appendix D, extract 10).

Extract 11: “We will use this knowledge when we become mothers and in our careers in child development” (see Appendix D, extract11).

CHAPTER 5

DISCUSSION

This chapter discusses the findings of the study in relation to the research questions below:

RQ 1: How is knowledge conveyed in the "Maternal and Child Health" coursebook in a Turkish vocational high school?

In the first part of the study, the academic language structure of the coursebook used in "Maternal and Child Health" course is analyzed to display the vocabulary items and the linguistic structures that the students are exposed to during the learning process. In the coursebook, 1105 different verbs, 1363 different nouns and 866 different adjectives are identified. The linguistic structures of verbs are analyzed in terms of Tenses, Passive Voice, Modals and Pronouns.

The findings of the coursebook analysis reveal that out of 1105 verbs, 1020 verbs are in the Simple Present Tense. This shows that the use of aorist suffix is common in Turkish academic language as it gives the meaning of general validity.

Another structure examined in the coursebook is the Passive Voice. According to the results of the coursebook analysis, the number of verbs used in the active form is 650, while the number of verbs used in the passive form is 454. The data displays that the use of active form outnumbers the passive form, however, the number of passive constructions in the coursebook is also considerable. It can be concluded that the passive voice is utilized as a hedging device to modify the writer's attitude towards the content in Turkish academic language (Akbaş, 2014). The results of the study show parallelism with the statement by Doyuran (2009), which is the use

of the passive voice diminishes the author's presence in the text, thereby decreasing the likelihood of rebuttal and lessening the accountability in their writing.

In the scope of this study, the modals used in the coursebook are investigated and the results show that in Turkish academic language, modal suffixes are commonly used as hedging devices to convey the meaning of generalization, obligation, possibility, permission, etc. The present data shows that the Aorist (Ar/Ir) is the most frequently used suffix which has the meaning of generalizability. The second most frequent suffix is Obligation-Copula (mAlI-dIr) which is used to express necessity in the Turkish academic textbook. Another most frequently used suffix is Copula (DIr) conveying the meaning of certainty and generalization in the academic context (Erguvanlı-Taylan, 2018). The last frequently used suffix is Possibility- Aorist (Abil-Ir) employed as an indicator of possibility. According to Erguvanlı-Taylan (2018), the possibility meaning of -(y)Abil+-(A/I)r, diminishes the credibility of truth in order to secure approval, which is the case in the coursebook. The analysis of the verb endings show that Turkish language is rich in terms of modal suffixes as it is an agglutinative language unlike English (Underhill, 1986), which results in the high occurrences of suffixes used as hedging devices.

As regard to the pronouns utilized in the coursebook, the findings reveal that the most frequent pronoun is the 3rd person singular in the coursebook which displays the academic and objective discourse. There are a few occasions in which 3rd person plural pronouns are also used, however, 3rd person singular has the highest rate of usage in the coursebook since it is an academic textbook showing objectivity. In the Turkish academic texts, the third person pronouns and suffixes could be seen as engagement markers as they can be used to draw readers into the text (Güçlü, 2022).

It can be concluded that the knowledge is conveyed through an academic language in the "Maternal and Infant Health" coursebook. Thereby, the students are mostly exposed to academic language structures when they read the coursebook.

RQ 2: How is knowledge constructed in a "Baby and Child Nutrition" class in a Turkish Vocational High School through the analysis of teacher / student talk?

This section of the study includes the video recordings of the lectures on "Baby and Child Nutrition" class to examine the classroom interaction and the CDF structures in the teacher-student conversation. In order to analyze how knowledge is constructed and how subject specific literacy is developed, teacher talk and student talk are transcribed and examined based on the CDF constructs and metadiscourse functions.

a.Teacher talk

In the analysis of the teacher talk, explicit definitions, detailed descriptions and explanations with the use of exemplification are observed in the teacher talk. The teacher paraphrases the important definitions to make sure that the students grasp the meaning of the terminology, which is a convenient and an effective way of giving definitions to the learners (Dalton-Puffer, 2007b).

The analysis also reveals that the use of prompts are beneficial to integrate the students into the classroom interaction. The results of the study support the findings of the research conducted by Dalton-Puffer (2007b) in relation to the use of prompts during the teaching process. During the lectures, the teacher asks the students for a description by providing prompts. Subsequently, the students give the description when they have enough knowledge to describe the phenomenon,

however, the students stay silent if they do not have the related information. In this case the teacher gives a detailed description. The teacher also makes an expert explanation when the students do not have any knowledge about the content. She sometimes shares examples from her own life experiences. This finding demonstrates parallelism with Hyland's Stance and Engagement Framework (2005) in which it is stated that personal asides are comments the author inserts while developing the argument. Rather than providing factual or explanatory information, these remarks create a brief interpersonal interaction, strengthening the author's connection with the audience. As the extract shows, the teacher integrates expert knowledge with her life experiences in order to show authentic and practical applications of the knowledge they learn during the lectures.

The analysis of the classroom data shows that the use of questions / rhetorical questions are common in the lectures. According to Hyland (2005), questions are the prime method for fostering dialogic involvement, encouraging engagement and bringing the interlocutor into a space where they can be led to the writer's viewpoint. They stimulate interest and encourage the reader to explore an unresolved issue with the writer, acting as an equal conversational partner, sharing curiosity and following the arguments progression. The teacher uses questions / rhetorical questions to integrate the students into the learning process.

Furthermore, the analysis of the data shows that comprehension checks are frequently used in the lectures. The teacher always checks the students' understanding of the content by asking questions. According to the analysis of History lectures in Dalton-Puffer's study (2007b), the teacher mostly uses comprehension checks to ensure the students understand the content correctly.

As for correcting or completing the students' sentences, there are many examples of providing feedback to the students' utterances in the lectures. The teacher asks questions subsequent to the lecture and provides feedback based on the students' answers. Correcting the students' responses by reformulating or scaffolding them to reach the correct answer are the ways of giving feedback to the students during the lectures. The teacher encourages the students to correct their mistakes or complete their responses during the learning process. The use of corrective feedback is very common in the classroom as in Dalton-Puffer's (2007b) study where the teachers provide the students with corrective feedback to repair their responses.

According to the conclusion drawn from the data analysis, the Cognitive Discourse Functions, Define, Describe and Explain are widely used in the teaching of the content "Baby and Child Nutrition". The teacher provides definitions of the content related terminologies and asks the students to define some daily vocabulary items with the help of previous knowledge. Description is also commonly used to generate information about the features of the phenomenon. The teacher describes the process of food preparation for infants and feeding them in detail. Besides, explanation is also an inevitable part of the lectures, which provides the students with detailed information about how and why the phenomenon happens. The order of CDF constructs used in the lecture varies depending on the teacher's purpose. The two most commonly used sequences are Define - Explain - Describe or Define - Describe - Explain. The teacher gives the definition of the important terminology related to the content first, then she explains the phenomenon or describes the process. However, when the teacher does a retrospective review, the sequence can also be Describe - Define - Explain. In this case, she reminds the students of the definition of the related terminology after she describes the feeding process.

b.Student talk

As to the students' talk, the analysis of the lecture recordings shows that the characteristic of student talk is short and in the form of answers to a question. Most of the time the students stay silent to the prompts or questions provided by the teacher as they do not have enough knowledge to explain. However, when they have the answer they define, describe and explain the phenomenon.

Besides the CDF constructs, the data is analyzed based on the types of pronouns used in the lectures as a metadiscourse feature. In this context, the findings demonstrate that the instructor uses Inclusive "We" (Biz) widely during the lectures to show that she is in the same content community and learn/teach the content collaboratively. This result supports Hyland's findings (2002) in which it is stated that a shared sense of social identity where individuals are highly aware of social norms in developing their arguments. The instructor involves the students into the same content community by using biz, -dIk, -mIz as the pronoun "inclusive we" and suffixes as in the Akbaş's (2014) analysis of postgraduate academic writings.
On the other hand, in some cases, the instructor employs Exclusive "we" (Biz) in order to give an expert explanation and to emphasize her proficiency in the content. According to the study on the analysis of abstract sections of the research articles conducted by Doğan-Uçar and Akbaş (2022), the use of Exclusive "we" is common in academic papers and the purpose of its usage varies across disciplines. Although it is used for different aims in different disciplines, Exclusive "we" is used to display the instructor's presence as an expert of the content and the teacher of it.

In addition, the teacher uses the pronoun second person plural, although not very often. In doing so she creates a community among her students as new learners of the subject, but excludes herself as an expert. Smith (1985) suggested that "you"

could be seen as the most interactive form of personal pronouns because it directly acknowledges the audience's presence. However, its infrequent usage implies that the instructor might prefer to avoid it. From the standpoint of the relationship between the students and the instructor in a classroom interaction, the excessive use of "you" could come across as offensive or detached, as it creates a separation between the students and the teacher, seen as a distinct group.

