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Mediating the German Case System Through Concept-Based Instruction
in an Online Learning Environment

by

Lea Pienkoss

A Thesis Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

In

English

with an Emphasis in Teaching English as a Second Language

Minnesota State University, Mankato

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July 2021

07/09/2021

*Mediating the German Case System Through Concept-Based Instruction
in an Online Learning Environment*

Lea Pienkoss

This thesis has been examined and approved by the following members of the student's committee:

Dr. Paolo Infante, Chairperson

Dr. Nancy Drescher, Committee Member

DEDICATION

To my family

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Minnesota State University, Mankato

July 2021

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MEDIATING THE GERMAN CASE SYSTEM THROUGH CONCEPT-BASED
INSTRUCTION IN AN ONLINE LEARNING ENVIRONMENT

LEA PIENKOSS

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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MASTER OF ARTS IN ENGLISH
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ABSTRACT

The English language clarifies the role of nouns through sentence structures, something German does through a case system consisting of four cases that are dependent on gender, form, and quantity (Stocker & Young, 2012). This complexity of the concept of cases often results in difficulties German language learners encounter when identifying and producing the correct forms in the new language. Thus, Ritterbusch et al. (2006) suggested teaching the case system concept-based, allowing a holistic understanding of the cases and their meaning. This case study reacts to the call to action by developing and analyzing the teaching of the meaning of the accusative and dative case by engaging the foreign language learners in metacognitive tasks. Recordings of lessons, assessments, and surveys documented the learners' developing understanding of the case concept during a semester of learning online, as well as the potential for meaning-making that concept-based instruction and mediation hold.

Keywords: language learner, Concept-based Instruction, Sociocultural Theory, Dynamic Assessment, German case system

Chapter 1: Introduction

1.1 Background Information

Even in times of lockdowns and face-masks, people felt the increasing globalization and migration by going through their social media or looking at their vaccine's origin. Duolingo reported 30 million people started or continued their language learning with the online learning platform (Blanco, 2020) to escape their bedrooms and everyday life and dream about traveling once borders would open again. Thus, the acquisition of a second or additional language is as relevant as always. In the field of second language acquisition (SLA), researchers look at the processes taking place when learning a language after the first years of childhood. SLA research attempts to find answers to common phenomena in language learning and teaching, making it interdisciplinary and of ongoing interest (Mitchell et al., 2019).

The first theory contributing to the SLA research was from a Behaviorist perspective, which compares language learning with any other skill, such as learning how to walk, cook, or read. Learning was viewed as the "formation of habits" (Mitchell et al., 2019, p. 40) through imitation of a "model" language that would ultimately lead to the perfection of the skill. The theory of behaviorism found support but also arguments against it. One of the critical arguments contradicting the idea is a human's ability to create words, forms, and sentences (Mitchell et al., 2019). When using language, we can create sentences and words we have not been exposed to before. In addition, considering the complexity of language, we also learn languages relatively fast. Those arguments were the starting points for more theories on language learning. The ideas following

Behaviorism also included concepts of other sciences, such as psychologists' understanding of the brain structure and mental processes in learning situations (Van Patten & Williams, 2007).

At the beginning of the 20th century, the psychologist Lev Vygotsky developed the cultural-historical theory that considered the role of the environment in the learning process and highlighted meaning over structure (Lantolf, 2011). His approach was further developed and is nowadays referred to as Sociocultural Theory (SCT). SCT offers a different way of understanding the development of knowledge in humans and believes it forms through the guidance and support learners receive which includes organizing school curriculum around concepts. A strand of SCT research that focuses on teaching second language (L2) features through concepts to promote their understanding and use within communicative activities is called concept-based instruction (CBLI) (Lantolf, 2011).

Concept-based instruction (CBI) refers to the mediator, a term that is preferred to more common titles such as teacher or instructor, providing learners with explicit knowledge in the form of specialized materials, which they use to participate in various authentic communicative language activities. The approach results in a thorough understanding of the content and learner ability to reflect on new concepts (Lantolf & Poehner, 2011).

A second strand of SCT research, referred to as *Dynamic Assessment (DA)*, provides a means to assess learner progress and potential. Interaction within DA sessions profile the interaction between a mediator and learner to promote the learner's

development by feedback while assessing them based on their need for support and their ability to incorporate the mediator's feedback within future performance. In a DA session, mediator-learner cooperation is aimed at diagnosing how near learners are to independent functioning. Thus, DA entails a process in which the use of feedback, hints, prompts, and leading questions are arranged from implicit to explicit and negotiated with the learner. Therefore, debates concerning whether explicit or implicit forms of feedback are more effective are reframed within DA such that forms of feedback provide insights into learner independent functioning (Aljaafreh & Lantolf, 1994; Lantolf & Poehner, 2008).

It was this question around forms of feedback and their benefits that motivated the researcher to perform this study. Teaching beginner-level German courses showed the researcher different needs students had when discussing grammar structures. The researcher found it challenging to teach abstract concepts like German case markers to English native speakers, as there is not a comparable grammar feature in English. Thus, using dialogic forms of support as well as concept-based materials to mediate learner understanding and use of the German case system resulted in the researcher's curiosity to implement SCT in her classroom. As suggested by Ritterbusch et al. (2006), who researched the areas of difficulties learners encounter when working on the case system, she developed concept-based materials and organized her lessons following SCT research.

1.2 Statement of Purpose and Research Questions

As a relatively new field of research within SLA, SCT and CBI have been applied to several language contexts and grammatical topics, such as the English tense-aspect (Poehner & Infante, 2016b), English quantifiers (Infante & Poehner, forthcoming), and teaching French pronouns (van Compernelle & Henery, 2014). However, to the best of the researcher's knowledge, there is no data on teaching the German case system using a CBI approach. Thus, the materials used in this study are a first attempt in designing learning material on the German case system for learners at a beginner level.

Furthermore, the focus on interaction in SCT and the sociocultural component of learning led to studies that have been conducted in person and not within virtual environments. Because of the global pandemic, the study had to be conducted online and thus, provided one of the first insights into possible implementations of CBI in online learning and teaching. Because of the online environment, traditional assessments brought their pitfalls with them, which this study aimed to overcome by implementing DA sessions to assess and promote developing understanding of the grammar topic.

This study aims at filling the research gap on teaching the German case system through CBI instruction and by incorporating DA as an alternative form of assessment. The analysis of data collected through surveys, classroom observations, and assignment submissions will offer answers to the following research questions:

1. How does concept-based instruction support learner understanding and use of the German case system?

2. How does dynamic assessment contribute to learner understanding and offer a more comprehensive picture of the learner's emerging understanding of the German case system?

The classroom observations and analysis of dynamic assessments provide qualitative data on the learners' emerging understanding and the mediator's contributions to the interaction between learner and mediator. Taking the contributions of learner and mediator into consideration provides the opportunity to discuss the learner's development and influences of mediation. Students' responses to surveys add thoughts from another viewpoint and offer suggestions for the design of future studies. Finally, the final exam allows an objective assessment of the learners' performance at the end of the semester.

By the end of the data collection, the researcher focused exclusively on two learners out of five students who enrolled in the course. The decision was based on their full participation in the study, making it possible to collect comparable data.

1.3 Chapter Organization

This thesis contains five chapters. After introducing the SCT as a subfield within SLA research in the Chapter One, Chapter Two reviews studies relevant to CBI, DA, and the German case system. Chapter Two defines and describes relevant terminology and concepts regarding learning and development, CBI, and grammatical structures associated with the German case system. Finally, it will review previous studies on learner difficulties when learning the case system and identify gaps in existing studies.

Chapter Three offers the methodology of the study, and it describes and justifies the materials used in the teaching of the case system, the course design, and the data

collection process. It further describes how data was analyzed and details regarding the research setting, including the participants and researcher.

Chapter Four presents the data in exploring the research question around CBI of the dative and accusative case markers, especially in terms of how learners developed their understanding of the German case system. The chapter lays out the sequence of tasks mediating the meaning of accusative and dative cases in German.

Chapter Five presents the implementation of DA in writing conferences. The chapter profiles the ways in which DA observed learner ability to understand and apply the German case markers through mediator-learner cooperation that revealed how close learners were to independent performance. The final section of Chapter Five includes the triangulation of data through surveys and the final exam.

The thesis concludes with Chapter Six which provides a summary of the findings, limitations of the study and suggestions for future research and for teaching the German case system.

Chapter 2: Literature Review

2.1 Introduction

The literature review will introduce Lev Vygotsky to provide the reader with an understanding of the motivation and inspiration that led to the development of the Sociocultural Theory. Part of the theory is the idea of *concepts*, that will be explained as the organization and explanation of observations and experiences. Next, the forms of mediation the environment can provide to an individual, as well as possible limitations of development and learner assessment, are laid out. The paper will also take a closer look at the pragmatics that come into play during interactions of the learner. It will also introduce the different approaches teaching can take when they are based on SCT. To explain how language can be taught through a concept-based approach, cognitive grammar will be introduced to explain how language can be conceptualized, and finally, the German case system and its relevance when teaching German as a foreign language is analyzed.

2.2 Sociocultural Theory

The following will summarize cognitive psychology as it influenced Lev Vygotsky's theory on language learning. The interplay of cognitive processes and social interaction in order to establish and organize learning through concepts will be displayed. Finally, the potential limits of development and how those can be defined through assessment will be described. It closes with looking at the dynamics in learning situations.

Putting it into Context: A Comprehensive Biography

Cultural-historical Theory was developed by Lev Vygotsky (van der Veer, 2007), a Russian born in 1896 and raised by his mother, who was a trained teacher. She encouraged him to have a wide field of interests, which led to Vygotsky graduating in law and medicine, but also attending courses in psychology and arts. During those college years, he met people of Marxist and Humboldt viewpoints and got exposed to their ideas (van der Veer, 2007). Marxists viewed the learners as passive, and schools at that time were designed to maintain the existing socioeconomic differences. Proponents of a Humboldtian perspective of higher education approached this problem by developing a holistic concept of learning and researching to keep education up to date. It was Humboldt (1769-1859) and his deep interest in scientific concepts that impacted not only teacher education by introducing final exams to their studies to standardize education, but also Vygotsky's later theory around concepts in learning and teaching (Kellner, 2021).

After Vygotsky graduated from college, he started working for Moscow University. That was where he did first experiments with his students, leading to the beginning of his career as an educator, researcher, and applied scientist. He worked in a wide field of jobs (e.g., with disabled and mentally impaired children as well as low-income adults). Here, the influence of Marxist and Humboldtian beliefs were visible. Those studies were driven by the motivation not to focus on biological inheritance, but on shifting the focus on learner potential when being provided with the appropriate environment that is composed of dialogic and curricular support which can be modified according to learner abilities and needs (Kozulin, 2004). Throughout his life, Vygotsky

followed this humanistic approach of looking at the potential in humans rather than their bare behavior.

Vygotsky followed the idea of learning being based on the learner's interaction with the environment (van der Veer, 2007). He advocated for equality and education throughout his life, teaching adults in night classes to provide them with higher-order thinking skills and help them to overcome societal barriers. His teaching was based on the idea that these higher-order thinking skills or tools can be applied to any situation once developed, leading to academically successful individuals. Thus, academic success or *intelligence* is not determined by genetics (discussed in a later chapter) but cognitive tools (Lantolf & Poehner, 2011).

During all of those years of researching and teaching, Vygotsky suffered from tuberculosis. Eventually, he would not recover from a tuberculosis attack and died at the age of 38. Unfortunately, it was only about 50 years after his death that his theory was translated from Russian to English, gained recognition by language researchers, and changed education (van der Veer, 2007).

It eventually found its place in SLA research and the development of the SCT, an approach to researching language learning with the focus “on the impact of culturally organized and socially enacted meaning on the formation and functioning of mental activity” (Lantolf & Thorne, 2007, p. 2).

Vygotsky was not only a researcher and theorist but also a person that lived his convictions throughout his life. He worked towards equality and saw the value of learning as a tool for it, while looking at the inequality the educational system held during

that time. In the following, more details regarding his theory of concepts and their mediation or teaching will be laid out. First, the organization of knowledge in concepts and the difference between everyday and scientific concepts will be summarized. Next, the mediation of such knowledge will be explained and assessment in SCT will be outlined as it also helps in finding the potential limits of a learner. The understanding gained from those sections will allow to understand how the SCT can then be put into practice.

The Organization of Knowledge: Concepts

Besides his impact on school systems, Humboldt also developed several scientific theories that are still valid today, such as the correlation of lack of oxygen and high-altitude disease which led to his altitude sickness (Kellner, 2021). Others also observed headaches, fatigue, and nausea but did not verify the symptoms scientifically. Instead, the reoccurring phenomena resulted in the establishment of an *everyday concept* of climbing high mountains leading to the previously mentioned symptoms. Thus, they organized and structured their ideas, observations, and thoughts mentally and established units of knowledge which Vygotsky referred to as a *concept*. However, because *everyday concepts* are only based on one's personal experiences, they might not be generalizable or explain several phenomena (Lantolf, 2011).

That is when Humboldt came into the picture. He took those observations and tested them in different conditions. After several verifications, he came up with his scientific theory of altitude sickness. By explaining many phenomena at the same time, he established a *scientific concept* of high-altitude sickness that is still valid because of

his in-depth analysis of the content. This stands in contrast to the limited observations and experiences a person usually has. These limited observations and experiences result in everyday concepts that become part of one's culture and are passed on in informal settings. Everyday concepts can become scientific concepts as result of empirical, long-term studies of daily activities that take place unconsciously (Lantolf, 2011).

In contrast, scientific concepts are often passed on in formal instruction as explicit knowledge, accessible to students for conscious inspection. In order to mediate them, symbols and graphic models are used to organize and display or represent scientific concepts (Lantolf, 2011). Karpov (2014) compared scientific concepts with factual knowledge and stated that:

conceptual knowledge gives us descriptions of classes of objects and phenomena and, as such, is a psychological tool that can be used to think and solve problems. For example, the knowledge of the concept of mammals can be used to identify different animals as belonging or not belonging to the class of mammals. (p. 131)

Karpov's example of mammal classification indicates that everyday and scientific concepts will affect and inspire each other and can mediate problems inside and outside formal contexts (2014). Learning the characteristics of a mammal at school will allow students at home to look at their dog and identify it as a mammal, influencing their perception of the pet.

For most individuals, school is the first context where they encounter scientific concepts. Many scientific concepts are observable daily, but some remain rather abstract, such as when teaching a grammar concept in foreign language education. The teacher's

task is it to overcome that challenge and make it accessible to the learners through communicative activities, where the concept is applied for meaning-making, allowing the students to observe how meaning is conveyed through words and form (Lantolf, 2011). The following section will lay out how learning takes place through interaction with the environment.