Finally, the findings show that the instructor uses different types of pronouns depending on her purpose during the teaching process.

In conclusion, the findings show that through the use of CDF constructs, question and answer interactions and comprehension checks, feedback, scaffolding, the use of inclusive and exclusive "We", and other pronouns, classroom interaction is ensured and joint knowledge construction is established.

RQ3: What are the teacher's and the students' perspectives on knowledge construction in a "Baby and Child Nutrition" class in a Turkish Vocational High School?

The third research question is about the perspectives of the teacher and the students on knowledge construction in Nutrition class. In order to investigate their perspectives, the researcher interviewed the students and the teacher. The interviews are audio recorded and transcribed to be analyzed based on the themes related to knowledge construction.

The analysis of the interview with the teacher displays that the materials used in the lessons are provided by the Ministry of National Education. Besides the coursebook, the teacher employs online materials on EBA. The teacher expresses that she asks the students questions to brainstorm about the content and to activate

their previous knowledge. The teacher believes that the use of previous knowledge is significant to construct knowledge effectively. Subsequent to the activation of the existing knowledge, the teacher defines the terms, describes the processes and explains the phenomenon in detail in order to construct knowledge effectively. The findings from the interview with the teacher related to the use of CDF constructs in the lesson coincide with the results of lecture recordings.

It can also be concluded that the use of feedback, comprehension checks and scaffolding are very common in the classroom interaction and the teacher believes that these are effective ways of teaching content. Feedback and comprehension checks are effective in drawing the students' attention to the significant content knowledge and comprehending the repaired knowledge (Lyster, 1998). The role of scaffolding through classroom discussions in constructing content knowledge is emphasized by Lin (2016, p.105) where language is acknowledged as the primary resource for generating meaning in content construction to elucidate and comprehend new knowledge through verbal interaction.

On the other hand, the focus group interviews with the students show that classroom interactions, lectures and materials they used during the learning process are effective to understand the topic. Besides, they also have peer teaching outside the classroom. Peer teaching, characterized as an interactive and dialogic communication method (Mortimer & Scott, 2003), is essential as it allows students to revisit concepts, discuss understandings, delve into new ideas, and rectify misconceptions regarding the content. The students who are more proficient in the topic help the others.

Another significant point to be mentioned from the interviews is that the students believe that they gain more detailed, academic and valuable information

related to the “Baby and Child Nutrition” thanks to this course because they claim that they already have some knowledge related to the content but incomplete and incorrect. Thus, they become aware of the correct knowledge and they gain literacy on the topic Nutrition.

It can be deduced from the interviews with the student groups that the students develop their literacy in the specific content which is “Baby and Child Nutrition” with the use of CDF constructs, in that the students are confident to define the terms, to describe the processes related to feeding and to explain the reasons of the phenomenon related to the content.

CHAPTER 6

CONCLUSION

The findings of the study are summarized in this chapter. Pedagogical implications and limitations of the study are mentioned. Lastly, suggestions for future research are offered.

6.1 Summary of the results

The present study attempted to investigate how knowledge in a specific content is constructed in the learners' L1 based on Cognitive Discourse Functions by Dalton-Puffer (2013). This study also aims to examine the characteristics of the academic language employed in the departmental coursebook (Maternal and Child Health) in Turkish. It also provides information about the teacher's and the students' perceptions about the knowledge construction. The findings show that the students are instructed on the content "Baby and Child Nutrition" in Turkish Academic Language and they co-construct the knowledge with the help of question-answer sessions with the content teacher. They develop their literacy skills in the content through CDF constructs. It can be also concluded that the students build academic knowledge on their previous knowledge related to nutrition with the help of scaffolding, feedback and peer teaching. With the valuable information about how the students construct content knowledge in their L1 from this study, I can arrange a CLIL class to teach English as a foreign language effectively to the students in the department of Child Development in Vocational High School.

In the context of CLIL classes, the use of students' L1 and translanguaging play significant role to be taken into consideration. As García & Li Wei (2015) stated

the use of L1, translanguaging and codeswithcing can considerably enhance both content mastery and language acquisition. According to Li (2018), integrating L1 provides a cognitive bridge that helps students grasp complex concepts more efficiently, reducing cognitive load and facilitating a smoother transition to understanding in the target language. Translanguaging, which involves the fluid and dynamic use of multiple languages, enables students to draw on their entire linguistic repertoire to navigate and make sense of subject matter (Lin, 2015). This practice not only supports deeper comprehension but also encourages active participation and engagement by validating students' linguistic identities and cultural backgrounds. By leveraging translanguaging, educators can create more inclusive and responsive learning environments that recognize the value of linguistic diversity. Such an approach challenges the traditional monolingual paradigms that dominate language education, promoting a more holistic and effective pedagogical framework for bilingual and multilingual learners. Thus, in my CLIL classes the use of L1 will be supportive during the learning process since the students have already had the content knowedge in their L1.

6.2 Pedagogical implications

Since there is a lack of research conducted on subject-specific literacy in the learners' L1 (Turkish), this study contributes to the related literature in terms of the learners competency in a specific content in their L1. The insights acquired from the present study make significant contributions to the understanding of the process of knowledge construction in a specific context in L1. The results of the study provides the teachers as the lesson plan designers and also the curriculum makers with noteworthy implications for designing curriculum and teaching techniques in a

specific context. The study presents useful insights for the teachers of English for Specific Purposes to organize their lessons based on the already constructed knowledge in the students' L1. Being familiar with the content in L1 makes the students feel more confident in an additional language learning process. Furthermore, it makes the learning process easier for both learners and teachers.

As the findings of the study point to the use of Define, Describe and Explain functions of CDF (Dalton-Puffer, 2013) in the teaching of the specific content which is Baby and Child Nutrition in this study, it provides valuable information for the teachers of English planning and implementing CLIL method in their lessons. In L2 education, the use of CDF constructs will make valuable contributions to the learning process.

The students get aware of the content specific terminology related to their department and they can apply their existing knowledge in their L1 to L2 learning process. As it is a difficult process to learn how to express their ideas in a specific context in L2, designing an L2 teaching curriculum based on the findings of the present study will make it easier to acquire the linguistic forms and items to interact with their peers and teachers in L2.

The findings of the present study make contribution to design of a lesson plan including the use of Define, Describe and Explain constructs in English classes based on a specific content. For instance, in the context of the vocational high school offering Child Development department, as a teacher of English language, I can design a CLIL lesson on the content "Baby and Child Nutrition" focusing on the definitions of the related terminology, description of the supplementary food types and their preparation process, explanation of the reasons for introducing baby with supplementary food not late or not early or explanation related to why some food are

not given during early supplementary food period. The students are going to learn the content related to their own department in English so that they can use this knowledge in their work places where international people exist. They also feel more confident and unstressed during the learning process because they are familiar with the content, the terminologies and the way language used by the teacher in their L1, thus they will have a positive and valuable learning environment in their English classes.

Another important implication to be employed in the CLIL classes is the use of L1 in CLIL classes. Incorporating L1 strategically can serve as an essential scaffolding tool, allowing students to build on their existing knowledge and skills to understand new content more effectively. This approach can help lower the affective filter, reducing anxiety and increasing confidence, thereby enhancing overall engagement and participation in the learning process. Additionally, the use of L1 can facilitate more meaningful and in-depth discussions, enabling students to articulate complex ideas and concepts more clearly before transitioning to the target language (Lin, 2015). It supports differentiated instruction, catering to the diverse linguistic backgrounds of students and promoting an inclusive classroom environment. By acknowledging and valuing students' L1, educators can foster a sense of belonging and respect for linguistic diversity, which can positively impact students' academic achievement and motivation. Overall, translanguaging and codeswitching in CLIL not only aids in content comprehension and language development but also contributes to the creation of a more equitable and supportive educational setting.

6.3 Limitations of the study

The findings of the present small scale case study were limited to the Child Development Department, 9th grade students in a vocational high school in Niğde, Türkiye. That is why it is inadequate to generalize the results to the other departments and other grades. Correspondingly, these restrictions might influence the generalizability of the findings since the analysis include the only one departmental coursebook and a few video records of one of the units which is Baby and Child Nutrition. As to the limitations related to interview with the instructor and the focus group interviews with the students, there is only one instructor teaching the content related to the scope of the study. Therefore, it restricts the generalizability of the findings. Additionally, the focus group interviews are carried out with 9 students who are the only volunteers in the classroom, which might cause generalizability problems.

6.4 Suggestions for further research

Since there is not much research conducted on subject-specific literacy and knowledge construction in a subject specific content in the learners' L1, this study has contributed to the literature on the learners' knowledge construction in a subject specific content in their L1 and the use of CDF in the learning process. However, there is still a need for more studies to extend the findings of the present study. This study can be extended to a wider perspective by including various departmental classes and content teachers and also different levels of students other than 9th graders so that it is expanded to a large context to increase the generalizability of the findings. In other words, in order to provide a larger perspective and more detailed

analysis on knowledge construction in a subject specific content in L1, a larger set of data is necessary

APPENDIX A

COURSEBOOK

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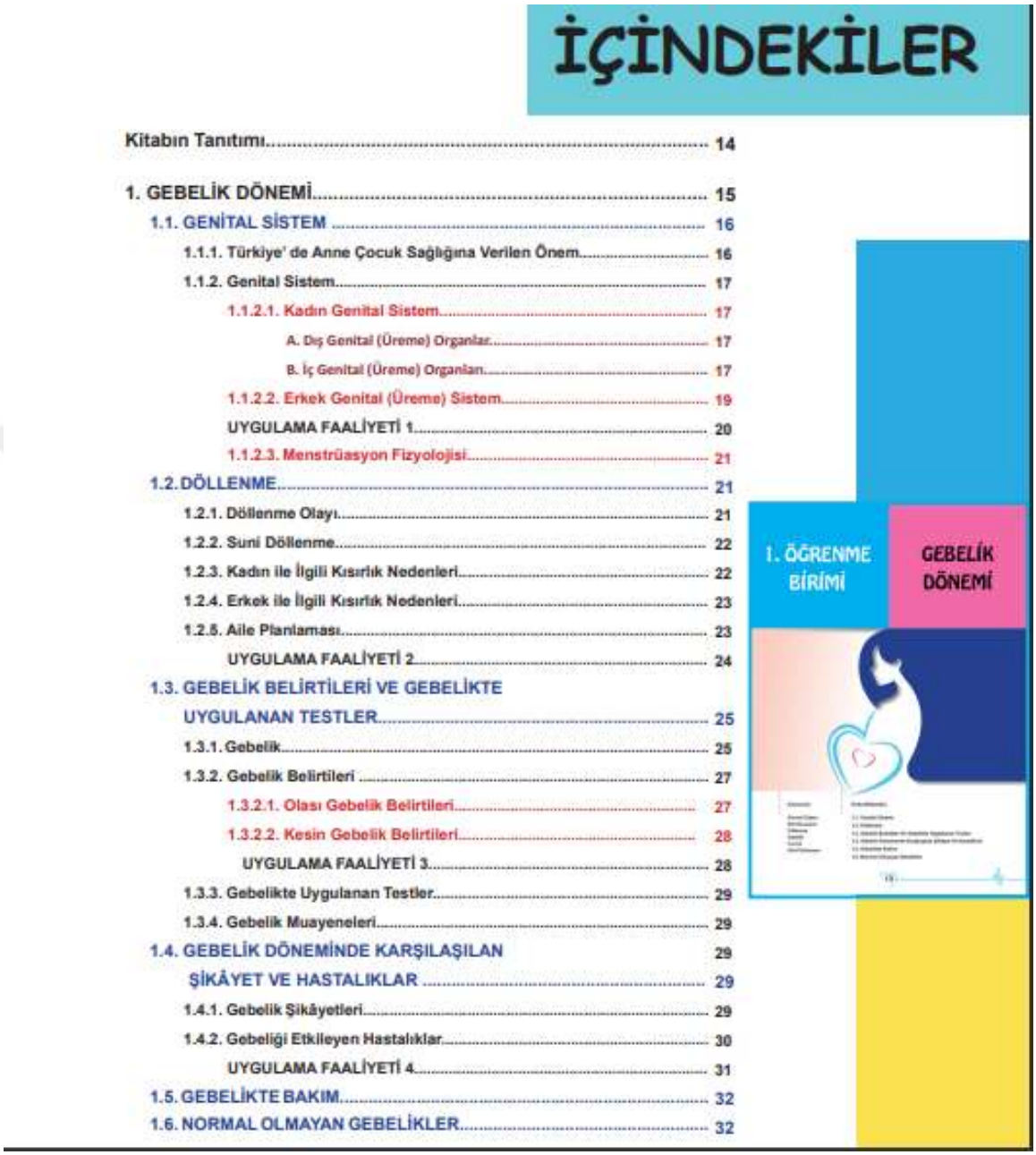

İÇİNDEKİLER

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APPENDIX B

THE LINK FOR THE ANALYSIS OF THE COURSEBOOK

NOUNS:

https://docs.google.com/spreadsheets/d/11Ofyh7nVQKKiD2RPiGIpmsMipRDNFSWc/edit?usp=drive_link&ouid=110220545228610586935&rtpof=true&sd=true

VERBS:

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ADJECTIVES:

https://docs.google.com/spreadsheets/d/1ZdKIIMR9tqOp2mOCDVZSv4ND2yJacOpP/edit?usp=drive_link&ouid=110220545228610586935&rtpof=true&sd=true

APPENDIX C

THE TRANSCRIPTIONS OF THE VIDEO RECORDS OF THE LECTURE RECORDINGS

Table 3. Extract 1.

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT:	Beslenme nedir? Kim söylemek istiyor? Beslenme? (What is nutrition? Who wants to say? Nutrition?)	Initiate via questions	Asking for Definition
2	S1:	İnsanın büyümesi, gelişmesi için sağlıklı, vücuda sağlıklı yiyeceklerin vücuda alınmasına beslenme denir. (The intake of healthy, healthy foods for human growth and development is called nutrition.)	Student's response	Define

3	CT:	Evet, güzel. Vücudumuzun büyümesi, gelişmesi, sağlıklı olabilmesi için gerekli olan öğeler var. Bütün beslenme öğelerinden dengeli ve yeterli bir şekilde vücudumuza aldığımızda da biz buna ne diyoruz arkadaşlar?... (Yes, it's good. There are elements that are necessary for our bodies to grow, develop and be healthy. What do we call it, friends, when we get all the nutritional elements in a balanced and sufficient way?)	Restate the definition Inclusive "We"	Define Asking for the word by repeating the definition
4	Ss:	Beslenme (Nutrition)	Students' response	
5	CT:	Yeterli ve dengeli beslenme diyoruz. (We call it adequate and balanced nutrition.)		Restate the full definition
6	CT:	Peki, bebeklik dönemini düşünecek olursak, doğal beslenme diye bir tanımımız var. Doğal beslenme nedir? (Well, if we think about infancy, we have a definition of natural nutrition. What is natural nutrition?)	Asking for a definition Inclusive "We"	Define
7	Ss:	Anne sütü (Breast milk)	Students' answer	

8	CT:	Harikasınız. Tamamen anne sütüyle beslenme durumuna biz ne diyoruz? (You're wonderful. What do we call only breastfeeding?)	Asking the word for given definition	Restating the definition
9	Ss:	Doğal beslenme. (Natural feeding.)	Students' answer	

Table 4. Extract 2

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Harikasınız. Peki, bir de yapay beslenmemiz var. Yapay beslenme ne olabilir? (That is great. Well, we also have unnatural nutrition. What could unnatural nutrition be?)	Inclusive "We" Initiate via questions	Asking for definition
2	S2	Anne sütünün yetersiz kaldığı durumlarda kullanılabilir. (Can it be used in cases where breast milk is insufficient...)	Student's answer	Explain

3	CT	Evet, bunlar ne olabilir? … Anne sütüne yakın sütler olabilir. (Yes, what could these be? ... It could be milk close to breast milk.)	Asking for description Giving prompt	Describe
4	S3	Suyla karıştılır. (It is mixed with water.)	Student's answer	Describe
5	CT	Başka neler olabilir? … Başka? (What else could it be? ... What else?)	Asking for more examples	Asking for Exemplification
6	Ss	Mamalar (Formula)	Students' example	Giving example
7	CT	mamalar olabilir, başka? (it could be a formula, what else?)	Asking for more details	Asking for Exemplification
8	S1	meyve püresi (fruit puree)	Student's answer	Giving examples