Mediation of Learning

More experienced humans care for the younger ones and determine how they are exposed to the outside world. They determine the way and to what extent children interact with the world and the objects they encounter. At first, children are unable to process the language of their caretakers and are only conscious about objects. Children look at objects and react to them, making them *object-regulated*. As the child's physical and mental abilities increase, children appropriate their caretakers' beliefs, social norms, and culture, and these perspectives of the world, which are mediated to them by their caretakers, is a process referred to as *other-regulation*. Gaining consciousness about social constructs and starting to make independent and reflected decisions leads to the final stage of being *self-regulated*. In that stage, we decide to what extent we want to be part of a social group, which groups we will engage with, and which roles we want to play in them (Lantolf & Thorne, 2007).

Lantolf and Thorne (2007) outlined three stages in the process of language acquisition: 1.) children imitate language, 2.) they build sentences on their own, still relying on their caretaker's feedback, 3.) children are able to self-regulate their language: they reflect on word choices and the power of language, leading to a conscious shaping of

the meaning and usage of the language. When learning new skills, it is generally necessary to go through these stages to perform the skill independently eventually. However, it might remain challenging to complete a task perfectly under certain situations, for example being nervous, afraid, or unable to concentrate decreases our abilities to perform, leading to mistakes that would not have happened under different circumstances. No matter how experienced and skilled someone is, one will never be able to perform on the same level under every condition (Lantolf & Thorne, 2007).

As outlined before, learning is a process that we go through with the guidance of our environment. We *interact* with it, which means that the environment shapes us as the learner, but it is also shaped by us (Swain et al., 2015). Swain et al (2015) explain that the environment and objects can be books, learning materials, or people. Those objects are referred to as *mediational means* or *tools*, mediating between learner and the learning material, or, as Katić et al. defined, as “artifacts or representations that can be used to modify human activity. They may be either external (such as a poster or a computer) or internal (such as language) mediators” (2009, p. 13). Swain et al (2015) offer, by way of example, the physical object of a book that can function as a tool to stack on top of others and serve as a step so that it can physically mediate our interactions in the world.

Otherwise, a book can be read for its content and provide a reader knowledge through signs, symbols, charts, and numbers that can guide their future actions (e.g., in the case of preparing a recipe or understanding the conventions associated with writing a cover letter). When considering a mediational means for an object’s abstract representation of knowledge, it is called a *sign*. Signs can be represented through letters and language, so-

called *symbols*, and numbers or charts. Books and handouts are examples of tools, as they rely on signs to summarize and organize knowledge (Swain et al., 2015).

Lantolf and Thorne (2007) describe how incorporating symbols in the mediational process allows one to approach information and situations more abstractly and allows internal processes such as reflective thinking and controlling thoughts or feelings. At the moment we start using language as a symbol rather than a tool of communication, it allows us to plan our actions before reacting to something or start something, which is the human trade of consciousness (Lantolf & Thorne, 2007).

Symbols can be presented through *material mediations* which explain a concept through externalizing and organizing it in educational materials (Lantolf & Thorne, 2007). Thus, the learner's understanding of the topic can be supported through a worksheet, book, or a movie. However, not every learner will be able to understand the knowledge entailed in materials; some will need the help of a *tutor*. Often, it is a teacher or a parent, who participates in a *dialogic interaction* with the learner. That person, referred to as a *mediator*, can guide the learning process through structuring the material resources (i.e., material mediation) available to learners and/or organizing the kinds of verbal support (i.e., dialogic mediation) that learners require (Lantolf & Thorne, 2007).

Whether dialogic or material, the mediation is influenced by humans surrounding the learner. This mediation is an integral part of Vygotsky's understanding of learning and the SCT as it views development as "a socially regulated process in which social relationships are appropriated and internalized" (Lantolf, 2011, p. 305). In combination with the cultural understandings they are based on and the language used to

communicate, it is those social interactions that lead to and impact the psychological abilities of learners (Lantolf & Poehner, 2014; Poehner & Infante, 2016b). More specifically, the extent to which learners use mediation, both dialogic and material, to organize their thinking and plan their actions to solve problems and participate in relevant meaningful activity is referred to as internalization. To get there, it takes consciousness and willingness from the learner to obtain that knowledge as it requires mental control over those thoughts and the ability to structure them into one's existing thinking patterns (Swain et al., 2015).

The final stage of internalization will not be reached through a constant increase of knowledge and ability, as learners will also show regressive moves (discussed in the following chapter). In that situation, learners makes mistakes which they had overcome before (Lantolf et al., 2018), so that eventually the subject “become[s] an integral part of [their] personality” (Haenen, 2001, p. 159). Due to its characteristic of being an integral and internal part of a person, it is not always visible to the educator where the learner is in their processes of internalizing a concept.

While the goal is internalization of the concept, it is important to consider where the learner is in their learning development and to know possible limits of their development. As mentioned before, when following the SCT in one's teaching, the focus is on the learning possibilities a person has with the support of their environment, rather than because of their inherited intelligence. Thus, Vygotsky (1978) proposed the idea of a *Zone of Proximal Development* (ZPD) which is the “the distance between the actual developmental level as determined by independent problem solving and the level of

potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). It provides an alternative to looking at the learner’s abilities based on IQ tests, which assume that a learner has a limit and no room for development (Lantolf & Poehner, 2011).

In years past, students would be assessed with tools whose results may or may not be used for diagnostic purposes. The reasoning for doing so was the Behaviorist understanding of development as the result of negative feedback became validated. The teacher would provide feedback on students’ grammar and choose how explicit and direct they wanted to be, leading to various forms of negative feedback in grammar instruction (Brown, 2014). Lantolf and Poehner (2011) state that teachers tend to mostly repeat the student’s utterance while providing the proper form without giving an explanation for it, which is referred to as *recasting*. However, the student’s reaction to the negative feedback does not translate to acquisition. This practice has led to the explicit-implicit debate, which discusses whether the focus should be on the process or product, the intention behind correction, as well as the role of learner-preference (VanPatten & Williams, 2007).

In the beginning, the curriculum of the school was defining the minimums and maximum of what the students have and can achieve, and thus, defined the frame of the ZPD “with development understood as the difference between learners’ current performance and the level demanded by the school” (Lantolf & Poehner, 2011, p. 14). The problem about defining the performance of a learner with the help of the school curriculum is that certain learners outperformed others and reached the goal before them,

leading to the question of what further mediation could look like for them (Lantolf & Poehner, 2011).

As outlined, the environment significantly impacts the learner and their potential. In an institutional setting, it is the task of the mediator to challenge the learners and push them to reach their full potential. As a first step, a mediator would assess a learner's current level of conceptual understanding prior to instruction, what Vygotsky referred to as their Zone of Actual Development (ZAD) (Vygotsky, 1978). A learner's ZAD reflects what learners can do independently in the form of a static assessment and is predicated on the kinds of previous dialogic and material mediation they had received and had fully internalized (Vygotsky, 1978). Having the information about what they can do on their own, and how much more they can do with the help of a teacher, also allows teachers to define the level of difficulty students will not be able to solve.

Whereas ZAD reflects learner independent functioning, the ZPD can be determined through learner co-regulation of a task or activity. More specifically, to determine a learner's potential abilities to solve a problem or perform a task, the mediator and learner approach learning as a joint endeavor in which the mediator offers verbal support and prompts to determine the extent to which the learner requires guided assistance to reach the desired outcome (Vygotsky, 1978).

Aljaafreh and Lantolf (1994) took a closer look at the feedback mediators provided in the ZPD. In their study, mediator and learner met in individual tutoring sessions. All of the three participants were placed in the same ZPD by the teacher, resulting in comparable interactions and observations from the tutoring sessions. The

mediator focused on four specific grammar topics: articles, tense marking, use of prepositions, and modal verbs. During the tutoring sessions, which were between 30 to 45 minutes long, the tutor interacted spontaneously with the students and provided individual feedback. The study examined the provided feedback and worked out a twelve-step implicit-explicit regulatory scale: it ranked the feedback from most implicit to most explicit. The more explicit the feedback was, the more was the learner depending on mediation, and thus, showed less independence in their performance. Over time, learner development can then be gauged as learners might need more explicit support in the initial stages while later on, their abilities improve and they can follow more implicit prompts. The study was a significant contribution to the practical implications of mediation and ZPD. It concluded that every type of feedback has its place, but feedback has to be individually analyzed to make it suitable for the individual and their context (Aljaafreh & Lantolf, 1994).

The implicit-explicit regulatory scale was implemented by various researchers who saw the time of co-regulation and assessing the student as a teaching opportunity. The practical application of the scale resulted in a form of assessment that is mostly referred to as *Dynamic Assessment (DA)*. In contrast to standardized testing, DA focuses on the abilities and knowledge of the students by providing guidance through the mediator. These abilities are not visible in standardized tests due to the teacher's self-perception as a sole observer rather than an active partner in the assessment process (Feuerstein et al., 1988).

Tracy, a proactive teacher interested in the opportunities DA can have in a mainstream classroom, developed prompts, providing feedback from very implicit to very explicit, for her Spanish classes (Lantolf & Poehner, 2011). Examples of those can be seen in Figure 2.1. During a DA, the teacher would start with a more implicit form of feedback and increase the explicitness as the learners show a need for more content and re-teaching.

Figure 2.1

Inventory of Teacher Prompts

1. Pause
2. Repeat the whole phrase questioningly
3. Repeat just the part of the sentence with the error
4. Teacher points out that there is something wrong with the sentence. Alternatively, she can pose this as a question, "What is wrong with that sentence?"
5. Teacher points out the incorrect word
6. Teacher asks either/ or question (*negros o Negras?*)
7. Teacher identifies the correct answer
8. Teacher explains why

Note. From "Dynamic assessment in the classroom: Vygotskian praxis for second language development", by Lantolf, J. P. L. & Poehner, M. E. P. Lantolf & Poehner, 2011, *Language Teaching Research*, 15(1), p. 20 (<https://doi.org/10.1177/1362168810383328>)

Just as in non-dynamic assessments, the independent performance by the learner, and thus, a level 1 prompt, would mean a full ability to perform the task (Lantolf & Poehner, 2011). It is the moment the learner starts hesitating or showing errors, when the teacher's intervention can lead to a better picture of their abilities, something that is not possible in traditional forms of assessment. The quality of DA is then not only defined by

the quality and choice of prompts, but also the duration and quality of interaction (Lantolf & Poehner, 2011).

Teachers are encouraged to come up with their own individual prompts, matching their specific goals and scenarios. Besides designing their own prompts, DA can also be individualized by choosing either an *interactionist* approach or *interventionist* approach to contribute to the DA session. Lantolf and Poehner (2011) suggested those terms to describe whether a mediator either guides a learner through every prompt moving from most implicit to least explicit (interventionist) or opts to select prompts and verbal cues that are dependent on interactional needs (interactionist).

Following an *interactionist* approach, the mediator is not providing every prompt but provides them based on their impression during the interaction with the learner. The decision might be spontaneous and based on the individual learner and takes place in the moment of DA. In contrast, the *interventionist* approach to DA are standardized and prepared prior to the assessment process in order to anticipate the sources of difficulty learners may experience (Lantolf & Poehner, 2008). Thus, if a mediator aims for comparable results between learners to assess them, a standardized mediation following each prompt might be more appropriate, and they might choose the interventionist approach. To keep track of the learners' performances, the mediator can document them in a table with the level of explicitness the learner needed and a section for comments as the teacher implemented in Lantolf and Poehner (2011).

In contrast, following an interactionist approach, the learners' responses might not be quantifiable. The process is also more demanding on the teacher's side as it requires

them to be flexible, stay engaged throughout the assessment, and have a thorough understanding of the content to decide on the amount of explicitness needed by the learner. However, it allows for a rich qualitative profile of the learner, which brings its benefits with it (Lantolf & Poehner, 2011).

Poehner and Infante (2016) continued the research on DA and implemented materialization in their sessions. They incorporated it to “reveal and promote psychological processes” (Poehner & Infante, 2016a, p. 287) so that their learning can be supported as needed. The materialization allows the mentor and learner to demonstrate the use of the tool in the session and the students can express their language choice. The authors also argue that having group-based DA’s can be beneficial as the students learn from and with each other while listening to the feedback for other learners. Finally, they discuss the contributions computers can make in DA. They see the opportunity to also provide feedback to the students who got it correct, not because of their understanding, but through test-taking strategies or luck (Poehner & Infante, 2016a). DA brings with it a great deal of flexibility; it is not intended to be a method that has to be copied and applied to any situation, but a way to rethink the goals of one’s classroom and in how far one’s teaching needs to be separated from assessment and development (Lantolf & Poehner, 2011). The goal is to encourage reflection on one’s teaching and the contribution to the development of the learner. Part of this goal is to question the way one is providing feedback to the learner.

However, it was not only Vygotsky working on advancements on the Behavior perspective on learning. While Vygotsky focused on developing concepts of scientific

knowledge, Feuerstein later focused on developing cognitive tools such as problem-solving that can be transferred to many contexts (Feuerstein et al., 2010). In his research, he realized that many students do not experience the adequate environment to develop those skills. He came up with the model of *Mediated Learning Experience (MLE)* to describe and provide a description of such a high-quality experience (Feuerstein et al., 2010). Poehner and Infante (2016b) described those key features as the “focus on promoting learner development, the use of mediator–learner interaction aimed at promoting learner appropriation of external materials that function as mediating tools, and attention to affective features of performance as central to self-regulation ” (p.10). Thus, both DA, as an advancement of SCT, and MLE value the environment surrounding the learner with MLE providing more information on a high-quality approach to the mediator-learner interaction.

Feuerstein’s research focused on learners with challenges that affected their learning, like disabilities and traumas (Shay, 2017), and found that one becomes a better learner by increasing their capability to solve particular kinds of issues and then transfer it to another task. That increased capacity is what he refers to as *transcendence*, which played a significant role in his concept. His teaching approach followed the belief that although the level of difficulty needs to match the learner's need, learners should encounter and solve new problems above their level, leading to an increased problem-solving ability. He refers to that process as *instrumental enrichment* (Lantolf & Poehner, 2014). Part of the process can be “labeling, visualizing, comparing, searching systematically for information, drawing upon multiple sources of information, and

encoding and decoding” (Kinard & Kozulin, 2008, p. 86 in Poehner & Infante, 2019, p. 4). During that process, the learner is supported by the mediator who can remind them of the particular task, raise their awareness of the features of interest, and provoke reflections on the learning process (Poehner & Infante, 2019).

In order to offer a high-quality MLE, Feuerstein stated that it needs contributions from the side of the learner as well as the mediator which led to the *Universal Parameters of Mediation: intentionality, reciprocity, transcendence, and mediation*.

Feuerstein et. al. (2002) describe *intentionality* as the mediator’s intention to help the student’s cognitive development by providing information or feedback while they are working on a task. The learner’s *reciprocity* is associated with the responsiveness to the mediator’s intentionality and allows the mediator to assess what the learner needs to achieve the cognitive development they are aiming for. An example would be the assessee asking for the mediator’s guidance in solving the task, through which the mediator then determines the amount of help needed to achieve development. Whenever the mediator and learner go beyond their main goal of the MLE and work on objectives that were planned for another context, it is described as *transcendence* (Feuerstein et al., 2002). Finally, the mediator’s and learner’s amount of energy and emotions involved in the conversation is the *mediation* component in MLE, which is “essential to determine learners' responsivity accurately and to help them ultimately take over responsibility for performance” (Lantolf & Poehner, 2011, p.15).

The parameter of reciprocity has been further explored by Poehner (2005) who came up with eight different types of students to describe several forms of reciprocity

(Figure 2.2). Based on Poehner's typology, the student's responses in an assessment can be described.

Figure 1.2

Learner Reciprocity Typology

1. Unresponsive
2. Repeats Mediator
3. Responds Incorrectly
4. Requests Additional Assistance
5. Incorporates Feedback
6. Overcomes Problem
7. Offers Explanation
8. Uses Mediator as a Resource
9. Rejects Mediator's Assistance

Note. From *Dynamic Assessment of oral Proficiency Among Advanced L2 Learners of French* (p.183), by M. E. P. Poehner, 2005 (<https://etda.libraries.psu.edu/catalog/6627>).

Ableeva (2018) continued the research on learner reciprocity by relating it to the responsivity in L2 DA. As mentioned before, development is not linear but will entail *progressive* and *regressive* actions. These categories allow to interpret the students' abilities besides the traditional *right/wrong* perspective. *Progressive* and *regressive moves* take the various levels of the learner's reciprocity (see Table 1) into consideration while looking at them from a positive standpoint as every move, and thus interaction, is a sign of development (Ableeva, 2018).

Table 1*Learner Regressive and Progressive Reciprocating Moves Within the ZPD*

| <i>Regressive Moves</i> | <i>Progressive Moves</i> |
|--|--|
| 1. Unresponsive | 1. Responsive |
| 2. Provides negative response | 2. Provides positive response |
| 3. Makes a wrong choice | 3. Makes a correct choice |
| 4. Does not decipher a pattern or a word | 4. Deciphers a pattern or a word correctly |
| 5. Does not overcome problem | 5. Overcomes problem |

Note. From “Understanding learner L2 development through reciprocity,” In *The Routledge handbook of sociocultural theory and second language development* (p. 270) by J.P.L. et al. Ableeva, 2018, Routledge.

Lantolf and Poehner (2008) propose that more L2 DA research continue to investigate a broader understanding of reciprocity moves so as to offer a fuller spectrum of learner contributions that indicate different forms of learner engagement that signal their development. The authors also note that L2 DA research with a focus on reciprocity has been largely limited to intermediate L2 learners of French at the university level and within one-to-one DA sessions.

This section laid out Vygotsky’s understanding of learning and development and how mediation attuned to a learner’s ZPD can support their appropriation of second language features. A closer look at the interactions taking place in DA illustrates how vital it is to take the communicative turns of teachers and learners into account when determining the learner’s potential in DA sessions. The following section presents several teaching approaches based on Vygotsky’s understanding of teaching and learning around concepts.

2.3 Putting it Into Practice: Concept- based Instruction

As mentioned before, SCT views knowledge as inputs from the environment which we organize into concepts. This theory has been applied to several teaching contexts which resulted in concept-based instruction in teaching. Examples and elaborations of CBI will be outlined in the following.

Concept-based Instruction (CBI)

Before going into the different approaches of CBI, it is useful to differentiate between different forms of knowledge one can gain. In general, there are four different types of knowledge: *factual*, *conceptual*, *procedural*, and *metacognitive knowledge* (Anderson & Krathwohl, 2001; Karpov, 2014). Factual knowledge is the knowledge of details; it is isolated knowledge that is not embedded in a bigger context. That bigger context is taken into consideration with conceptual knowledge, where several pieces of information are connected and relationships between them established. For procedural knowledge, the process and its steps are internalized, and the person knows how to carry it out. Finally, there is the knowledge of cognition, which entails all the abstract knowledge of knowledge itself and oneself. It is important to know that such knowledge might not align with a scientist's perspective as it entails personal reflections (Anderson & Krathwohl, 2001).

The classification of knowledge is relevant in CBI as each form has a different function. For example, knowledge of specific numbers or names alone will not help when one needs to find a solution for a problem (Anderson & Krathwohl, 2001). With CBI, the students are motivated to do so, not only by applying the scientific concepts introduced in

school and rather abstract, but also the everyday concepts they established (Swain et al., 2015). In order to be able to support the learners in their development, the mediator needs to have a thorough understanding of the concept, which is well-researched and analyzed, so that it is generalizable and applicable to many situations. Vygotsky's goal was the mediation of knowledge through the internalization of a psychological tool and the interaction with the tool and the environment with the help of a mediator. In CBI, the mediator organizes and structures ideas and understandings of the world and provides those to the student. Thus, the teacher contributes to their learning by *materializing* the concept. As the learner proceeds in their education, they will encounter an increase in the complexity of the concepts. To describe the complex connections and procedures of a concept by *verbalizing* it, learners are exposed to scientific language. Scientific language is based on words just like everyday language, but terms might not only be used to communicate meaning, they also impart knowledge (Swain et al., 2015). That knowledge is possibly not available to people who are not familiar with the concept. When teaching a language, that might include teaching terms such as tense, object, or verb. Without the use of these terms, it would not be possible to describe the concept on a scientific and abstract level. However, learning the grammatical topic and the scientific terms are not the center of attention but rather seen as the tools needed to internalize the concept successfully. This is also the reason that typically scientific concepts and their terminology would be introduced with increasing cognitive challenge as the learners proceed in their careers (Swain et al., 2015).

Based on the concept that will be taught and the sequence of tasks chosen by the teacher, several approaches to CBI were developed. These approaches will be introduced in the following section.

Systematic Theoretical Instruction (STI)

Gal'perin, among others, expanded the idea of internalizing conceptual knowledge by researching how it can be enhanced (Lantolf & Poehner, 2014). He developed the teaching approach *Systemic Sytematic Instruction* in which learners engage with conceptual knowledge on different levels as they gradually appropriate the concepts.

In the *motivational stage*, the concept is presented in a material means to make it accessible to the learner, for example through a picture or model which is physically or at least visually available to the learner. In this early stage, the mediator is introducing the terminology to describe the concept. Next, the symbolic tool is explained to allow the students to use it as an orientation during their actions. The tool is also referred to as *Schema for the Orienting Basis of Action (SCOBA)* (Haenen, 2001) and is a materialized way to present the concept. In a SCOBA, the conceptual information is visually presented and written out. In addition, the mediator is providing an oral explanation to serve several learning styles. Developing such a SCOBA brings the challenge with it to make it pedagogically functional, but also entail all of the theoretical components of it correctly (Lantolf, 2011).

In the following *materialized stage*, the learner will be presented with opportunities to interact with the concept using the SCOBA to guide their actions. After spending enough time in the stage of materializing the problem, the learner will be able to

manipulate the problem internally without relying on the the external process of manipulating drawings or models. Still working with the visual representations, they are now internally visualized or imagined. Those internal images are still externalized by verbalizing, rather than drawing or modeling. By externalizing them, the learner has to verbalize the reasoning behind their decision and can discuss the different steps introduced with the SCOBAs with their partner or a mediator. Eventually, the learner will not need another person as a reminder to justify their choice, and will be able to analyze the problem using overt language, to then finally internalize the concept so that the thought-process occurs fully internally (Infante, 2016). It is this sequence of instruction, materialization, and verbalization during the teaching process that is characteristic for STI. It shows of the learner starts off being other-regulated, and eventually ends up as self-regulated and able to solve the problem when having the concept and SCOBAs internalized (Lantolf & Poehner, 2014, Poehner & Infante, 2019, Haenen, 2001).

Because of the interaction with and manipulation of the SCOBAs, this approach prevents the learner from simply copying the words provided by the SCOBAs (Lantolf, 2011). This process aligns with Vygotsky's understanding of learning being based on interaction. Implementing SCOBAs in instruction showed that it provides "a longer-lasting impact due to its imagistic and tactile qualities" rather than mindless tasks (Kim, 2016, p. 324). However, the learner can refer to the materialized SCOBAs as long as they need.

Instrumental Enrichment (IE)

As mentioned previously, Feuerstein developed his concept of mediated learning experiences independently from Vygotsky. As Lantolf and Poehner (2014) note, “both approach development as the internalization of psychological tools that individuals use to organize and regulate their mental world” (p. 160). While Vygotsky focused on the mediation of concepts around content, Feuerstein focused on cognitive concepts such as reading a table or a chart, which will help the learner to understand the content (Poehner & Infante, 2016b)

An example for a practical application of MLE is *Instrumental Enrichment (IE)*, which has the mediator between the learner and the content matter to keep the learners engaged in order to achieve meta-cognitive development. As the mediator regulates the exposure of the learner with the stimuli, the learner gains awareness and strategies on how to look at the stimuli of their environment, and thus, self-directed learning (Jackson, 2008). Kozulin and Presseisen summarized the main goals of IE implementation as follows:

- (a) to correct weaknesses and deficiencies in cognitive functions; (b) to help students learn and apply basic concepts, labels, vocabulary, and operations essential to effective thought; (c) to create learning motivation through habit formation [...]; (d) to develop task-intrinsic motivation; (e) to produce insightful and reflective cognitive attitude; and (f) to transform poor learners from passive recipients and [...] enhance their self-image as active and independent learners. (Kozulin & Presseisen, 1995, p. 72)

IE has been applied in various contexts, for example by Kinard and Kozulin when teaching math through their *Rigorous Mathematical Thinking Model* (2008). The researchers suggested that the mediator guides the students' development by modeling the cognitive process and having the learners do it themselves. Following the application of the concept by the learners, the learners then compared their solutions, verbalized and visualized them, and labeled their specific concept. The activities are organized with increasing cognitive challenge to support the students' learning. The researchers found out that the dialogic mediation in conjunction with specially designed materials provoked learners to perceive math concepts as tools to organize and construct mathematical knowledge rather than treating them as pieces of information or content to be passively learned (Infante & Poehner, forthcoming). However, Kozulin argued, among others, that it is inappropriate to separate between content and higher-order thinking skills in the school context as they intertwine, making it rather difficult to treat them separately (Poehner & Infante, 2019).

Concept-Based Pragmatics Instruction (CBPI)

Besides grammar, math, or science topics, there are also concepts in pragmatics that can be taught in school, which van Compernelle and Henery (2014) performed in a French course (n=13) conducted in the U.S. In the French language and culture, people can choose from two pronouns *tu* and *vous* when addressing another person. The choice is based on distance within the communicator's social interaction, the power the person holds, and how the participants in the interaction represent each other (van Compernelle & Henery, 2014). The challenge for French language learners is to establish the concept

which they might not have in their first language. This can become a pragmatic issue if not taught explicitly with a concept that can be applied to any situation, but just through rules of thumb that provide the learner with a “rule” that is not actually applicable in every context as it is overly simplified and thus, does not portray the complexity of the scientific concept (van Compernelle & Henery, 2014).

In contrast to teaching the rule of thumbs, the students learned to apply the scientific terms of power, social distance, and self-representation into their explanation and gained an "understanding of the meaning and social implications” of the two pronouns when learning them with a concept-based approach (van Compernelle & Henery, 2014, p. 564). Based on their knowledge and understanding, the students were able to give a more detailed explanation of their reasoning behind their decision after they worked with the material and drew, verbalized, and applied the new concept. Last but not least, the learners shifted from focusing on the rule-of-thumb to the actual meaning as well as the result their choices would have towards the social interaction. "In essence, learner development ascends from the abstract concept to concrete performance" (van Compernelle & Henery, 2014, p.573).

Van Compernelle and Henery’s work is significant not only because of its application on pragmatics, but also because of their advice to keep it as abstract as possible to support the internalization of the learner. That way, the students shift from focusing on the rule to focusing on meaning-making (van Compernelle & Henery, 2014).

Mediated Development (MD)

The shortcomings of the various approaches to CBI have been summarized by Infante (2016) as the lack of documentation of the interaction between mediator and learner during the various stages from introduction of the tool, up to the internalization when mediating a concept through a symbolic tool. Poehner and Infante (2019) reacted to the shortcomings by developing *Mediated Development (MD)* that “offers a powerful and coherent approach to promoting learner development of abilities in an L2” (Poehner & Infante, 2019, p. 2). They suggested it as a framework of CBI to help students understand the usage and relevance of a symbolic resource, to then implement it in their thinking (Poehner & Infante, 2016b, 2019).

MD has been implemented in the teaching of the English tense and aspect system (Infante, 2016, 2018; Poehner & Infante, 2019) as well as in the teaching of quantifiers (Infante & Poehner, forthcoming). When researching the students’ developing understanding of the tense and aspect through MD in an ESL course, Infante (2018) had the learners involved in activities where they had to encode-decode, label-visualize, and compare, and thus, interact with abstract knowledge presented through a symbolic tool. Through those processes, the learners integrated the concept in their actions and developed an understanding of it, which made the knowledge more accessible. The mediator’s focused was on the implementation of the symbolic tool and making it relevant to the students to keep them engaged in the task. The researcher stated awareness for the problem that the cognitive processes implemented in the study might not work for

the teaching of every concept and encouraged adopting processes from other frameworks, e.g., Boom's taxonomy or IE (Infante, 2018).

Poehner and Infante (2019) chose a task sequence and design following suggestions provided in Kinard and Kozulin (2008). In their study on teaching the tense aspect, they concluded that the learners need the visualization and verbalization of the concept in combination with the interaction with the mediator to understand the relevance of the tool for the internalization of the concept. Because of the mediator's continuously evaluation of the learner, the learners were more engaged and improved their understanding of the concept-based materials which led to the establishment of a positive and productive environment (Poehner & Infante, 2019). Possible challenges when implementing MD in a classroom can be the language teacher's lack of expertise when it comes to providing high-quality explanation of the language concept. Thus, they suggest a collaboration of a language teacher and an expert (Poehner & Infante, 2019).

This section has reviewed concept-based approaches to language education in its multiple forms. The interplay of material, teacher, and learner becomes visible by looking at the studies presented in the section. However, no matter which approach of mediation the teacher is taking, all of them require a thorough understanding of the content. The next section will introduce Cognitive Grammar (CG) and its relevance in second language education. I will then apply a CG lens to the German case system and discuss how it can support learner conceptual understanding of this challenging feature. Last, I will report on research that highlights the difficulties German language learners have faced when learning the case system in the foreign language classroom.

2.4 The German Case System

The differentiation between everyday and scientific concepts was made in a previous section. In the following, those ideas will be applied to the German case system. First, cognitive grammar will be introduced as a conceptual approach of understanding language, followed by an explanation of the German case system. Finally, research on the difficulties of German language learners is presented.