9	CT	Ama daha bebek ya … ne yapabiliriz? İşte, sütler dedik, mamalar değil mi arkadaşlar? Bu ikisi. Eğer, bazı durumlarda anne sütü verilememesi durumunda, ne zaman olur bu? … (But he is just a baby ... what can we do? We said milk and formula, right friends? These two. If, in some cases, breast milk cannot be given, when does this happen? ...) Anne sütü gelmeyebilir, sütü olmayabilir, bebek hastanede yatıyor olabilir, yoğun bakım süreci olabilir değil mi? Bu dönemlerde eğer bebek anne sütünü alamıyorsa biz o zaman ne yapacağız? … bebeği mutlaka ve mutlaka beslememiz gerekiyor değil mi? … (Breast milk may not come, there may be no milk, the baby may be hospitalized, there may be an intensive care period, right? In these periods, if the baby cannot receive breast milk, then what do we do? ... we need to feed the baby, right?)o Sütleri 1'e 1 ya da 2'ye 1, 3'e 1 oranında bebeğin durumuna göre ne yapacağız? … sulandıracağız. Yani inek sütünü hemen olduğu gibi bebeğe vermiyoruz. Tamam mı arkadaşlar? (What do we do with the milk in a ratio of 1 to 1 or 2 to 1, 3 to 1 according to the condition of the baby? ... we dilute it. So we do not give	Inclusive "We" Asking for explanation Giving explanation Inclusive "We" Making the students think via questions Inclusive "We" Comprehension Check Explaining Description of the process	Explain (Causes)	Describe Description of the process and Explanation of how to do

		the cow's milk to the baby immediately. Okay, friends?) Nasıl yapıyoruz o zaman? Diyelim ki bebek 1. ayında anne sütünü aldı ya da hiç alamadı o zaman 3te 1 arkadaşlar. 3 su vereceksek 1 süt katıyoruz. Anladık mı? … (How do we do it then? Let's say the baby received breast milk in the 1st month or not at all, then 1 in 3, friends. If we give 3 water, we add 1 milk. Do we understand? ...) Ya da 2. aya geldik. 2. ayda yarı yarıya süt ve su dengesini koruyacağız. (Or we have come to the 2nd month. In the 2nd month, we will keep the balance of milk and water half and half.) 3.aydan sonra arkadaşlar ne yapabilirsiniz? 3'te 2 süt koyabilirsiniz, 3'te 1 su koyabilirsiniz ama yine sulandıracağız, dikkat ediyoruz, tamam mı? (After the 2nd month, friends, what can you do? You can put 2 out of 3 milk, you can put 1 out of 3 water, but we will dilute it again. We pay attention okay?)	Inclusive "We" Second Person Plural Inclusive "We" Explain & Describe		Explain / Exemplification

10	CT	Çok da tavsiye etmiyoruz işin açığı neden? … (We do not recommend it very much, why?) Bir kere, alerjen olma ihtimali çok yüksek. Bebeklerin de alerji geliştirebilmesi çok yüksektir. O yüzden devam sütleriyle devam etmek çok daha makbul aslında. (First of all, the possibility of allergens is very high. It is also very likely that babies can develop allergies. So it is actually much more preferable to continue with follow-on milks.) Anlaşıldı mı burası? … (Is this clear? …)	Exclusive "We" Comprehension check	Expert Explanation by giving reasons
11	Ss	Evet, anlaşıldı. (Yes, understood.)		

Table 5. Extract 3

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Peki. Bir de üçüncü olarak beslenme şeklimizde karışık beslenme var ama onun öncesinde ben, ek gıdada biberonla veriyoruz ya şimdi bu çocuk diyelim ki anne sütünü alamadı, evet anne sütünü alamadı biz, peki, anne sütünü, o sütleri ya da mamaları ne ile vereceğiz çocuklara? (Okay. And thirdly, there is mixed nutrition in our diet, but before that, I said, we give it with bottles in supplementary food, now let's say this child could not get breast milk, yes, we could not get breast milk, well, how are we going to give breast milk, those milks or formulas to infants?)	Inclusive "We" Giving a situation Asking for a solution	Explaining how to feed a baby
2	S4	Kaşıkla (With a spoon)	Student's answer	Explain / Exemplification
3	S5	Biberonla (With a baby bottle)	Student's answer	Explain / Exemplification

4	CT	Kaşıkla, biberonla, başka? … (Spoon, baby bottle, what else? ...) Ben size bir şey söyleyeyim mi? Enjektörler var ya … Eğer çok küçükse enjektörlerle de verilebilir. (Can I tell you something? There are injectors... If it (a newborn) is very small, it can also be given with injectors.) Hani nasıl? … Şu iğneli kısmı atıyorsunuz, iğneli kısmı. Sadece o küçük ince bir yer var ya… Onu neden yapıyoruz biliyor musunuz? … (You know how? ... You throw away the part with the needle, the part with the needle. It is just this little thin place... You know why we do that? ...) Ola ki ilerde çocuk ilerde tekrar anne sütünü emmeye başlayabilme olasılığı varsa ya da işte bebek hemen biberona alışmasın diye. Neden alışmasın diyoruz? Bakın burada biberonun aslında bir sürü dezavantajı var. Nedir birinci dezavantajı? (In case there is a possibility that in the future the child may start breastfeeding again, or so that the baby does not get used to the bottle right away. Why do we say not to get used to it? Look, there are actually many disadvantages of the baby bottle. What is the first disadvantage?) … Hijyenik değildir. Değil mi? Biliyorsunuz annenin meme ucu o kadar hijyenik olması zaten	Asking for more examples Explanation Second person plural Exclusive “We” Comprehension Check Detailed Description	Explain Expert Explanation Describe

		beklenemez çünkü biliyorsunuz plastik bir yapıdır en nihayetinde. (... It is not hygienic. Right? You know, you can not expect a baby bottle to be as hygienic as a mother's nipple because, you know, it is a plastic structure after all.) İkincisi; bebeğin çene ve diş yapısında bozukluk olabileceğinden dolayı çok önemli ilk etapta. Sonrasında da şöyle bir durum var; bebek hiç zorlanmadan, hiç emmeden, hiç çekmeden biberondan süt gitmeye başlayacak. O zaman bebek hiç kendini yormayacak. Hatta bu ileriki süreçlerde neye neden oluyor biliyor musunuz? … Bakın, çiğnenmesi gereken ya da daha katı gıdalara geçtiği zaman bebek ne yapacak? … (Secondly, it is very important in the first place because the baby's jaw and tooth structure may be disordered. Afterwards, there is a situation like this; the baby will start to get milk from the bottle without any difficulty, without any sucking, without any pulling. Then the baby will not tire itself at all. In fact, do you know what this causes in the future?... Look, what will the baby do when it switches to foods that need to be chewed or more solid foods?...)	Making the students think via questions Second person plural	

Table 6. Extract 4

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Evet, bakın ek gıdaya geç başlamanın birinci ve en önemli sonuçlarından bir tanesi neydi, arkadaşlar? … beslenme yetersizliği. … Malnütrisyon da diyoruz biz buna. (Yes, look, what was one of the first and most important consequences of the late introduction of supplementary food, friends? . .. malnutrition. ... We also call it malnutrition.)	Asking for results Exclusive "We"	Definition and Explanation Expert Explanation
2	CT	Vitamin yetersizliği gelişebiliyor çünkü çocuk artık yaşına ve gelişim düzeyine uygun vitaminleri ya da mineralleri alamadığı için ne oluyor arkadaşlar? … Vitamin yetersizliğine neden oluyor. (Vitamin deficiency can develop because the child is no longer getting the vitamins or minerals appropriate for their age and developmental level. It causes vitamin deficiency.)	Giving prompts and asking for the description	Describe and Explain

Table 7. Extract 5

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Evet, bir sonraki konumuz ek gıdaya nasıl başlamalıyız ve başlarken nelere dikkat etmeliyiz, Student 10, söyle bakalım. (Yes, our next topic is how we should start supplementary food and what we should pay attention to when we start, Student 10, tell us.)	Prompts for explanation	Explain
2	S10	Ek gıdalar ilk önce deneme olarak verilmeli. (Supplementary foods should be given on a trial basis at first.)	Student's explanation	Incomplete answer
3	CT	Çok güzel. Bakın miktarı önce az tutuyoruz sonra gittikçe, yedikçe, bebek onun tadına vardıkça, bebek sevdikçe ne yapıyoruz? … (It is very good. Look, we keep the amount small at first, and then as it goes, as it eats, as the baby tastes it, as the baby likes it, what do we do?...)	Reformulation of the answer Inclusive "we"	Explain

		Hem miktarı artırıyoruz hem de çeşitlendiriyoruz. Nasıl çeşitlendiriyoruz? (We are both increasing the amount and diversifying it. How do we diversify?) Diyelim ki yoğurt. Yoğurt vermeye başladık. Önce 1 kaşıkla sonra 2 kaşıkla sonra miktarı artırdık. Sonra biz o yoğurdun içine ne koyabiliriz? (Let's say yogurt. We started giving yogurt, first with 1 spoon, then with 2 spoons, then we increased the amount. Then what can we put in that yogurt?) Meyvelerle meyveli yoğurt yapabiliriz, değil mi? Bakın hem ne yaptık, miktarı artırdık hem çeşidi farklılaştırdık, çeşitlendirmiş olduk. (We can make fruit yogurt with fruits, right? Look what we have done, we have increased the amount and diversified the variety.)	Providing trigger for an explanation Asking for more details Inclusive “we”	Describe / Exemplification Explain

Table 8. Extract 6

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	5 aylık bir bebeğimiz var artık ek gıdaya başlıyoruz tamam mı? İlk olarak hangi gıdalarla başlayacağımızdan bahsetmiştik. Yoğurt, sebze püreleri, meyve püreleri, değil mi arkadaşlar? (We have a 5-month-old baby and now we are starting supplementary food, okay? We talked about which foods we will start with first. Yogurt, vegetable purees, fruit purees, right friends?) Neydi ilk etapta başlayacağımız ek gıdalar? İlk etapta püre haline getirilmiş çocuğun yerken, biliyorsunuz daha dişler yok, bu yüzden çiğnemesi, yutması kolay bir şekilde kıvamını ayarlayacağız. Anlaşıldı mı? (What are the supplementary foods we start with in the first place? In the first place, you know, they do not have teeth yet, so we will adjust the thickness so that it is easy to chew and swallow. Is that clear?	Inclusive “we” Revision Second Person Plural Giving prompts to describe the process Comprehension Check	Describe Exemplification Describe
2	Ss	Evet (Yes)	Students’ answer	

3	CT	6. Aya kadar neydi? (What was it until the 6th month?)	Asking for description of the given period	
4	Ss	Anne sütü (Breastmilk)	Students' answer	Describe
5	CT	Sadece anne sütü. (Breast milk only.) 6 ve 7. aylarda artık biz neye geçiyoruz? (In the 6th and 7th months, what are we moving to?)	Reformulation of the students' description Asking for description of the given period Inclusive "we"	Describe
6	Ss	Ek gıda (Supplementary food)	Students' answer	Describe

Table 9. Extract 7

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Sıvı besinlere, yumuşak, ezilmiş kıvamdaki besinlere artık geçiyoruz. Bu neydi? … (We're moving to liquid foods, soft, mashed foods. What was that? ...) Yoğurt, taze sıkılmış meyve suları, sebze suları, pekmez, yumurta sarısı ki başlangıçta 8'de 1'i. Bakın yumurtayı düşünün arkadaşlar, hayal edin. Önce yumurtanın sarısıyla başlıyoruz ve sarısının da 8'de 1'ini sadece verebiliyoruz. Bunu hiçbir zaman unutmayın. (Yogurt, freshly squeezed fruit juices, vegetable juices, grape molasses, egg yolks, initially 1 in 8. Look, think about the egg, friends, imagine it. We start with the yolk and we can only give 1 in 8 of the yolk. Never forget this.) Daha sonraları, bunu artırarak devam ettirebiliyoruz. 8 ile 11 ay arasında artık pütürlü kıvam… artık yavaş yavaş böyle hafif hafif pütürlü gıdalara geçebiliriz. Pütürlü ne demek? Onu bir açıklayalım önce. … Artık püre kıvamında değil de hafif çiğnemesi için olanak sağlayacağı besinler veriyoruz. (Later on, we can continue to increase this. Between 8 and 11 months, we can gradually move on to a slightly lumpy food... a	Inclusive "we" Describing the first feeding process of infants Detailed description	Describe Describe / Exemplification Describe Define Explicit Explanation

		lumpy food with a slightly lumpy structure. What does grainy mean? Let's explain that first. ... We no longer give puree but foods that will allow them to chew slightly.)	Asking for explicit definition of a terminology	
2	S1	Rende (Grated)	Student's answer	Exemplification
3	CT	Rendelenmiş mesela. Başka? (grated, for example. What else?)	Reformulation of the student's answer	Describe
4	S5	Ezilmiş (Mashed)	Student's answer	Describe/ Exemplification
5	CT	Ezilmiş, onu hafif ezilmiş yani püre haline getirmiyoruz artık. Çünkü artık biz biliyoruz ki 8 ile 11. aylar arasında çocuğun neyi var artık? … (It is mashed, we do not puree it anymore. Because now we know that between the 8th and 11th month, what does the child have? ...)	Reformulation of the student's answer Explaining the reasons Prompts	Explain
6	Ss	Dişleri (Teeth)	Student's answer	Explain

7	CT	Dişleri var artık çiğnemesi için olanak sağlıyoruz. (Now that he has teeth, we give him the opportunity to chew.)	Reformulation of the student's answer	Explain
8	S8	9-11 aylar arasında çorbaya ekmek batırıp vermemiz olur mu? (Is it okay to dip bread in soup and give it between 9-11 months?)	Inclusive "we" Student's description	Describe
9	CT	Olur, hafif pütürlü oluyor işte o ekmekler. Ekmek içini verebiliyorsun. Olur, tamam mı? … (Yes, that bread is slightly lumpy. You can give the inside of the bread. Okay, okay? ...)	Confirmation and reformulation of the student's answer	Describe
10	S8	Tamam hocam. (Yes, teacher.)	Student's answer	

Table 10. Extract 8

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Evet, 12+ bu ne demek? … Artık 1 yaşına geldi demek bebeğimiz.1 yaşından sonra da biz artık bebeğimize ne verebiliyoruz? … Kolay çiğnenebilen yiyecekler. Bu ne demek? … (Yes, 12+, what does that mean?... It means that our baby is 1 year old now. What can we give to our baby after 1 year? . .. Easy chewy foods. What does that mean?...) İşte kıymalı sebze yemekleri, içinde yine pütürlü hani bulgur, buğday tarzı olabilecek çorbalardan, tarhana çorbalarından vs verilebiliyor. Peynir, çok pişmiş tavuk eti, yine aynı şekilde kırmızı etlerden de, balık etinden de artık ne yapabiliyoruz, artık yavaş yavaş alıştırmaya başlıyoruz. …. evet, ek gıdaya başlarken, en önce başlayacağımız gıda neydi? (We can give vegetable dishes with minced meat, soups that may contain bulgur or wheat, tarhana soups, etc. Cheese, well-cooked chicken meat, likewise red meats, fish meat, whatever we can do now, we start to introduce it gradually. .... yes, when we started supplementary food, what was the food we started with first?)	Inclusive “we” Asking for a definition explicitly Asking for definition Question-answer Description of the food Asking for explanation Prompting	Explicit Explanation Define Describe / Exemplification Describe

2	Ss	Yoğurt (Yogurt)	Students' answer	
3	CT	Yoğurt, biliyorsunuz anne sütünden de yapılabilir. Ama tercihimiz neydi? (Yogurt, as you know, can also be made from breast milk. But what was our preference?)	Reformulation of the students' answer Exclusive "we"	Expert Explanation
4	S3	İnek sütü (Cow milk)	Students' answer	Exemplification

5	CT	O anlamda söylemiyorum ama ev yoğurdu tercihimiz. Tamam mı? … Hazır, marketlerdeki kutular içinde satılan yoğurtları tercih etmiyoruz. Yoğurt miktarını yavaş yavaş artırıyoruz ve yoğurdu ara öğün olarak veriyoruz. Ya sabah kahvaltıdan sonra, ya öğle yemeğinden sonra vermeyi tercih ediyoruz, arkadaşlar. (I do not mean that, but we prefer homemade yogurt. Okay? ... We do not prefer the ready-made yogurt that is sold in boxes in the markets. We gradually increase the amount of yogurt and give yogurt as a snack. We prefer to give it either in the morning after breakfast or after lunch, friends.) Sebze pürelerine bakıyoruz. Alerjen oranı en düşük olduğundan dolayı verirken bir tık daha içimiz rahat bir şekilde verebiliriz. Bunlar ne olabilir? Sebze pürelerinden ilk olarak verdiğimiz? … Patates değil mi? İlk aklınıza gelen patates olmuyor mu? (We are looking at vegetable purees. Since they have the lowest allergen content, we can give them with peace of mind. What would these be? The first thing we give from vegetable purees? . .. Potatoes, right? Is not potato the first thing that comes to your mind?)	Reformulating the question Exclusive “we” Detailed Explanation Inclusive “we” Asking for examples Prompting	Expert Explanation / Description of the food Explain

6	Ss	Evet (Yes)	Students' answer	

Table 11. Extract 9

No	P	Sentences	Interaction	Cognitive Discourse Functions
1	CT	Başka? … Ezilebilen böyle ne olabilir? … (What else? ... What could be so crushable? ...)	Prompting	Describe
2	S10	Havuç (Carrot)	Students' answer	
3	CT	Havuç, olur, çok da güzel olur. (Carrots, yes, that is good.) Ben mesela kızımda ilk şeyle başlamıştım, kabak hem biliyorsunuz sindirime de çok yardımcı. Patates ve havuçla başlamıştım. (For example, for my daughter's supplementary food period, I started with zucchini, and you know it is very helpful for	Confirming the students' answer Pronoun 1st person singular	Describe / Exemplification Examples from real life

		digestion. I also started with potatoes and carrots.)	Sharing experiences	
4	CT	Muhallebi olabilir arkadaşlar, muhallebi neydi? … (It could be custard, guys, what was custard? ...) Kullandığımız sütün içine nişasta koyarak yapılabilir. Ama şeker yerine arkadaşlar mutlaka ne kullanalım? … (It can be made by putting starch in the milk we use. But what should we use instead of sugar, friends? ...) Tabi şeker kullanmayacağız ama yapay tatlandırıcılar da kullanmayacağız değil mi? … Ne koyacağız? … Böyle doğal tatlandırıcılar olsun ama. … (Of course we are not going to use sugar, but we are not going to use artificial sweeteners either, right? . . . What are we going to put? ... Let's have natural sweeteners like this. ...)	Asking for definition explicitly Describing the cooking process Inclusive "we" Prompting	Define Describe Describe
5	Ss	Bal (Honey)	Students' answer	

6	CT	bal, ama işte 1 yaşından önce balı önermiyoruz, neden? … Alerjen bir ürün olduğu için. … Pekmez olabilir başka? … (Honey, but we do not recommend honey before the age of 1 year, why?... Because it is an allergenic product. ... Maybe molasses? ...) Muhallebiye bazı meyveleri de ekleyerek veremez miyiz? Bu meyve şekerleriyle de tatlandırabiliriz. (Can not we add some fruit to the custard? We can sweeten it with fructose.)	Exclusive "we" Giving examples Prompting	Expert Explanation / Exemplification

APPENDIX D

QUOTES IN ORIGINAL LANGUAGE

Extract 1. “Öğrencilerin konu ile ilgili ön bilgilerini ölçmek için derse sorular sorarak başlıyorum. Böylece konumuz ile ilgili terimlerin farkına varıyorlar.”