Cognitive Grammar

One way of looking at grammar topics, such as the German case system, is by structuring it and defining it in relation to other topics such as semantics and lexicon, referred to as *Cognitive Grammar* (Radden & Dirven, 2007). Radden and Dirven (2007) explain that a cognitive grammar perspective conceptualizes language as *categories* which are formed based on meaning and relevance of certain experiences. *Categories* group things that are alike by looking at the relationship between two objects, which leads to the groups of *taxonomy*, *partonomy*, *frames*, and *domains*. In a *taxonomy*, an object “is- a” part of the other one (*an apple is a fruit*), while the *partonomy* describes that the peel is “part of” the apple. In contrast, the *frame* describes the knowledge that is being activated whenever a category is named. Often, *frames* provide information on the place and function of the word (*Can you get some fruits?*). In contrast, *domains* provide the listener with the context in which a category belongs, i.g., the idiom *to harvest the fruits of labor* will be understood as the outcome of one’s work which is not limited to fruits from one’s garden but also a salary raise as a result of a successful sale at work (Radden & Dirven, 2007).

Categories have not only been established in language but in other areas, too. In the educational context, one often refers to the categories of *factual*, *conceptual*, *procedural*, and *metacognitive* knowledge when it comes to classifying knowledge (Radden & Dirven, 2007).

Not all categories are defined as they are often based on individual experience and decision. This can be seen in the example of the category *molds fast*. When looking at fruits, some mold faster than others but they stand in relation to each other. It is important to note that fruits are only one category of food that one could describe, which shows the interrelationship between categories and why they can be viewed as an *ecological system* (Radden & Dirven, 2007).

Because of the interconnection between categories, we can also add new categories to existing ones or define new differences between them. These interconnections allows us to add to our *frames* throughout our lives, as one comes across new experiences or new contexts. We might add new categories because of an invention or a new cultural experience that leads to redefining and rethinking already established categories, as one sees and defines reality in relation to what one knows (Radden & Dirven, 2007).

In language learning and teaching, categories are provided to help the learners to organize the new content, such as the category of number, definiteness, tense and aspect, or case. By defining clear differences between the categories, we can help the learners to see the boundaries between them and helping the learner with the organization in form of a taxonomy, so they will not only be more conscious in their language choice

but also learn the academic language needed to talk about the categories. The knowledge of sentence structures, tenses, word forms, and other can then be applied to other languages knows (Radden & Dirven, 2007).

Thus, both Cognitive Grammar and SCT promote conceptual understanding in learners, which is why Lantolf (2011) suggested merging the two. This research followed that suggestion, which is why the overview of the German case system will now be provided with the idea of categories behind in order to establish a solid foundation for the concept-based instruction of it in a classroom.

The German Case System: A Grammatical Overview

Although German and English have common roots, a major difference is the significance and display of cases. Besides the possessive *s* in English that aligns with the German genitive case, the significance and way other cases are expressed are very different to English, which allows for a more complex sentence structure and a greater variety in word order in German (Stocker & Young, 2012).

The case system refers to the relation between words in a sentence or clause. For example, it shows who or what is carrying out the action of the verb, who or what is possessing someone or something, or is receiving something or someone. In Standard English, the only markers for cases are pronouns. *It is she* would be identified as grammatically incorrect in Standard English. If used in the position of an object, the female pronoun would need to be *her*. In contrast, the German language indicates cases not only in pronouns but also by different noun and adjective endings and marking determiners. Pronouns are not just case sensitive but also dependent on plural or singular,

and on grammatical gender. Here, German differentiates gender between masculine, feminine, and neuter (Stocker & Young, 2012).

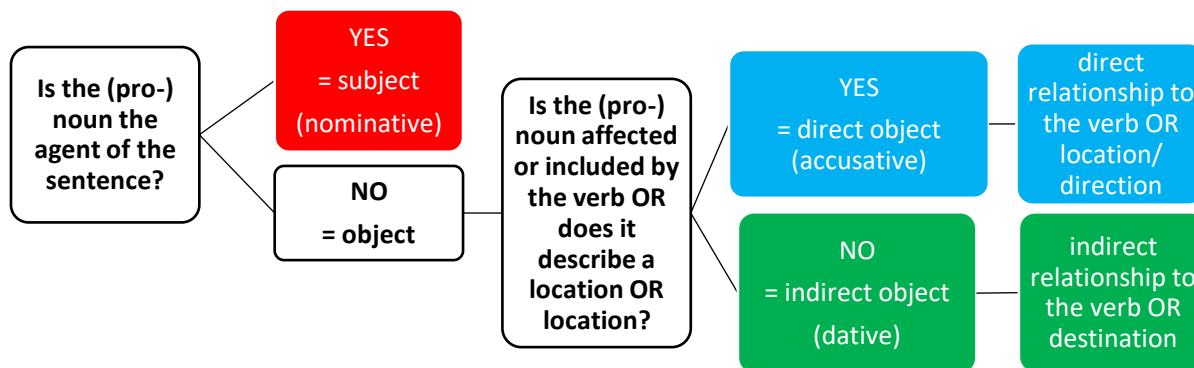
Besides imperative sentences, every grammatically correct German sentence entails a verb and nominative case, indicating who is carrying out the action of the verb ("the doer"). Only when the object carrying out the action is given, can further information be added to the sentence (Stocker & Young, 2012). This is possible by using the accusative, genitive, and dative cases which will be outlined in the following paragraphs.

Accusative objects allow us to provide information on who or what is directly affected by the verb, who receives the action, or to describe a movement. They are also known as direct objects, which refers to them being involved in the activity described in the verb. This can be seen in the sentence *Ich lese ein Buch* (I am reading a book). The book is directly related to by doing, making it a direct object. The article *ein* would change to *eine* when referring to a noun that goes with the feminine gender, such as a newspaper: *Ich lese eine Zeitung*. This sentence shows how the article changes for the different genders. Because of the object's direct relationship to the verb, certain prepositions will need an accusative object in the sentence. Looking at the sentence *Ich komme ohne ein Auto* (I am coming without a car) would show the need for an accusative. If the information about the car is not given, one would automatically ask *Without what or who are you coming?* More examples for such prepositions would be *bis, durch, entlang, für, gegen, um, wider* (till, through, along, for, against, at, against) (Stocker & Young, 2012).

There are also objects that are not being affected by or directly related to the verb, or they describe a location. That is when the use of the dative case is required. The resulting objects are also known as indirect or dative objects because there is no direct relation given. An example would be *Ich backe meiner Schwester einen Kuchen* (I bake a cake for my sister). The cake is related to the action of baking but the information of the recipient being my sister is an additional one, that has an indirect relation. Another reason why dative could be required is the use of prepositions, e.g., *aus, außer, bei, gegenüber, mit, nach, seit, von* and *zu* (out (of), unless, by/ next to, across, with, to, since, from, and to) (Stocker & Young, 2012). These different steps to identify the role of a noun in a sentence are summarized in Figure 2.3.

Figure 2.3

Flowchart to Identify Subjects and Objects in German



Finally, the German language has the genitive case marks a pronoun for possession: *Das ist Igor's Buch* (That is Igor's book). Like for accusative and dative, there are also prepositions that require the genitive cases, but those are not directly related to possession: *statt, anstatt, trotz, wegen, während* (instead of, despite, because of,

during). More important to know is the fact that the genitive is replaced by dative in oral language, or if either the case of the noun would otherwise be unclear or in consecutive genitive noun phrases because it is regarded as clumsy (Stocker & Young, 2012). An example would be *Das ist der Schlüssel des Zimmers* (That is the room's key), with the underlined genitive usually being worded as follows: *Das ist der Schlüssel von dem Zimmer* (That is the key to the room).

It may stick out to the reader that every case has some prepositions specific to it. However, it should also be pointed out that some prepositions are shared between accusative or dative case, e.g., *an, auf, hinter, in, neben, über, unter, vor, and zwischen* (on, on, behind, in, next to, over, under, in front of, and in between). On these occasions, one must figure out if it is a movement or a location that is described. This can be done by making sense of the scenario that is described or learning the required case with the vocab (Stocker & Young, 2012). It might appear easy to memorize German prepositions, but that brings the potential for confusion as some prepositions can be used with both dative and accusative cases, each one conveying a different meaning (Gradel, 2016).

Reading all of the specifics might exhibit that the German language can bring along quite a few challenges for English native speakers. Ritterbusch, LaFond and Agustin (2006) examined the perceived and actual difficulties the German case system brings for its learners. Their results offer implications for designing instruction and materials so that learners have the best possible conditions.

Difficulties of Learning the German Case System

Ritterbusch, LaFond and Agustin (2006) researched the problems of German language learners (n=60) at a university in the United States, their level of motivation to be accurate as well as their language learning strategies. The first component of Ritterbusch, LaFond, and Agustin's (2006) data collection was a self-assessment of the students in which they indicated their proficiency level, their reports on grammatical metalanguage including their usage of strategies regarding their decision-making and how relevant accuracy is for them through Likert scales. The self-assessment was followed by a written test. The first part of the written examination collected data regarding the students' accuracy of their definite article choice. In a second part, the researchers determined whether the decision regarding the noun's case, gender, or the article caused most problems by providing two of the information and asking the students to provide the third one for 40 different phrases. Subsequently, the students had to state whether they perceive the form, the decision between the cases, or the choice between the gender as more difficult (Ritterbusch et al., 2006).

The researchers found out that there is a discrepancy between the students' self-assessment and their performance (Ritterbusch et al., 2006). The participants of the study made the fewest mistakes when it came to the production of gender, and the most errors were committed when learners attempted to produce the correct ending. However, 58% of students reported having the most difficulties with gender, while 18% expressed having the least challenges with form. According to the authors, the outcome could be a result of the test design of the grammar test which provided the students with two out of

the three items of information of gender, form, and case (Ritterbusch et al., 2006). When the gender is given, the likeliness of choosing the correct one out of the three possibilities is higher than giving the correct form. Furthermore, all the nouns are frequently used in everyday language, and their meaning is coherent with their gender (e.g., das Haus = the house, a thing and therefore used with the neutral article). That could have made the production of gender relatively easy for students (Ritterbusch et al., 2006).

The researchers also found a positive correlation between metalinguistic awareness (conscious knowledge of rules) and the students' grammatical competence when it comes to the teaching of cases. Whenever students gave grammatical correctness as a goal of theirs, they performed better in giving the grammatically correct answers. It highlights how important explicit grammar teaching can be in a classroom. The researchers conclude by mentioning the need for a conceptual understanding of cases to achieve grammatical correctness. However, the conceptualization and transfer itself is an individual process and needs to be adopted to the setting and needs of the teacher and students (Ritterbusch et al., 2006). In terms of the study's test design, the research offered room for improvement as it did not reveal the student's understanding of German case markers because the learners were not required to provide an explanation for their choices.

2.5 Chapter Conclusion

This chapter laid out the main areas of the theory underlying this research project. The literature review on SCT included an introduction of L.S. Vygotsky, who believed that it needs social interaction to mediate learning organized in concepts. Part of his

theory was the development of the ZPD to determine learners' potentials. SCT found its way into the teacher-learner interaction, leading to the approaches of DA and CBI. While DA focuses on the interaction between the mediator and learner, CBI encourages students to think through a concept-based material to understand a concept rather than learning it through rote memorization. Various approaches to CBI have been introduced to present possible ways of implementing CBI into the classroom. Finally, the teaching of the German case system through a cognitive grammar approach and learner difficulties when learning to use the case system have been outlined.

In the center of SCT stands communication, and thus, meaning-making. Therefore, the mediation of a concept should entail its usefulness in enhancing a speaker's possibilities to express themselves. The internalization of the concepts should take place through activities that involve the learners on a cognitive level so that they develop a thinking pattern through the implementation of the symbolic tool into their decision-making. Poehner and Infante (2016) explicitly stated that having the students change their way of thinking about the concept is of a higher priority than the development of grammatical correctness.

In developing the learner's understanding of the concept, content and thinking skills are not seen as separate goals, but both are implemented when teaching the concept. The objectives of concept, content, and developing thinking skills can be achieved by activities such as organizing, labeling, and constructing knowledge (Kinard & Kozulin, 2008).

Combining CBI and DA holds the advantage of gaining insight into the learner's level of comprehension by observing the extent of their ability to perform the activity independently by using the symbolic tool for their decision-making. Rather than solely assessing the students on their production of the correct form, the mediator will follow them in their thought process and mediate whatever knowledge they might need on their way of internalizing the concept. The combination of assessment and tutoring can lead to an in-depth understanding and self-assured production of meaningful language. However, there is still a need for a closer look at the actual mediation taking place during the introduction up to the internalization of symbolic tools (Infante, 2016). The present research will try to fill that gap in teaching the German case system to foreign language learners in a CBI context with DA sessions.

The case system is a significant component of the German language as it allows to express direct and indirect objects and destination, location, and direction. If the learners do not have a proper understanding of the case system, it can result in miscommunication and a lower confidence level when communicating in the foreign language. Thus, previous research has studied the areas of gender, form, and case. They determined the perceived and actual level difficulties in the production of the form by students (Ritterbusch et al., 2006). However, it was not possible to see the students' reasoning for their decision because of the study design. By implementing DA into the assessment, the students would be able to share their thoughts by thinking aloud, which allows researchers to understand the learner's actual reasoning to produce a particular form. DA would also allow considering the learner's reciprocity, which would provide additional

information of the learner's confidence when identifying the case, gender, and form of the article. While the researchers acknowledged the shortcoming, they also highlighted the importance of the learners' conceptual awareness of the case system to make correct decisions (Ritterbusch et al., 2006).

While reviewing the existing studies on teaching the German case system, the lack of research on teaching it from a concept-based approach became obvious. Furthermore, there is a need for research on DA in teaching German as a foreign language and DA in online environments.

The current research aims to address these shortcomings. By teaching the German case system with a concept-based approach and implementing DA into the course, the mediator of the online course will be able to provide individualized support from the very beginning, which should be a significant improvement to the class. While taking the previous research into account when designing and conducting the research on CBI and DA in a beginner course of German, the paper tries to fill the gap of research in attempting to answer the following questions: What are ways in which CBI supports learner understanding and use of the German case system? How do dynamic assessment sessions contribute to learner understanding and offer a more comprehensive picture of learner emerging understanding of the German case system?

These research questions were the focus of a sixteen-week study that will be presented in the ensuing chapters. We now turn to the various sections of the methodology that include discussion of the research design, data collection and analysis procedures, and information regarding the setting and participants.

Chapter 3: Methodology

3.1 Introduction

The case system embodies an integral part of a German speaker's ability to express the relationship between pronouns and nouns, and to indicate motion. For non-native speakers, the concept might be challenging as English, along with other languages, does not require its speakers to have an understanding of nouns and their functions in sentences. Baten's study on the acquisition of the case system by English native speakers found that the participants (n=60) made the fewest mistakes when it came to the production of gender, and the most errors when attempting to produce the correct ending (Ritterbusch et al., 2006). In addition, the study found a positive correlation between the students' conscious knowledge of rules and the students' grammatical competence regarding the case system, which led to their suggestion to mediate a conceptual understanding of cases to achieve grammatical correctness (Ritterbusch et al., 2006).

While their study provided data on the students' performance when analyzing the gender, case, and form through multiple choice questions, and the above mentioned improvement of form-production through metacognitive awareness for the case-system, their research did not explore the individual internal processes when making decisions.

The study design presented in the following sections implemented those suggestions of Ritterbusch et al. (2006), and attempted a concept-based mediation of the case system through a symbolic tool and DA. To investigate the participants' growing ability to understand and apply the accusative and dative, a case study approach is proposed (Brown & Rodgers, 2007).

3.2 Research Design and Data Collection

The researcher of the study was also the instructor of record for the course. She had taught the course before, which raised her awareness of the problems students encountered when learning the German case system. In an attempt to provide a better approach to the mediation of the concept, she worked out a symbolic tool ([Appendix A](#)) and an outline for the semester (Table 2).

The symbolic tool with its prominent role in the course will be introduced next, followed by a chronological description of the relevant course content. Data relevant for this study were collected throughout the semester, and the methods for it will be incorporated in the chronological presentation of the data collection.

Symbolic Tool

To present the concept to the students, the researcher designed a symbolic tool ([Appendix A](#)) that illustrated the nominative, accusative and dative cases and their uses. The material included a visual representation along with a written explanation of each of the case markers that will be discussed in depth below.

Grammatical topics, including the case system, are cognitively challenging. To make it more comprehensible to the students and to lower the language barriers when talking about the abstract topic (Reyes, 2004), the overview, including the terms and their explanation, were provided in English. The written explanation had a short introduction paragraph which reviews the components of a sentence *noun*, *subject*, *object*, and *verb*, along with a comment about the fact that all nouns are capitalized in German, unlike in English.

Underneath the introduction, an example sentence introduced the terms *subject* and *object* in the accusative and dative cases. To the right of the nouns were explanations on the nominative, accusative, and dative cases and the function of the cases in a sentence.

The explanation for the dative object (Figure 3.1) defined the terms *direct and indirect object*, as well as *location*. It also explained that dotted (“indirect”) lines indicated an indirect relationship between the subject and object, while arrows with a dotted line visualize locations.

Figure 3.1

Excerpt of the Symbolic Tool: Explanation for Dative Objects

his friend A *friend* is an object not directly included in the action but an additional information on *to whom or for whom something is done*. It is therefore also known as indirektes Objekt or **Dativobjekt** and is asking for the Dativ case. It then answers the question *Wem oder was?// Whom or what?*
In the following, the indirect relation of subject and Dativ object will be indicated by using a dotted line. - - -

Dativ is also being used when there is information of a location given. In that case, it is the answer of the question *Wo?// Where?*
It will be indicated with a dotted arrow.➔

The explanation for the accusative objects followed the same structure and explained that there is a direct relationship between the accusative object and the agent of the sentence. That relationship is visualized through a solid red line, which turns into an arrow if directions are materialized.

As the direct or indirect relationship between object and subject is defined by their relationship of the agent’s action, the mediator decided to use *red* to indicate the

subject of the sentence and color the lines or arrow the same way as they go away from the subject. *Green* was used to indicate dative, and *blue* for accusative objects.

A second page entailed a summary of the symbols in a table-format along with step-by-step instructions on the visualization of sentences (Figure 3.2). The steps prompted the learners with question words to identify the case of the different sentence components.

Figure 3.2

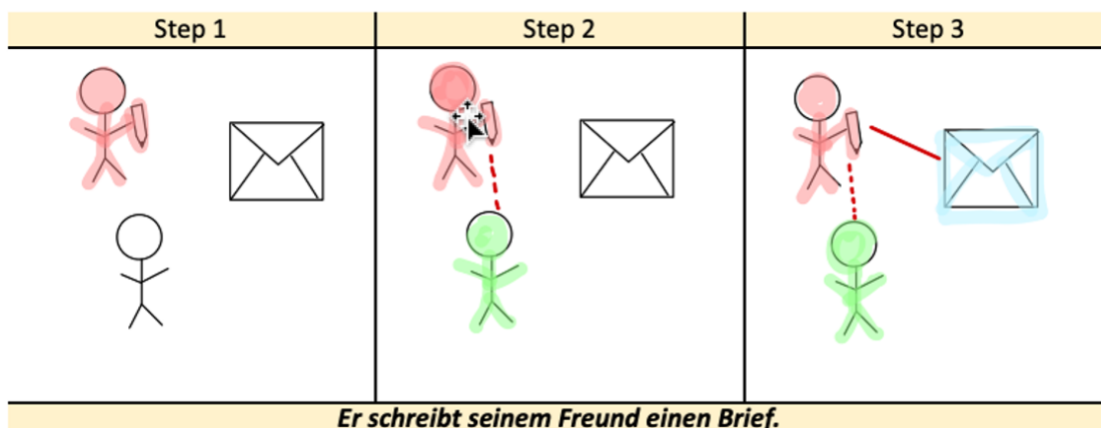
Excerpt of the Symbolic Tool: Step-by-Step Instructions

Step 1: Wer oder was? Identifying the **Nominativ = das Subjekt**

Step 2: Wem oder was? Identify the **Dativ = das indirekte Objekt** (if there is one)

Step 3: Wen oder was? Identify the **Akkusativ = das direkte Objekt** (if there is one).

| Dativ | | Akkusativ | |
|-----------------|--------|---------------|--------|
| indirect object | ----- | direct object | ----- |
| location |→ | direction | -----→ |



Underneath the summary was the materialization process for three sentences exemplified. The visuals followed the steps and provided a guideline for the materialization of the concept.

Course Overview

The data was collected from a 16-week online course for German as a foreign language course with the title *Elementary German II* taught for university students in the Mid-West of the U.S. The student researcher was also the course instructor of record and conducted this study with IRB approval (IRBNet ID #: 1628821, [Appendix B](#)), and asked for the students' informed consent ([Appendix C](#)) in the first week of class.

The course consisted of synchronous meetings conducted and recorded via *Zoom*. The platform offered the option to record the sessions, which the instructor decided to do as it provided the students with the opportunity to revisit the lessons. The same recordings contributed to the data for this study.

The students also submitted worksheets, quizzes, and essays as well as final exams to record their development. Furthermore, the teacher conducted informal interviews through conversations before and after class as well as during tutoring sessions. During those interviews, the instructor took field notes in addition to the recordings.

The class met four days a week for 50 minutes for the duration of a semester. The course outline followed the required course text *Kontakte* (Tschirner et al., 2013), presented in Table 1. As a next step, the teacher identified the sessions relevant for the study (in bold).

Table 2

Course Schedule

| Week | Grammar topic | Collected data |
|------|---|---|
| 1 | <ul style="list-style-type: none"> • revision of the articles: nominative, accusative, and dative • revision of the question words of the cases • revision of the <i>perfect</i> tense | |
| 2 | <ul style="list-style-type: none"> • two-way prepositions (location vs. destination) • word order: time before place • direction (in/auf vs. zu/nach) | <ul style="list-style-type: none"> • lesson recording • worksheet |
| 3 | <ul style="list-style-type: none"> • dative verbs • prepositions mit & bei + dative • separable prefix-verbs | <ul style="list-style-type: none"> • assessment |
| 4 | <ul style="list-style-type: none"> • relative clauses • comparative & superlative forms of adjectives and adverbs | |
| 5 | <ul style="list-style-type: none"> • review: perfect tense • simple past tense of <i>haben</i> and <i>sein</i> • <i>da</i>-compounds and <i>wo</i>-compounds | |
| 6 | <ul style="list-style-type: none"> • adjectives (in the dative case) • location vs destination: <i>stellen/stehen, legen/liegen, setzen/sitzen, hängen/hängen</i> | |
| 7 | <ul style="list-style-type: none"> • present and future tenses • attributive adjectives (nominative and accusative cases) | <ul style="list-style-type: none"> • instruction essay I |
| 8 | <ul style="list-style-type: none"> • conjunction <i>als</i> with dependent-clause word order • simple past tense of <i>werden</i>, the modal verbs, and <i>wissen</i> • time: <i>als, wenn, wann</i> | |
| 9 | <ul style="list-style-type: none"> • past perfect tense and the conjunction <i>nachdem</i> • simple past tense (strong and weak verbs) | <ul style="list-style-type: none"> • writing conference I • essay I |
| 10 | <ul style="list-style-type: none"> • prepositions for giving directions • prepositions to talk about places | |
| 11 | <ul style="list-style-type: none"> • subjunctive form of modal verbs • passive voice • imperative | <ul style="list-style-type: none"> • instruction essay II |
| 12 | <ul style="list-style-type: none"> • reflexiv pronouns (accusative & dative) • indirect questions • expressing possibility: <i>würde, hätte, wäre</i> | <ul style="list-style-type: none"> • writing conference II |
| 13 | <ul style="list-style-type: none"> • word order in main and subordinate clauses • word order of accusative and dative objects • causality and purpose: <i>weil, damit, um ... zu</i> | <ul style="list-style-type: none"> • final essay II |
| 14 | <ul style="list-style-type: none"> • review/ presentations | |

| | |
|----|--|
| 15 | <ul style="list-style-type: none"> • the genitive case • principles of case (summary review) |
| 16 | <ul style="list-style-type: none"> • final exam |

Note. Adapted from *Kontakte: A communicative approach* (p. v-xiii), by T.E. et al. Tschirner et al., 2013, McGraw-Hill.

Week 1. The mediator, in the following referred to as mediator (M), designed a survey to get to know the students as well as possible prior to the intervention. It targeted their previous schooling situations, languages the students spoke, their motivation for learning German, experiences with the German culture, possible German heritage backgrounds, and included a self-assessment of their language skills. The survey also asked students to share their learning preferences, behavior as language learners, and their preferences when it comes to learning activities. As the course was conducted online, the survey also inquired about their remote learning experiences. In a final section of the survey, the students had the opportunity to add general comments or information they would like to share.

The survey did not explicitly inquire about their proficiency with the German case system, neither did it request information regarding their attitude towards grammar activities that required them to draw or materialize grammatical meaning. This decision resulted from the learners' minimal knowledge of the case system prior to this study.

The survey itself had been assigned as a homework assignment. Students could either score 100% by fully completing the assignment, 50% for completing some of it, or 0% for not handing it in, giving no answers or overly short answers. The scoring system was intended to promote an honest reflection and offer the research more detailed

comments without increasing student anxiety attached to the homework assignment. It also ensured fair grading by the teacher and the successful collection of the data.

In the first week of class, enrollment numbers were subject to change. Consequently, no new material was introduced, and class sessions were focused on a review of terminology (e.g., subject and objects in a sentence, verbs, tenses) from the GER 101 course.

Week 2, Monday The lesson focused on teaching the German prepositions and their meaning. First, M introduced prepositions by placing objects in her background and describing the location of the objects in relation to her furniture. The learners repeated the activity in pairs. Next, M introduced a game similar to *Simon Says*. The prepositions such as *under*, *in front*, *next to*, *on*, *over* were announced in German and the learners indicated the meaning of the prepositions with an accompanying hand gesture. At first, M led the activity, but afterwards the learners took turns in trying to confuse the other players by mismatching their hand position with the preposition they announced. Whenever a student placed their hand incorrectly, they had to leave the game. Third, dyads of learners worked on an task from the course book featuring six drawings of the same room with only subtle differences, such as a position of a newspaper or clock on the wall. Partner A was prompted to describe one out of those six pictures to Partner B, using the phrases provided in the task. Partner B guessed which picture out of the six options where described. Partner A and B took turns describing and guessing the pictures (Tschirner et al. 2013).

Week 2, Tuesday (Introduction of the tool). The students were asked to have either the download or a hard copy of the Symbolic Tool ([Appendix A](#)) accessible during the meeting.

As a short warm-up, M brought up the task of the previous class in which the students had to describe one out of six rooms, each image only differing in a few details (Tschirner et al., 2013, p. 207). To provide an example, M described one picture and had the learners guess which one it is. The student with the correct answer was the next one to describe one, with another learner describing a third one. The exercise allowed the learners to review the prepositions needed to describe *location-destination* aspects.

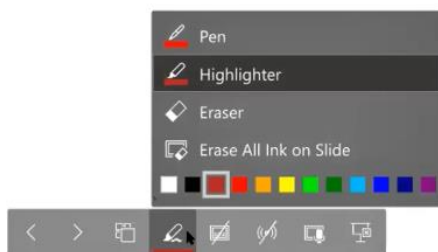
The introduction of the Symbolic Tool followed the STI by Gal'perin (Infante, 2016): First, the terms *direction*, *location*, *direct object*, and *indirect object* and the symbolic tool got introduced in a *labeling-visualizing* activity. Next, the accusative and dative cases were compared by analyzing pairs of sentences in a *comparing* activity. After modeling the use of the tool, M started to incorporate the learners who then demonstrated the materialization process in a whole-class activity. Finally, the learners worked on materializations in pairs.

For the whole-class presentation of the symbolic tool, M prepared two pairs of sentences, with each pair containing an object, describing a location and a destination (Table 3). The words used in the sentence pairs were the same to allow the class to compare the forms for accusative and dative objects. Each sentence was written on a PowerPoint slide and read out by M.

Table 3*Examples to Compare Destination and Location*

| Destination | Location |
|---|---|
| 1. Ich laufe in das Wohnzimmer. (I go to the living room.) | 2. Ich stehe in dem Wohnzimmer. (I stand in the living room.) |
| 3. Er legt das Handtuch ins Badezimmer. (He puts the towel in the bathroom.) | 4. Das Handtuch liegt im Badezimmer. (The towel is in the bathroom.) |

First, M read out the sentence *Ich laufe in das Wohnzimmer* (I go to the living room) from the PowerPoint and materialized the object in labeling-visualizing activities with the *drawing* function of PowerPoint in a web browser (Figure 3.3).

Figure 3.3*Drawing Function of Microsoft Office PowerPoint*

The direct relationship between subject and object was visually described by using a solid arrow. After reading out the second sentence *Ich stehe in dem Wohnzimmer* (I stand in the living room), the explanation provided by M entailed the terms *direction*, *location*, *direct object*, and *indirect object*, along with the visual aspects of the symbolic

tool. This two-step approach allowed learners to first focus on the visual component and then learn the expressions to verbalize the visual representations.

Next, M pulled up a slide with the two sentences that have been previously discussed written next to each other. Presenting the sentences next to each other allowed for comparison between the articles and objects and to elaborate the difference in meaning between dative and accusative objects and the representation of their meaning through arrows with dotted or solid lines.

Using the slide with the sentence pair, M asked for a volunteer to analyze and visualize the sentence. She described how she would allow remote control access of her screen so that the students could materialize their thoughts during the process of materializing the sentence. Thus, the concept of the German cases is captured in its material form, allowing M and the learners to manipulate the otherwise abstract structures in its physical form (Infante, 2018)

As none of the students would volunteer, M provided a second example for the materialization of the cases and started to engage with the students by prompting questions such as *What is the nominative of the sentence?* She used the terms *direction* (when drawing a solid arrow) and *location* (for the dotted arrow). The emerging interaction resulted in a whole-class activity of distinguishing between *location* and *destination* (Figure 3.4).