Extract 2: “Milli eğitimin gönderdiği kitapların yanı sıra, konu ile ilgili makaleleri çocukların düzeyine indirgeyerek derse dahil ediyorum. EBA’da yer alan sunum ve görsel materyallerden de yararlanıyorum.”

Extract 3: “Konu ile ilgili terimlerin tanımlarını açıkça verip, detaylı örneklerle açıklıyorum. Gerçek hayattan örnekler vererek konuyu daha iyi anlamalarını sağlamaya çalışıyorum.”

Extract 4: “Çocuklar beslenme konusuna ilk başladığımızda konuyu bildiklerini zannediyorlar ancak konuyu işledikçe, ilerledikçe görüyorlar ki eksik biliyorlar ya da yanlış bilgilerini düzeltiyorlar. İlk baştaki öğrencilerin ön yargılarını kırmak, “biz biliyoruz zaten” gibi düşüncelerinin önüne geçmek biraz zor oluyor başlarda ama konuda ilerledikçe zaten kendileri görüyor gerçeği.”

Extract 5: Group 3: “Sınava çalışırken anlamadığımız bir konuyu arkadaşlarımızla birbirimize anlatıyoruz.”

Extract 6: "Hangi yiyeceklerin bebekler için alerjik olabileceğini bilmiyordum ama artık biliyorum.”

Extract 7: “Anne sütünün ne olduğunu biliyordum ama doğal beslenme olarak da adlandırıldığını bilmiyordum."

Extract 8: “Beslenme konusu ile ilgili daha çok şey öğrendim. Alerjen etkisi olan yiyecekleri öğrendim. Konu ile ilgili terimleri öğrendim. Yapay beslenme, doğal beslenme gibi.”

Extract 9: “Ek gıdaya ne zaman ve nasıl hangi gıdalarla başlanması gerektiğini öğrendik.”

Extract 10: “Küçük kardeşimin ek gıdaya geçiş sürecinde derste öğrendiğim bilgiler çok işime yaradı. Ayrıca ilerde bir kreşte çalışırken öğrencilerin velileri ile paylaşıp onları bilgilendirebilirim.”

Extract 11: “Anne olduğumuzda ve çocuk gelişimi bölümünde yapacağımız kariyerimizde de bu bilgileri kullanacağız.”

APPENDIX E

INTERVIEW QUESTIONS

Öğretmen Görüşme Soruları

1. Anne Çocuk Sağlığı dersinizde Bebek ve Çocuk Beslenmesi ünitesini işlerken konuya özgü okuryazarlığı kolaylaştırmak için hangi öğretim materyallerini veya kaynaklarını kullanıyorsunuz?
2. Konuya özgü okuryazarlık hedefleri için faydalı olan öğretim materyallerini nasıl seçiyor veya tasarlıyorsunuz?
3. Öğrencilerin beslenme bağlamında öğrenmelerini geliştirmek için ne tür etkinlikler veya ödevler dahil ediyorsunuz?
4. Beslenme içeriğindeki terminolojileri öğrencilerinize nasıl TANIMLIYORSUNUZ / AÇIKLIYORSUNUZ?
5. Sınıfınızda konuya özgü okuryazarlığı desteklemede teknoloji nasıl bir rol oynuyor? Kullandığınız belirli dijital araçlar veya kaynaklar var mı?
6. Bir beslenme dersinde konuya özgü okuryazarlığı öğretirken ne gibi zorluklarla karşılaşıyorsunuz ve bunların üstesinden nasıl geliyorsunuz?

Öğrenci Görüşme Soruları

1. Anne ve Çocuk Sağlığı dersinizde Bebek ve Çocuk Beslenmesi ünitesindeki içeriği anlamak için en çok ne tür materyal veya kaynakları yararlı buluyorsunuz?

2. Sınıf dışında bu materyalleri ne sıklıkla okuyorsunuz? Lütfen açıklayınız.

3. Derste kullanılan konuya özgü kelimeleri (beslenme veya diğer konularla ilgili terminoloji) anlamakta karşılaştığınız zorlukları anlatabilir misiniz? Bu zorlukların üstesinden nasıl geldiniz?

4. Anne ve Çocuk Sağlığı dersinde Beslenme ünitesini işlerken konuyu anlama konusunda ek desteğe veya rehberliğe ihtiyaç duydunuz mu?

5. Bu dersi almaya başladığınızdan beri konuya özgü okuryazarlık becerilerinizde herhangi bir gelişme fark ettiniz mi? Eğer öyleyse, bu gelişmeleri açıklayabilir misiniz?

6. Bu derste edindiğiniz bilgi ve becerilerin gelecekteki kariyerinizde veya eğitiminizde ne şekilde faydalı olabileceğini düşünüyorsunuz?

APPENDIX F

COGNITIVE DISCOURSE FUNCTIONS

Table 1. Cognitive Discourse Function Constructs (CDF)

Underlying basic communicative intention	CDF TYPE	Performative verbs
I tell you how we can cut up the world according to certain ideas	CLASSIFY	classify, compare, contrast, match, structure, categorize, subsume
I tell you about the extension of this object of specialist knowledge	DEFINE	define, identify, characterize
I tell you details of what I can see (also metaphorically)	DESCRIBE	describe, label, identify, name, specify
I tell you what my position is vis a vis X	EVALUATE	evaluate, judge, argue, justify, take a stance, critique, comment, reflect
I tell you about the causes or motives of X	EXPLAIN	explain, reason, express cause/effect, draw conclusions, deduce

I tell you something that is potential (i.e. non-factual)	EXPLORE	explore, hypothesize, speculate, predict, guess, estimate, simulate
I tell you something external to our immediate context on which I have a legitimate knowledge claim	REPORT	report, inform, recount, narrate , present, summarize, relate

Note. From “Cognitive discourse functions in Austrian CLIL lessons: towards an empirical validation of the CDF Construct.” by Dalton-Puffer, C., et al., (2018). European Journal of Applied Linguistics, 6(1), 5-29. (https://doi.org/10.1515/eujal-2017-0028).

APPENDIX G

TURKISH LANGUAGE PROPERTIES

Table 2. The Categorization of Turkish Language Properties

Epistemic Modal Suffixes	Epistemic modal suffixes -(y)Abil+Ir “PSB-AOR” -(A/I)r “AOR” -DIr “COP” (in nominal predicate) -(y)AcAK+DIr “FUT-COP” -mIş+DIr “PRF-COP” -mIş ol+mAlI+DIr “PF AUX-OBLG-COP” -(I)yor ol+mAlI+DIr “IMPF AUX-OBLG-COP” -AcAk ol+mAlI+DIr “FUT AUX-OBLG-COP”
Modal suffixes indicating certainity	-(A/I)r “AOR” -Dır “COP” (in nominal predicate) -(y)AcAK+DIr “FUT-COP -mIş+DIr “PRF-COP” -mAktA+DIr “IMPF+COP”
Deontic modal suffixes	-mAlI “OBLG” -mAlI+dIr “OBLG+AOR”
Passive form	–(I)n/l (e.g. gözlenmektedir “It is observed”)
Self-mention	First person singular pronoun Ben “I”, first person singular suffixes –(I)m, first person singular possessive pronoun benim “my”, first person singular possessive pronoun with the particle ki(n) benimki “mine, first person singular possessive suffix –(I)m, first person singular object pronouns beni/bana “me”, first person singular reflexive pronoun kendim “myself”, first person singular

	reflexive possessive pronoun with the particle ki(n) kendiminki "that which is mine"
Inclusive "We"	first person plural pronouns biz "we", first person plural suffixes –(I)z, -(I)k, first person plural possessive pronoun bizim "our", first person plural possessive pronoun with the particle ki(n) bizimki "ours", first person plural possessive suffix –(I)mIz, first person plural object pronouns bizi/bize "us", first person plural reflexive pronoun kendimiz "ourselves", first person plural reflexive possessive pronoun with the particle ki(n) kendimizinki "that which is ours", first person plural birbirimiz "each other", "one another"
Exclusive "We"	first person plural pronouns biz "we", first person plural suffixes –(I)z, -(I)k, first person plural possessive pronoun bizim "our", first person plural possessive pronoun with the particle ki(n) bizimki "ours", first person plural possessive suffix –(I)mIz, first person plural object pronouns bizi/bize "us", first person plural reflexive pronoun kendimiz "ourselves", first person plural reflexive possessive pronoun with the particle ki(n) kendimizinki "that

	which is ours", first person plural birbirimiz "each other", "one another"

Note. From "A Diachronic and Gender-Based Analysis of Turkish MA Theses: The Use of Metadiscourse Markers." by Güçlü, R., (2022)., Ph.D. Dissertation, Ankara, 2022.