Figure 3.4

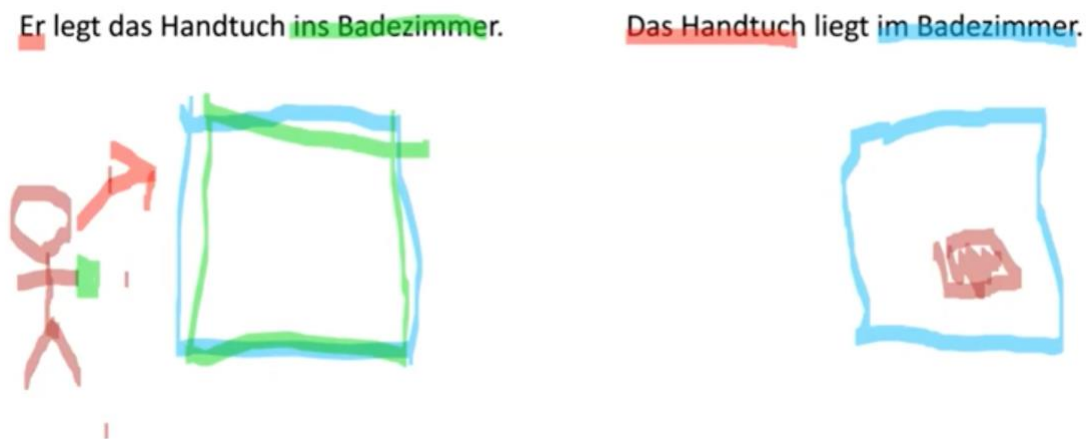
Comparing Accusative and Dative Objects Activity 1



For the second set of sentences (*He puts the towel in the bathroom.* and *The towel is in the bathroom.*), M prompted a learner to materialize the concept entailed in two sentences. The sentences were presented next to each other, and M guided the learners through the analysis by providing questions or feedback as needed. The learners then materialized the class discussion about the analysis of the nouns (Figure 3.5).

Figure 3.5

Comparing Accusative and Dative Objects Activity 2



Once the class had gone through the second pair of sentences, M asked everyone to have the worksheet for their individual materializations ready ([Appendix D](#), Figure

3.6). M provided detailed instructions for the process that followed the ones provided in the whole-class instruction: The learners read the sentence. They determined the subject and materialized it. Next, they determined the function of the object and visualized it by choosing between dotted or solid arrow or line. In the later sentences, students also looked up the article that was needed based on their decision of location or destination.

Figure 3.6*Excerpt of Materialization Worksheet*

| LOCATION | DESTINATION/ DIRECTION |
|---|--|
| <i>Die Lampe hängt neben dem Sofa.</i> | <i>Er hängt die Lampe neben das Sofa.</i> |
| | |
| <i>Der Apfel liegt in der Box.</i> | <i>Ich lege den Apfel in die Box.</i> |
| | |
| <i>In _____ Schrank steht ein Buch.</i> | <i>In _____ Schrank stelle ich ein Buch.</i> |
| | |

The worksheet showed a table with pairs of sentences (Figure 3.6). For each pair of sentences, there was a dative and accusative object to allow for further comparisons between the forms of the articles. Underneath each sentence, there was room for the materialization of the sentence. While the pairs of learners worked in breakout rooms, M joined one at a time to provide additional input on the visualizations. By the end of the lesson, the learners had materialized the sentences and discussed their meaning with their partner. Everyone submitted their worksheets so that M could provide feedback using the 0/50/100 percent grading scheme.

Week 2, Wednesday In their next meeting, the class practiced how to say *Where you are going?* when they want to buy something or get something done. This activity

provided practice with the production of answers using the dative case for providing the destination. It also provided the students with the opportunity to use the previously learned grammar within a real-world situation. The answers including the preposition and the correct article were provided as prepositional phrases.

Next, the students were asked to draw their own room. This sketch functioned as their writing prompt for a short essay following that task. They were asked to write ten sentences or 100 words, whichever is more, and to implement prepositions and use the appropriate case. M provided feedback on the essay the next day as M and learner met in 15-minute-long one-on-one tutoring sessions.

Week 2, Thursday M met the students in individual, 15 minute long sessions. The students shared their screen and read out their short descriptions of their rooms. Together, they discussed the mistakes regarding the use of the cases and made corrections as needed using the symbolic tool.

Week 2, Friday The students worked on their weekly homework assignment which had to be completed outside of the meeting time. The students were encouraged to see it as practice time and review the grammar topics while working on the assignment. Besides a letter grade, the students received extended written feedback on their performance. In the following paragraphs, the tasks on the distinction between *location* and *destination* will be described:

One task had the learners identify the meaning of the object by checking a box for *destination* or *location*. Based on that decision, the learners filled out a gap with the corresponding article ([Appendix D](#)). Besides sentence 2, 4 and 7, all objects entailed a

single meaning that was one correct solution. For 2, 4 and 7, the meaning of the verb could go with an object describing either location or destination as the sentence entailed a *two-way* preposition. Thus, the validity of the blank was defined by the students' choice of *destination* or *location*, as that choice defined the case needed for filling out the blank. Full credit was given when the students' choices between destination and location, as well as the form of the article, matched and were correct. Half a point was given when the article matched their choice of destination and location, but it was the incorrect choice in that context.

Besides the written assignments, the students had to record an oral description of their room and send it to their peers. Their designated partner listened to their description and following the recorded instructions, drew their room. These drawings were presented at the beginning of the next class. The task tested the learners' listening comprehension, as well as the ability to describe their rooms.

Writing Conference/ Dynamic Assessment I (Week 9). During writing conferences on the first formal essay, the interaction between M and learner was documented. The conference was part of a writing process (Figure 3.7), and the learners received instructions regarding the grammar focus, topic, and word count ([Appendix E](#)) two weeks prior to the meeting.

Figure 3.7*Writing Process*

1. Students hand in their first draft.
2. Student and teacher go through the draft before the tutoring meeting, to prepare potential questions or highlight problems.
3. Students attend tutorial one-on-one tutoring session, going through the process of the dynamic assessment with the participant researcher.
4. Students work on their second draft.
5. Students meet for peer- workshops, giving each other feedback on the structure of the essay, content and language.
6. Students implement the feedback.
7. Students submit their final version.

In addition, the class received a link for an online survey asking for their opinion on the use of English and German in tutoring sessions, visualizations, explicit feedback, as well as the amount of feedback provided through M. For each topic, statements were posted, and the students indicated their level of agreement with them by choosing from the options *fully agree*, *somewhat agree*, *somewhat disagree*, and *fully disagree*.

The tutoring meetings (Step 3 of Figure 3.7) were scheduled outside the normal class meetings. Similar to the study conducted by Aljaafreh and Lantolf (1994), they were based on essays the students submitted beforehand so that the instructor and students could go through them independently before meeting. The essay and participation in the tutoring session were part of the course requirements. Because of the online-only instruction, the dynamic assessment was intended to provide students with assistance on their individual weaknesses, but also to show M their proficiency of the case system.

Prior to the first meetings, M decided on an interactionist approach of assessing and mediating the students in the tutoring session (Lantolf & Poehner, 2011) because of the diverse student body and their individual responsiveness. To observe learner development and to have guidelines during the DA sessions, M adapted the *Inventory of Teacher Prompts* by Lantolf and Poehner (2011, p. 20) with a minor modification for prompt 5 and additional step, both indicated in cursive (Figure 3.8). These changes aimed at reflecting the possible needs for feedback when mediating the case system.

Figure 3.8

Inventory of Mediation Prompts

1. Pause
2. Repeat the whole phrase questioningly
3. Repeat just the part of the sentence with the error
4. Teacher points out that there is something wrong with the sentence. Alternatively, she can pose this as a question, "What is wrong with that sentence?"
5. Teacher points out the incorrect *form*
6. *Teacher provides additional information, such as the gender of the noun*
7. Teacher asks either/or question
8. Teacher identifies the correct answer
9. Teacher explains why

Note. Adapted from "Dynamic assessment in the classroom: Vygotskian praxis for second language development", by Lantolf, J. P. L. & Poehner, M. E. P. Lantolf & Poehner, 2011, *Language Teaching Research*, 15(1), p. 20 (<https://doi.org/10.1177/1362168810383328>)

The meeting started with some small talk to ease down possible anxiety on the part of the students. Next, M explained the procedure: the student would read out the article and M would interrupt whenever she had a question or comment. The students had the chance to ask questions and guide M through their work. M only interrupted as needed to assess the student's comprehension of the prepositions and cases.

Writing Conference/ Dynamic Assessment II (Week 12). The second writing conference was organized in the same manner as the first one, other than the timing of the peer feedback: The learners were provided with instructions ([Appendix F](#)), they wrote a draft, commented on essays of their peers, received peer feedback, implemented the feedback, and met with M. After reviewing the essay in the writing conference, they finalized the essay and submitted it.

Summative Assessment (Week 16). At the end of the semester, the students took a final exam. The summative exam covered the grammar and content topics of the whole semester within a two-hour timeframe. The material was sent via email and posted on the course website. The two tasks relevant for this research will be described and evaluated in the following paragraphs.

The first task presented twelve sentences in a table format (Figure 3.9). Each sentence had a highlighted noun, which the learners read had to analyze regarding its case. The answers were indicated by ticking a box for the nominative, dative, accusative, or genitive case. The learners were not asked to explain their decisions.

Figure 3.9*Table to Identify the Case of the Noun*

| | Nominativ | Akkusativ | Dativ | Genitiv |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Heidi erzählt ihrer Mutter eine Geschichte . | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Die kleine Susanne trinkt einen frischen Orangensaft. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Wenn ich einen Oskar gewinne, danke ich meinem Ehemann zuerst. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Trotz der schlechten Musik findet Tim die Party super. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Dem Musiker auf der Straße gebe ich einen Euro. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Der junge Mann kauft seiner Frau Blumen. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Anna und Toni fahren mit dem Bus in die Stadt . | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Die Jacke der Studentin ist wunderschön. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Ich schlafe bei meinem Bruder in der Schweiz. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10. Andreas ist ein toller Fußballspieler . | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Ihren Sohn liebt sie. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

The second task was a free-writing task and included an image of a room with various objects which the students were to describe in four sentences. M assessed that the meaning of the verb, the article and its case, and the prepositions matched.

Discussion of the Data Collection

The researcher of this study attempted to portray the complexity of development by looking at qualitative as well as quantitative data in the context of CBI in a foreign language learning classroom. The data was collected in an intact group of students of the mediator's language course and consisted of surveys, assessments, interviews, and observations aiming to describe the language development of two students. The quality of the data and its collection will be discussed in the following paragraphs.

Questionnaire. Questionnaires were assigned as homework and conducted online to gather background information about the participants. Because of its homework character, the quality and quantity of the submissions varied, which impacted the comparability between the participants.

The first survey was assigned during the first week of school which might have impacted students' responsiveness as M did not have time to build a trusting relationship with the students. The surveys came with high external reliability as every student received the same form.

Recordings- Interviews and Observations. All transcripts are based on recordings of conversations which were conducted via zoom. These transcripts allowed the researcher to review materials several times but limited visual observations as the researcher was only able to observe whatever the camera caught. Thus, the whole-body language was not visible to the researcher. The recording of the data over Zoom started automatically with every new meeting, resulting in consistency of data and a routine for the participants. The class was not informed which sessions were relevant to the study, which might have lowered the anxiety level of the participants. Furthermore, the recordings allowed the learners to review the sessions in case of questions or absence.

Worksheets and Assignments. Every student received a digital copy of all documents. Because of the online characteristic of the course, it was not possible to know whether the students solved the worksheet on their own or with the help of additional resources. For this reason, the researcher decided to focus on formative assessments throughout the year, with only a few summative assessments to lower anxiety. Formative

assessments encourage the learner to demonstrate their realistic learning process by assessing them based on a 0/50/100 percent rubric. Reliability was ensured by developing an answer-key before starting to grade the assignments.

Summary

Section 3.2 laid out the course schedule and components relevant to the study. By embedding the course material, including the symbolic tool with its verbal and visual explanations of the German case system, into the course schedule, the study design was presented. Throughout the conduction of the study, the researcher collected data through recorded classroom interactions, informal conversations, surveys, and through the learners' submissions of their work. Their weaknesses and strengths regarding the goal of the study have been discussed to allow for a more defined standpoint when analyzing the data. In the next section, the data analysis, which led to the results of the study, is presented.

3.3 Data Analysis

To allow a coherent and goal-oriented analysis of this developmental study, the data described in the previous section was compiled in tables, transcripts, and excerpts of the students' work. In the following section, it will be explained how the data was analyzed in order to answer the research questions.

Data Coding and Analysis

The collected data was analyzed qualitatively and thus, “pertain[s] to the “qualities” or characteristics of people, places, events, phenomena, and organizations” (LeCompte & Schensul, 2012, p. 12). The participant observer reflected on each lesson

and assignment to improve and adapt her support for the learners. At the end of the semester, the researcher started to review the data of all participants (n=3) to identify development in the learners.

First, video recorded session data was revisited and rough transcripts were transcribed line-by-line to capture participant interaction to arrive at a surface level understanding. As information has been added to the rough transcript, an interpretative analysis (Dörnyei, 2007) was performed. More precisely, learners contributions to the DA session were analyzed as well as the level of explicitness they needed in the DA session. For that purpose, the study adopted Lantolf and Poehner's (2011) *Inventory of Teacher Prompts* which structured prompts from most implicit (1) to most explicit (8).

The interviews aimed at providing information about the learners preferences, likes and dislikes, their perception of the DA sessions, and self-perception of their abilities. After identifying learner's emerging conceptual knowledge of the German case system, the study focused on excerpts of writing conferences with Kevin as his interaction was exceptional and provided detailed insights into his emerging understanding and implementation of the symbolic tool. Furthermore, parts of Daniel's assignments, survey responses, and participation during the introduction of the symbolic tool are presented to support findings in Kevin's data.

Transcription

All transcripts presented in the following were translated and transcribed from audio-recorded interviews. The work has been done manually by the researcher herself.

Transcriber's conventions

| | |
|---------------|---|
| (.) | -just noticeable pause |
| (...) | - noticeable pause |
| word? | -question mark after a word depicts a rising, questioning intonation |
| [overlap] | -overlapping speech |
| ((comment)) | -indicates comments, e.g., on the pronunciation or grammar that cannot be shown in the translation but are relevant in that situation |
| German | - speech in German |
| {translation} | -indicates translations, follows right after the German transcription |
| *error | - indicates an error |

3.4 Participants

The participants were members of an intact group, recruited from the student researcher's introductory course for German. The student group ranged from freshmen to seniors in a midwestern university in the United States. The class consisted of five students, of which three agreed to participate in the study. In the following paragraphs, the focus will be on two students, Kevin and Daniel, as their data was comparable based on their participation in the course. In order to retain the student's anonymity, all participants were given pseudonyms.

In the following paragraphs, each student, and their specific characteristics, will be outlined to allow for some background knowledge. The information comes from a survey conducted at the beginning of the semester and was aiming to provide a first impression for M. The survey asked for language learning experiences and preferences, study habits, and a self-assessment of the learners. M went through all of the responses and replied to the students answers and questions in personal emails to show her interest

in the students and establish a relationship with them. The following sections will look at those students whose development will later be analyzed.

Kevin. Kevin was a major in music who took German to fulfill his language requirement. He had a personal interest in German as his family was of German descent and because it worked well with music and “much of the music [he plays] is from German composers.”

Before registering for that class, he took a break for a year which led to a lower level of confidence and the awareness that “these first few weeks [he]’ll have to do a lot of review to catch up.” When being asked for his classroom participation, he described himself as being “definitely shy and tend[ing] to avoid participation in class.” He went on to write that, “I know this is bad, especially in a language class, so feel free to pick on me and push me to be more active in class.” He described his preference for a communicative learning approach and also said, “I honestly kind of enjoy worksheets or other types of writing assignments. It allows me more time to think and process new information like new words, grammar rules, etc. before I try and use it to when I talk.”

Daniel. He did not provide a lot of information in the survey, which matched his persona in class of not being wordy. His interest in language was based on the goal to know a second language as well as a family tradition of knowing German. He described himself as “confident in spelling, being able to hold a conversation and pronunciation of common German words.” When being asked about his characteristics as a student, he described himself as “quiet but hardworking” which is interesting in combination with his appreciation of partner interviews, as those require oral contributions from both sides.

Interesting was also his very specific answer regarding his dislike, which is “listen[ing] to pre-recorded audio and translat[ing] it.”

Summary. The section laid out the student’s responses to the survey they took in the first week of this study. Significant information has been presented to provide the reader with a first impression of the participants in the study. However, it is not only important to know the individual students but also M, who was also the researcher of this study. Her role and identity will be further explained in the following section.

3.5 Researcher Positionality

The researcher was an international graduate student from Germany, doing her master’s and working as a Graduate Teaching Assistant teaching the GER102 section. She also embodied the course instructor, which brought several functions and roles with it. First, she conducted and taught the course content and was the mentor for her students. Second, she assessed the students’ language learning process as well as language skills. Third, she collected the data by observing and recording the class, taking notes, handing out the questionnaires, and conducting interviews. She reacted to the results of her study by providing feedback and re-teaching as necessary, leading to the role of a participant observer (Brown & Rodgers, 2007). Finally, she interpreted the data.

For those reasons, the terms mediator, researcher, instructor, and teacher will refer to the same person. All the involvement in conducting and analyzing the study might have impacted the researcher’s objectivity. The instructor was also a native speaker of German with near-native competencies in English. She was a foreigner to the American culture, resulting in possible intercultural challenges and misinterpretations.

To maintain a high internal validity, the significant interaction was recorded and analyzed with some timely distance, but the reader might still want to maintain a critical distance while reading the paper. Brown and Rodgers (2007) refer to this problem in case studies as the “doubting game” and “believing game,” where the reader attempts a respectful interaction with the research (p. 46).

3.6 Chapter Conclusion

In this chapter, the methodology and research design of the study have been described. A case study approach was applied to add to the existing body of research on CBI and DA in a foreign language classroom while filling the gap of researching the teaching of the German case system through a conceptual standpoint and mediating the students' development by implementing DA. The data of the 16-week long course has been narrowed down to the recordings of the sessions and the mediational materials to allow a comprehensive, valid, and reliable analysis of the two research questions this study aimed to investigate. The recordings aimed to observe the behavior of the mediator and students while the symbolic tool supported the students' conceptual understanding. By taking the students' submissions into account, the effectiveness and pitfalls of the tool can be analyzed.

Chapter 4: CBI of the Dative and Accusative Case

4.1 Introduction

The following data originated from the concept-based lesson introducing the accusative and dative of the German case system in a German introductory course at a university in the Midwest of the United States. The session took place in the second week of the semester after the students came across the accusative and dative case forms through stories which exposed students to the different articles that are used in the German language. Students also used case markers when describing rooms to their peers, but the phrases for doing so were provided (see [Week 2, Monday](#) in the Course Overview provided in Chapter 3.2). Students had not learned about their meaning or their usage and had not had the opportunity to produce them yet.

To prepare the learners for the differentiation between direction and location, three different activities introduced the learners to prepositions (see [Week 2, Monday](#) in Chapter 3.2.2). The vocabulary was needed to describe locations and destinations and ensured that the learners would not come across vocabulary issues when learning about accusative and dative forms in the following lesson. As homework, the learners received the instruction to either have a digital copy of the symbolic tool ([Appendix A](#)) with the possibility to use a digital drawing tool or to have a printout and colored pencils in red, blue, and green.

The symbolic tool summarized the case system as a key topic in the German language as it clarifies the role of a noun or pronoun in the sentence. The nominative case is used for the agent of the sentence, the accusative for direct objects as well as

directions, and the dative for indirect objects and to describe locations. Those aspects have been summarized by M, in the form of a concept-based tool. The material representation of German cases provided the students with visuals and a written explanation of the concept ([see Appendix A](#)).

In the Tuesday session of Week 2 (Week 2, Tuesday in [Chapter 3.2.2](#)), M provided a verbal overview of the concept-based materials to students in English to diminish possible language barriers that might have arisen if the materials were explained in German (Reyes, 2004). To ensure student comprehension of key grammatical terms, the tool included information about the difference between nouns, subjects, objects, and verbs in sentences. The tool exemplified those by providing a sentence and definitions for the noun phrases next to them (Figure 4.1). For each noun phrase, the function of it was provided along with the question word to identify the case and the symbol used to encode the meaning of the noun in materializations. For a more detailed description, please refer to the [Symbolic Tool](#) section of Chapter 3.2.

Figure 4.1

Excerpt of the Symbolic Tool: Explanation for Dative Objects

his friend A *friend* is an object not directly included in the action but an additional information on *to whom or for whom something is done*. It is therefore also known as indirektes Objekt or **Dativobjekt** and is asking for the Dativ case. It then answers the question *Wem oder was?// Whom or what?*

In the following, the indirect relation of subject and Dativ object will be indicated by using a dotted line. - - -

Dativ is also being used when there is information of a location given. In that case, it is the answer of the question *Wo?// Where?*

It will be indicated with a dotted arrow. ➔

In the following, transcribed excerpts of M's presentation of the concept-based material through activities following the metacognitive tasks of *labeling-visualizing*, *comparing*, and *encoding-decoding* following Kinard and Kozulin's study (2008) will be discussed along with the intention behind each activity. Finally, the students' application of the tool will be discussed by looking at excerpts of their discussion of the problems and looking at their drawings/materializations to observe the first steps in developing their understanding of the concept.

4.2 Instruction

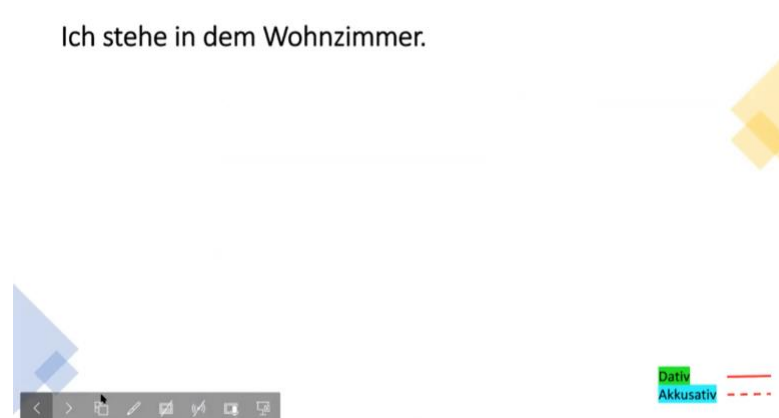
All five participants attended the Week 2 session with the focus of the ensuing data analysis on two learners, Kevin and Daniel, selected for their overall involvement in the study as well as their differences in their ability to think with the concept-based materials. The lesson outlined in the following paragraphs implemented concept-based instruction materials that sought to support student understanding of select German cases (i.e., nominative, accusative, and dative) informed by cognitive grammar research (Infante, 2016; Radden & Dirven, 2007). The different components of the lesson were created around the idea of presenting cognitively-challenging activities to provide the learners with opportunities to interact and eventually internalize the meaning of the accusative and dative case. Following the concept-based instructional approach of Mediated Development (Infante, 2016, 2018; Poehner & Infante, 2019; Infante & Poehner, forthcoming), M introduced scientific terminology needed to describe the concept of German case markers as well as the symbols to materialize the cases through a labeling-visualizing activity.

Warm-up

The Week 2 session started off with a daily check-in on student well-being and an opportunity to share moments of their personal life if they wanted to along with the opportunity for feedback from the mediator regarding homework on the previous lessons. M started with a warm-up activity that was a revision of the task of the previous day. The challenge was to describe one out of six rooms to the other students and have them guess which one it was (Tschirner et al., 2013, p. 207). The warm-up activity was intended to activate their knowledge on the prepositions that were introduced the day before. The phrases were provided and shared on the screen alongside the pictures to have everyone focus on the screen. The students were also able to follow M's transition to the next PowerPoint slide (Figure 4.2). Her screen showed the toolbar for the digital presentation with the *pen* option to draw on the screen as well as a key stating that the dative case marker is connected with a solid, red line and highlighted in green, while the accusative case marker is represented by a dotted, red line and highlighted in blue. The key was provided so the students would be able to follow the instruction and understand the drawing right from the beginning.

Figure 4.2

First Slide of the Presentation of the Symbolic Tool



Labeling- Visualizing

The M began the session with familiarizing learners with the symbols *solid arrow* and *line* in combination with the color *green* to describe the language feature of the dative case. Through the concept-based materials, the mediator visually presented the terms of *indirect object* and *location* in Excerpt 1 in an abstract and external way, which allowed the learners to access this linguistic knowledge more readily (Haenen, 2001). More specifically, the labeling-visualizing activity was a visual expression of M's mental activity of analyzing the problem *determine the function of the object*. The visual representation was labeled by the use of pre-defined symbols, here *arrows*, *lines*, and *colors* (Infante, 2018). M modeled the labeling process to learners by explaining how the meaning of the sentence and, more specifically, noun phrase is mapped onto the various elements (arrows, lines, colors) of concept-based materials.

M started the part of the lesson by announcing that the lesson would ask learners to draw their understanding of meaning of the dative case. However, before learners

performed independently and drew their own representations of the meaning of a sentence, it was incumbent on M to guide the learners through an exemplar sentence in which she would draw a visual representation of the sentence's meaning and then explain the representation's significance by labeling each of its symbolic components (i.e., arrows, lines, colors). This process of displaying the mapping of meaning onto the visualization intended to support her learners' ability to visualize the meaning of the dative case marker and offer her learners an imagistic resource to make sense of this challenging German grammar feature. The excerpt originates from the lesson which introduced the tool to the learners and presents the exemplification of labeling objects with their meaning regarding the cases.

Excerpt 1

1 M **Ich stehe in dem Wohnzimmer** {I am standing in the living room}
2 (.) **Ich stehe** {I am standing} ((draws stickman and solid red
3 line)) (.) ((points out the in dem Wohnzimmer with her mouse))
4 **Welcher Kasus ist das?** {Which case is that?} (.) **dem Wohnzimmer**
5 {the ((dative form)) living room} (.) **es ist das Zimmer** {it is
6 the ((neutral article)) room} **dem Wohnzimmer** {it is the
7 ((dative)) living room} (.) **es ist Dativ** {it is dative} (.)
8 ((draws the room in green)) **ok** (.) ((pulls up next slide))
9 **Ich laufe in das Wohnzimmer** {I am going to the living room} (.)
10 **Ich stehe ist eine location ich stehe** {I am standing is a
11 location I am standing} ((points with her hands to the floor)) (.)
12 **Ich laufe** {I am walking} ((moves her arms as if she would be
13 running)) **ist Bewegung** {is movement} (.) movement (.)
14 **wer kann das zeichnen** {who can draw that} (.)
15 I gonna give you control over my screen (.)
16 who wants to draw? **Ich laufe in das Wohnzimmer** {I am going to the
17 living room} (.)
18 doesn't have to be super artsy just give it your best try (.)
19 who wants to do that? **Ich laufe in das Wohnzimmer** {I am going to
20 the living room} (...)
21 If not I will give another example (.) there are more to come (.)
22 **Ich** {I} (.) ((she hits the drawing button and chooses red)) **Ich**
23 ((draws the stick man)) **laufe in das Wohnzimmer** {going to the
24 living room} ((draws box)) (.) **Ich laufe** {I am going} (.) **Bewegung**
25 {movement} (.) **Ich laufe in das Wohnzimmer** {I am going to the
26 living room} ((draws solid arrow)) (.) **Dieses Mal ist es**
27 **Akkusativ** {this time it is accusative} (.) **das Wohnzimmer ist**

28
29

Akkusativ {the living room is accusative} (.) **Akkusativ ist blau**
{accusative is blue}(.) ((paints the box in blue, Figure 4.2)).

M read aloud the sentence *Ich stehe in dem Wohnzimmer* (I am standing in the living room) (line 1) to put it into the students' focus of attention. M chose the sentence as the students were familiar with the vocabulary and it uses the preposition *in*, which can describe a location as well as a destination, and thus, would not reveal whether the preposition was used as a dative or accusative case marker. The meaning of the German *in* represents a location (English: *in*) or destination (English: *into*) and must be taken from the use of the dative case which is entailed by the article *dem*.

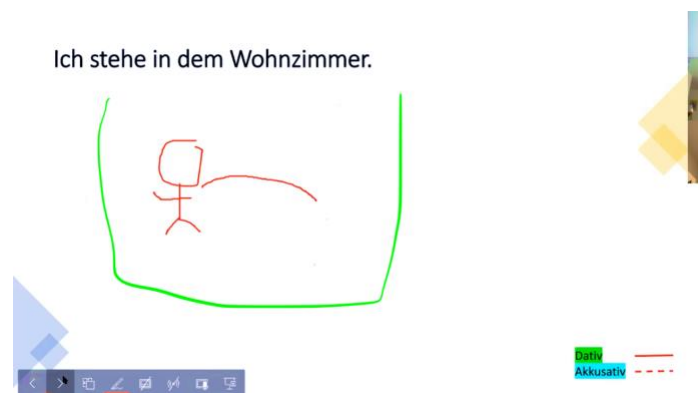
Next, M deconstructed the sentence into the noun, verb, and prepositional phrase. She started with the subject and verb (line 2) and drew a stickman to represent the agent and a solid red line to indicate the action of standing, which denotes the location of the agent (lines 2-3). Next, she pointed out the prepositional phrase *in dem Wohnzimmer* (in her living room) using her mouse and asking "Which case is that?" to start with the analysis of the case (lines 3-4). M highlighted the object by repeating *dem Wohnzimmer* and pausing afterwards (line 4) to provide the students with the opportunity to think about the noun phrase.