APPENDIX H

ETHICS FORM

Evrak Tarih ve Sayısı: 02.07.2023-133981

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
SOSYAL VE BEŞERİ BİLİMLER YÜKSEK LİSANS VE DOKTORA TEZLERİ ETİK İNCELEME KOMİSYONU
TOPLANTI KARAR TUTANAĞI

Toplantı Sayısı	:	46
Toplantı Tarihi	:	14.06.2023
Toplantı Saati	:	14:00
Toplantı Yeri	:	Zoom Sanal Toplantı
Bulunanlar	:	Prof. Dr. Feyza Çorapçı, Dr. Öğr. Üyesi Ayşegül Metindoğan, Doç. Dr. Senem Yıldız
Bulunmayanlar	:	Doç.Dr. Arhan S. Ertan, Dr. Öğr. Üyesi Yasemin Sohtorik İlkmen

Fehime Özlü Koyuncu
Yabancı Dil Eğitimi Bölümü

Sayın Araştırmacı,

"Investigating Subject-Specific Literacy in a Nutrition Course in a Turkish Vocational High School" başlıklı projeniz ile ilgili olarak yaptığınız SBB-EAK 2023/57 sayılı başvuru komisyonumuz tarafından 14 Haziran 2023 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

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REFERENCES

Alptekin, C., Erçetin, G., & Bayyurt, Y. (2007). *The effectiveness of a theme-based syllabus for young L2 learners*. Journal of Multilingual and Multicultural Development, 28(1), 117.https://doi.org/10.2167/jmmd470.1

Akbaş, E. (2012). *Exploring metadiscourse in master's dissertation abstracts: Cultural and linguistic variations across postgraduate writers*. International Journal of Applied Linguistics and English Literature, 1(1), 15-26. https://doi.org/10.7575/ijalel.v1n1p12

Akbaş, E. (2014). *Are they discussing in the same way? Interactional metadiscourse in Turkish writers' texts.* Second Language Learning and Teaching, 22, 119-133. doi: 10.1007/978-3-319-02526-1_8

Anderson, L. W., Krathwohl, D. R. (eds.) (2001). *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Longman.

Atwood, S., Turnbull, W., Carpendale, J. I. M., (2023). *The Construction of Knowledge in Classroom Talk.* The Journal of the Learning Sciences , July-September, 2010, Vol. 19, No. 3, pp. 358-402

Bayyurt, Y. & Akbaş, E. (2014*). Akademik metinlerde kaçınma ve vurgulayıcı ifadelerin lisansüstü öğrenciler tarafından algılanması ve kullanılması*. 27. Ulusal Dilbilim Kurultayı Bildirileri içinde (s. 72-79) (Büyükkantarcıoğlu, S. N., Özyıldırım, I., Yarar, E. ve Yağlı, E., Ed.). Ankara: Hacettepe Üniversitesi: 195.

Batir, B. (2021). *Pre-School Education in Turkey: Establishment of Kindergartens*.

Brozo, W. G., Moorman, G., Meyer, C., & Stewart, T. (2013). *Content area reading and disciplinary literacy: A case for the radical center*. Journal of Adolescent & Adult Literacy, 56(5), 353-357. doi:10.1002/JAAL.153

Chapman, M. (1991). *The epistemic triangle: Operative and communicative components of cognitive competence*. In M. Chandler & M. Chapman (Eds.), *Criteria for competence: Controversies in the conceptualization and assessment of children's abilities* (pp. 209-228). Hillsdale, NJ: Erlbaum Associates.

Counsell, C. (2018). *Taking the curriculum seriously.* Impact: Journal of the Chartered Collegeof Teaching.

Coyle, D., & Meyer, O. (2021*). Beyond CLIL: Pluriliteracies Teaching for Deeper Learning.* Cambridge University Press. https://doi.org/10.1017/9781108914505

Dalton-Puffer, C. (2007b). *Discourse in content and language integrated learning (CLIL) classrooms*. Amsterdam, the Netherlands.

Dalton-Puffer, C. (2013). *A construct of cognitive discourse functions for conceptualizing content language integration in CLIL and multilingual education.* European Journal of Applied Linguistics, 1(2), 1-38. https://doi.org/10.1515/eujal-2013-0011

Dalton-Puffer, C. (2016). *Cognitive discourse functions: specifying an integrative Interdisciplinary construct*. In T. Nikula, E. Dafouz, P. Moore, St U. Smit [eds.*), Conceptualising Integration in CLIL and Multilingual Education* (pp. 29-54). Multilingual Matters. ELIS Research Digest, Vol. 1, Issue 1, pp 1-14 © 2013 ELIS. www.elis.moe.edu.sg

Dalton-Puffer, C., Bauer-Marschallinger, S., Brückl-Mackey, K., Hofmann, V., Hopf, J., Kröss, L. & Lechner, L. (2018*). Cognitive discourse functions in Austrian CLIL lessons: towards an empirical validation of the CDF Construct*. European Journal of Applied Linguistics, 6(1), 5-29. https://doi.org/10.1515/eujal-2017-0028

Dogan-Ucar, A. & Akbas, E. (2022). *A corpus-driven cross-disciplinary study of inclusive and exclusive we in research article abstracts*. LEARN Journal: Language Education and Acquisition Research Network, 15(1), 180-204.

Doyuran, Z. (2009). *Conciliation of knowledge through hedging in Turkish scientific articles*. Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi, 26 (1).

Doiz, A. & Lasabagaster, D. (2021). *An Analysis of the Use of Cognitive Discourse Functions in English Medium History Teaching at University*. Elsevier, 58-69.

Edwards-Groves, C., Anstey, M., & Bull, G. (2013). *Classroom talk: Understanding dialogue, pedagogy and practice.* Newtown: PETAA. https://doi.org/10.1016/j.learninstruc.2017.09.007

Erguvanlı-Taylan, E. (2018). *Türkçe dilbilgisel kiplikte olasılık ve gereklilik.* Journal of Linguistics and Literature, 15(2), 1-22.

Fang, Z. (2014). *Preparing Content Area Teachers for Disciplinary Literacy Instruction*. Journal of Adolescent & Adult Literacy, 57(6), 444-448. doi:10.1002/jaal.269

Fang, Z., & Coatoam, S. (2013). *Disciplinary Literacy: What you want to know about it.* Journal of Adolescent & Adult Literacy, 56(8), 627-632. doi:10.1002/JAAL.190

Fidan, Ö. (2002). *Türkçe bilimsel metinlerde üstsöylem belirleyicileri*. MA thesis, Ankara University, Ankara.

Foster, P. and Ohta, A. (2002). *Is the "negotiation of meaning" model adequate to describe L2 classroom interaction and development?*. Paper presented at AAAL Annual Conference, Salt Lake City, April 2002.

Gallagher, F. & Colohan, G. (2014). *T(w)o and fro: using the L1 as a language teaching tool in the CLIL classroom.* The Language Learning Journal. 45. 1-14. 10.1080/09571736.2014.947382.

García, O., & Li Wei. (2015). *Translanguaging, bilingualism, and bilingual education*. In W. E. Wright, S. Boun, & O. García (Eds.), *The handbook of bilingual and multilingual education* (1st ed.). Hoboken, NJ: John Wiley & Sons.

García, O., & Lin, A. M. Y. (2016). *Translanguaging in bilingual education*. In O. García, & A. M. Y. Lin (Eds.), *Bilingual and multilingual education* (pp. 1–14). Springer.

Gottlieb, M. H., & Ernst-Slavit. G. (2013). *Academic language a foundation for academic success in mathematics*. In M. H. Gottlieb and G. Ernst-Slavit (Ed.), *Academic language in diverse classrooms: mathematics, grades K-2: Promoting content and language learning* (pp. 1-34). Corwin Press.

Güçlü, R. (2022). *A Diachronic and Gender-Based Analysis of Turkish MA Theses: The Use of Metadiscourse Markers*, Ph.D. Dissertation, Ankara.

Hammond, J. (Ed.) (2002). *Scaffolding Teaching and Learning in Language and Literacy Education.* Newtown, Australia: PETA

Hoey, M. (2001). *Textual interaction: An introduction to written text analysis.* London: Routledge.

Hyland, K. (1998). *Persuasion and context: The pragmatics of academic metadiscourse*. Journal of Pragmatics 30, 437-455.

Hyland, K. (2000). *Disciplinary discourses: Social interactions in academic writing*. Longman.

Hyland, K. (2002). *Authority and invisibility: Authorial identity in academic writing*. Journal of Pragmatics, 34(8), 1091-1112.

Hyland, K. (2004). *Genre and second language writing.* Ann Arbor, MI: University of Michigan Press.

Hyland, K. (2005a). *Metadiscourse: Exploring interaction in writing*. Continuum.

Hyland, K. (2005b). *Stance and engagement: a model of interaction in academic discourse.* Discourse Studies 7: 2,173-192.

Hyland, K. (2007). *Genre pedagogy: Language, Literacy and L2 Writing Instruction*. Journal of Second Language Writing, 16, pp. 148–164.

Kerimoğlu, C. & Aksu, C. (2015). *-DIr biçimbiriminin sözlü söylemdeki kiplik alanları ve kullanımları.* Dil Araştırmaları, 17, 73-94.

Kerslake, C. (1990). *The semantics of possibility in Turkish*. In B. Rona (Ed.), *Current issues in Turkish linguistics* (pp. 85-103). Hitit Press.

Kocaman, A. (1990). *The necessitative mood in Turkish.* In B. Rona (Ed.), *Current issues in Turkish linguistics* (pp. 104-110). Hitit Press.

Korkmaz, Zeynep (2007). *Gramer Terimleri Sözlüğü*, Ankara: Turkish Language Association Publications.

Kramar, N. (2019). *Engagement Markers in the Feynman Lectures on Physics: Applying Hyland's Interaction Framework to Spoken Academic Discourse.* Advanced Education, 6(12), 127 133. https://doi.org/10.20535/2410-8286.144603

Lasagabaster, D. (2013). *The use of the L1 in CLIL classes: The teachers' perspective.* Latin American Journal of Content and Language Integrated Learning, 6(2), 1-21. doi:10.5294/laclil.2013.6.2.1eISSN 2322-9721.

Letsoela, P.M. (2014). *Interacting with readers: Metadiscourse features in national university of Lesotho undergraduate students' academic writing.* International Journal of Linguistics, 5(6): 138-153.

Li, W. (2018). *Translangauging as a practical theory of language.* Applied Linguistics, 39(1), 9 30. https://doi.org/10.1093/applin/amx039

Li, W. (2022). *Translanguaging as a political stance: Implications for English language education*. ELT Journal, 2022. https://doi.org/10.1093/elt/ccab083. ccab083.

Lin, A. M. Y. (2015). *Conceptualising the potential role of L1 in CLIL*. Language, Culture and Curriculum, 28(1), 74–89. https://doi.org/10.1080/07908318.2014.1000926

Lin, A.M.Y. (2016*). Language across the curriculum and CLIL in English as an additional language (ELAL) contexts: Theory and practice*. Singapore: Springer Science+Business Media Singapore. https://doi.org/10.1007/978‐981‐10‐1802‐2

Lin, A. M., & He, P. (2017). *Translanguaging as dynamic activity flows in CLIL classrooms.* Journal of Language, Identity and Education, 16(4), 228–244. https://doi.org/10.1080/15348458.2017.1328283

Llinares, A., & Lyster, R. (2014*). The influence of context on patterns of corrective feedback and learner uptake: A comparison of CLIL and immersion classrooms.* The Language Learning Journal, 42(2), 181–194. https://doi.org/10.1080/09571736.2014.889509

Llinares, A., Morton, T., & Whittaker, R. (2012). *The Roles of Language in CLIL.* Cambridge: Cambridge University Press.

Long, M. and Sato, C. (1983*). Classroom foreigner talk discourse: Forms and functions of teachers' questions.* In Seliger and Long (eds.), 268–286.

Lyster, R. 1998. *Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms*. Language Learning 48: 183–218.

Marsh, D. 2000. *Using languages to learn and learning to use languages.* Finland: University of Jyvaskyja. [online] Accessed May 13, 2023 from: http://archive.ecml.at/mtp2/clilmatrix/pdf/1uk.pdf

McCormick, D. and Donato, R. (2000). *Teacher questions as scafolded assistance in an ESL classroom*. In J.K. Hall and L.S. Verplaetse (eds.), *Second and foreign language learning through classroom interaction*, 183–201. Mahwah NJ: Lawrence Erlbaum.

Mercer, N. (1995). *The guided construction of knowledge: Talk amongst teachers and learners*. Philadelphia: Multilingual Matters.

Mercer, N. (2000). *Words and Minds: How We Use Language to Think Together*. Routledge.

Milli Eğitim Bakanlığı, (2023). *Türk Milli Eğitim Sistemi 2022-2023*. 01170546_turk_milli_egitim_sistemi_190124.pdf (meb.gov.tr)

Moje, E. B. (2008*). Commentary: Foregrounding the disciplines in secondary literacy teaching and learning: A call for change. Journal of Adolescent & Adult Literacy,* 52(2), 96 107.doi:10.1598/ JAAL.52.2.1

MoNE (2012). *12 Yıl zorunlu eğitim: Sorular-cevaplar. (12-year Compulsory Education: Questions-answers)* Retrieved from March 25, 2012 from http://www.meb.gov.tr/duyurular/duyurular2012/12Yil_SoruCevaplar.pdf

Mortimer, E., & Scott, P. (2003). *Meaning making in secondary science classrooms*. Open University Press.

Morton, T. (2020). *Cognitive Discourse Functions: A Bridge between Content, Literacy and Language for Teaching and Assessment in CLIL*. CLIL Journal of Innovation and Research in Plurilingual and Pluricultural Education, 3(1), 7-17. https://doi.org/10.5565/rev/clil.33

National Research Council. (2000). *How People Learn: Brain, Mind, Experience, and School: Expanded Edition.* Washington, DC: The National Academies Press.

Piaget, J. (1995). *Sociological studies* (2nd ed., L. Smith, Ed., L. Smith et al. Trans.). London/New York: Routledge (Original work published 1977).

Pun, J. K., & Tai, K. W. (2021). *Doing science through translanguaging: A study of translanguaging practices in secondary English as a medium of instruction science laboratory sessions*. International Journal of Science Education, 43(7), 1112–1139. https://doi.org/10.1080/09500693.2021.1902015

Pérez-Vidal, C., and H. Roquet. 2015. "*The Linguistic Impact of a CLIL Science Programme: An Analysis Measuring Relative Gains*." System 54: 80–90.

Shanahan, C., & Shanahan, T. (2014). *Does disciplinary literacy have a place in elementary school?.* Reading Teacher, 67(8), 636-639. doi: 10.1002/trtr.1257

Shanahan, T., & Shanahan, C. (2008). *Teaching disciplinary literacy to adolescents: Rethinking content area literacy*. Harvard Educational Review, 78(1), 40-59. Retrieved from < http://schools.nyc.gov/NR/rdonlyres/E69AD5B4-7C7C-4662-9F59-F3BFA9933FA0/0/ShanahanArticle061909.pdf>

Shanahan, T. (2019). *Disciplinary Literacy in the Primary School*. University of Illinois, Chicago. Retrieved from<MicrosoftWordDisciplinaryLiteracyinthePrimarySchool ProfessorTimothyShanahanUniversity of Illinois at Chicago .docx (ncca.ie)>

Smith, Jr., E. L. (1985). *Functional types of scientific prose*. In James D. Benson & William S. Greaves (Ed.), Systemic perspectives on discourse, Vol. 2 (pp. 241–257). Norwood, NJ: Ablex.

Swain, M. (1985). *Communicative competence: Some roles of comprehensible input and comprehensible output in its development*. In S. Gass and C. Madden (Eds.) Input in Second Language Acquisition. (pp. 235-253). Rowley, MA: Newbury House. TBMM Millet Meclisi Tutanak Dergisi (1955), 5.

Tuzcu Eken, D. (2021). *English education in Turkey: Why are we 'very low level'?.* RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, (23), 804-822. DOI: 10.29000/rumelide.949700.

Underhill, R. (1976/1987). *Turkish grammar*. Cambridge, Massachusetts: MIT Press.

Vygotsky, L.S. (1978). In M. Cole, V. John-Steiner, S. Scribner and E. Souberman, (Eds.), *Mind in society— The development of higher psychological processes.* Cambridge: Harvard University Press.

Walsh, S. (2011). *Exploring classroom discourse: Language in action.* Routledge.