She broke down the compound noun *Wohnzimmer* and analyzed the word *room* regarding its gender by pointing out the article that goes with it (line 5). The students were familiar with compound nouns and knew that the second part of the compound noun defines the gender of the newly formed word. Deconstructing the compound noun ensured the students' understanding of the next step: as the second part of the compound

noun defines the gender of it, M stated the gender of the noun (line 6), which allowed the conclusion of it being dative (line 7). After laying out this last step, M drew a box around the stickman to represent the living room, and mapped the meaning of location onto it by using green to symbolize the dative case (line 8, Figure 4.3).

Figure 4.3

Visualization of the First Sentence



In this excerpt, M focused on the introduction of the symbols by using green for the dative case, and a solid arrow to map the location aspect. M was aware that the sentence would come up a second time during the lesson, providing another opportunity to explain the color coding and colored lines to materialize the symbols in more depth and explicitness. For this reason, there was no explicitness regarding the color green for dative or the solid line indicating location.

M transitioned to the next slide and started with reading out the new sentence *I am going to the living room* (line 9). The sentence was chosen as it has the same agent *ich* and object *Wohnzimmer* as well as the German preposition *in* like in the first

sentence. It allowed M to model a comparison of the two sentences and contrast their different use of the preposition, once to describe a location and once a destination.

She repeated the agent and action of the sentence *I am standing* and pointed with her hands to the floor while explaining that *standing* describes a location (lines 10-11). M contrasted the non-movement with the action described in the previous sentence (going). Here she introduced the term movement to provide both categories to the students (line 13). This provided students with the opportunity to contrast the objects by their cases to categorize them based on the case and develop a distinct understanding of the difference between accusative and dative objects.

M invited student participation (line 14) by relinquishing control of her screen (line 16). M decided to prompt the students to use English so that the instructions would be understood. She asked a second time for a volunteer (line 16) and added “*doesn't have to be super artsy; just give it your best try*” (line 18) to lower possible anxieties of having to draw in front of the other students. After making a third unsuccessful attempt at requesting a volunteer for the student-led activity (line 19), she elected to provide another example while explaining to students that more student materializing opportunities would follow (line 21).

The second example sentence contained the same subject as the previous sentence (*I*), but differed in terms of its use of verb conveying the action of *going* and the use of the prepositional phrase indicating the direction *into the living room* (*Ich gehe in das Wohnzimmer*). What is important to note is the object *living room* requires the accusative case to express the direction the agent is heading towards.

After reading out the sentences and three prompts of volunteering to visualize the sentence, M herself started with the analysis of the sentence. She vocalized the agent *I* (line 22) while drawing a stickman using the red color to label the stickman as the subject of the sentence (lines 22-23). Next, she drew a box around the red stickman using the black pen which indicated the living room. She labeled the box verbally by saying *living room* (line 24). As for the previous sentence, she then illustrated the verb *going* with a solid red arrow (line 25) and elaborated the verb's meaning using an accompanied action indicating that it expresses a *movement* (lines 23-26). M mapped the meaning *movement* and *accusative* on the verb by drawing an arrow with a solid line (line 26). She verbalized that *das Wohnzimmer* is accusative and "*accusative is blue,*" which is why M painted the previously black box in blue (lines 27-30).

The rather narrow explanation of her action was based on M's perception of the presentation taking too long and losing the students' attention due to the extended teacher talk (6 minutes), as well as the fact that the sentences will be analyzed a second time while contrasting the two.

Even though no one volunteered to take control of the stylus during the activity, students were introduced to the terms *location* and *movement*, as well as the visualization of the nominative, dative, and accusative cases, and became aware that they would be asked to draw something, too. The class proceeded with the next activity that compared the *dative* and *accusative* through their drawing, also referred to as materialization, of these case markers using the concept-based images as resources.

Comparing

The lesson continued with the next slide in which the aforementioned dative (Ich stehe in dem Wohnzimmer./ *I stand in the living room.*) and accusative (Ich laufe in das Wohnzimmer./ *I go to the living room*) sentence exemplars were presented on a PowerPoint slide to invite a comparison of their meanings. The goal of the comparing activity outlined below was to contrast the noun *Wohnzimmer* by looking at the two meanings as a dative or accusative object. Through the comparison, the class focused on the meaning of *living room* being a location in the first sentence on the left side of the slide and destination in the second sentence on the right side of the slide. As the function is not entailed in the objects themselves, learners became more conscious about relevance of choosing the correct article by “looking for similarities or differences between two or more objects, occurrences, or situations,” and thus, contrasting them (Kinard & Kozulin, 2008, p. 86). By comparing the dative and accusative cases, these two categories of the case system were also presented explicitly, allowing the students to access the concept more easily (Haenen, 2001; Radden & Dirven, 2007).

M introduced the new activity by pulling up a new slide (Figure 4.4) and reading out the accusative and dative sentences noted in Excerpt 1. She highlighted the fact that she would contrast the two sentences to allow students to see the difference in the meaning and use of dative and accusative. She continued with her analysis using English, the native language of her students. That decision was based on Infante and Licona’s (2018) analysis that language barriers might add to the difficulty of understanding the case system. Excerpt 2 presents her interaction with the material and the learners to

mediate the difference between location and destination by contrasting the form of the dative and accusative article.

Excerpt 2

30 M oh what case is **in das Wohnzimmer** {in the ((accusative)
 31 livingroom} (.) anyone ((chooses blue)) **das Wohnzimmer vs dem**
 32 **Wohnzimmer** {the ((accusative)) living room vs the ((dative))
 33 living room} okey. What is our nominative in our sentence? Sorry
 34 I totally forgot to ask that one. Who is doing the action?
 35 D eh ich
 36 M Super okey (.) in both sentences I am the one doing it (.)
 37 this is our nominative ((draws stickmen in red))(.)now (.)
 38 we already figured out **in dem Wohnzimmer** {in the ((dative))
 39 living room} is dative indirect object **in das Wohnzimmer** {in the
 40 ((accusative)) living room}
 41 which case is **in das Wohnzimmer** {in the ((accusative)) living
 42 room}
 43 Kevin accusative
 44 M yes that is accusative(.)okey(.)
 45 so in this one you can see **ich laufe** {I am walking}((highlights
 46 the ((accusative))living room in blue to indicate the
 47 accusative)) **in das Wohnzimmer** {in the ((accusative))living room}
 48 (.) **das Wohnzimmer** {the ((accusative))living room} is directly
 49 related to my action (.) **ich stehe** {I am standing} indirectly
 50 related indicated with a dotted line ((highlights dem Wohnzimmer
 51 in green to show it is dative and draws dotted line in red, Fig.
 52 17)) (.) alright and these two pictures indicate the difference
 53 between direction and location (.)
 54 **ich stehe lokal** {I am standing local} location ((points at right
 55 sentence and the dotted line og Fig. 17))(.)
 56 direction direct object and then we are going to use
 57 accusative(.)that is how you can memorize it (.)
 58 Direction direct object **Akkusativ** {accusative}((points at the
 59 left picture Fig. 17) and we use a solid line to indicate that
 60 ((points at solid line Fig. 17))

Next, M started the collaborative task of comparing dative and accusative objects by asking the learners to identify the subject of the sentence, which always takes the nominative case in German (lines 33-34). By prompting the learners to identify the case they are most familiar with, M increased the students' likeliness to responds as the question was on their level of abilities- Daniel (D) was the first one to unmute himself, and he provided the correct answer (line 35). M continued her verbalization and

materialization of the agent being mapped onto the stickmen by using red (lines 36-40). After the analysis of the subject was completed, M prompted the student to analyze the case of the *the living room* (lines 41-42), intending to raise awareness for the form of the article. After Kevin (K) provided the correct case (line 43), M confirmed his response (line 44) and drew his attention to the accusative object to analyze it. She mentioned that it is “directly related to my action” (lines 48-49) and contrasted the dative object by stating “it is indirectly related” (lines 49-50) and drawing a dotted line in red to map the indirect relationship between the stickman symbolizing the agent and the box symbolizing *the living room* (lines 50-52). Next, she explained “these two pictures indicate the difference between direction and location” while pointing at the arrows using her mouse (lines 50-53). She paid explicit attention to the meaning of the subject (line 54) and ended her mediation by connecting the meaning *location* with the visual representation *dotted line* and *direction* with the solid line used for the left sentence (Figure 4.4, lines 55-60).

This excerpt showed M’s attempt in mediating the meaning of location and destination and the dative and accusative cases by comparing two noun phrases. With her explicit attention to and explanations of the meanings, she mediated the meanings these elements carry and the imagery they should invoke in her learners’ minds. The drawings and the comparison activity has important pedagogical implications because visualizing (i.e., creating a mental image of the case markers) the meanings of the German case system has not been addressed in previous German as a foreign language literature (Ritterbusch et al., 2006).

Figure 4.4*Comparison- Activity 1*

The sequence showed how M slowly started to integrate the students into the activity, which made the comparing activity a collaborative task. It aimed at making the learners more comfortable to work on an example in front of the whole class. The learners were introduced to the analysis of noun phrases through verbal and visual symbols. However, they did not yet use the terminology or symbols provided in the symbolic tool. This was the goal for the next pair of sentences.

M transitioned to the next pair of sentences by pulling up a new PowerPoint slide which followed the same format as Figure 4.4. The two sentences were on opposite sides of the PowerPoint slide, both with noun clauses describing a towel and a bathroom. The sentence on the left side had a masculine agent putting the towel into the bathroom (*Er legt das Handtuch ins Badezimmer*) and the case markers for the towel and bathroom were in the accusative case with the towel being a direct object and the bathroom a

direction. The sentence situated on the right of the slide provided learners with an example of the dative case in which the towel is the agent of the sentence and is lying in the bathroom, making it a location and a dative object (*liegt im Badezimmer*).

After M displayed the aforementioned slide to students, she asked K, who provided the last answer, to draw out the next two sentences. By doing so, she prompted his use of the symbolic tool. He assumed control of M's screen and started with his drawings. Collectively, the class discussed the meaning of the sentence *The towel lays in the bathroom* and identified the nominative case (the towel) as the one carrying out the action and dative object (the towel) as it described a location. While the analysis was a whole-class activity, K was the one drawing the sentence and using the symbols to map the meaning on the drawing of the towel and bathroom. In his drawing, Kevin mixed up the colors for accusative and dative, which M left uncommented on as he and his peers labeled the nouns correctly (Figure 4.5).

Figure 4.5

Comparison-Activity 2



The learner's drawing showed his difficulties of comprehending all the symbols while also coming up with the drawing as such: the arrow for location/ destination, solid or dotted for the relationship between agent and object, and color-codings for the case, the drawing of the stickman, towel, and bathroom. K's drawing did not entail the symbol describing the location aspect for the right sentence and the permuted use of the colors. M used the opportunity to pull up the handout of the symbolic tool and explained the different components of it. M prompted the students to get the tool ready as they were asked to bring it as part of their homework assignment ([Appendix A](#)). She motivated the learners to refer to it throughout the upcoming group work.

4.3 Learner Materializing Activities

For the rest of the lesson, the learners worked as pairs on a worksheet ([Appendix D](#)). Like the example discussed during the labeling-visualizing activities, the worksheet presented sentences with objects describing either directions and locations. The sentences were organized in a table layout to make the contrasting categories (i.e., directions and locations) visible to the students. The task sequence followed Kinard and Kozulin's (2008) activities and focused on the cognitive process. First, learners materialized the meaning of six sentences by using the labels defined in the tool, aiming to create a mental picture of the tool that learners would then externalize through their respective drawings (Kinard & Kozulin, 2008). The last four out of the ten sentences prompted materializations along with fill-in-the-blanks. In those blanks, learners had to add the article for the object using the correct case. As Infante and Poehner (2019) stated, fill-in-the-blank activities need “application of prescriptive grammar rules to determine a

specified ‘correct’ form” (p. 5). Thus, the activity required learners to decide on the meaning of the sentence, identify the case needed to convey that meaning, and finally produce the correct article. After completing the worksheet, the partners shared their materializations and discussed how the meaning of their sentences were conveyed in their drawings. In sum, the lesson entailed the introduction of the concept as well as materialization and verbalization stages, following an STI approach (Lantolf & Poehner, 2014, Poehner & Infante, 2019, Haenen, 2001).

What will be revealed through the analysis of transcribed data of the materializing activities, also referred to as encoding-decoding in Infante (2018), is learner development in their ability to think with the concept-based materials.

Excerpt 3 represents part of the group work between D and K. Because of the small course size, M joined the dyad and saw the opportunity to support their development. As M joined them, D and K already had filled out their worksheets independently and started to discuss their results.

Excerpt 3

61 M what about the second sentence (.)
 62 in that one **in mhmhm Schrank stelle ich ein Buch** {I am putting
 63 the book in blank cupboard} (.) and don't forget your arrows
 64 (.) especially when there is an action taking place then you
 65 want to use that because that's how we can show I am putting
 66 it somewhere
 67 K ok so I had in ***die Schrank stelle ich ein Buch** {*the book
 68 cupboard put I a book}
 69 M ok **Schrank es ist der Schrank** {cupboard is the ((masculine
 70 article)) cupboard} (.) **maskulin** (.)
 71 does that help you?
 72 K ehm yes ok so (.) so for the first one on the right side that
 73 would be ***dem Schrank** {* the ((dative)) cupboard} (.) or no?
 74 M was it **dem oder den** {the ((dative)) or den (accusative))}
 75 sorry I just couldn't hear it
 76 K **dem** {the ((dative))} m yeah
 77 M when are we using m

61 K when it is dativ 90
62 M **Dativ ja** {dative yes} but you are **stellen** {putting}
63 ((makes gesture of putting something in front of her))
64 K ok so **in den Schrank** {in the ((accusative)) cupboard}
65 M **super** why is it **in den Schrank stelle ich ein Buch**
66 {I am putting a book in the ((accusative)) cupboard}
67 K we are putting it into die Schrank {the cupboard}
68 M yes perfect (.) so it is a direction or location
69 K direction (...)no
70 M ja super perfect it is just a matter of getting used to the
71 terms

As M joined the conversation, she guided the discussion of the next sentence (line 1) and reminded them to use the tool with its visual elements (i.e., lines, arrows, colors) to convey the meaning of the sentence as well as the required case marker (lines 63-66). With the next move, K presented his solution, using the past form of *to have* (lines 67 - 68). The student's immediate answer in combination with the use of the past tense form of the verb showed openness to the mediator's feedback and discussion of his solution, and therefore, the learner's wish for further mediation (Ableeva, 2018).

In response to K's use of the incorrect form of the article (lines 67-68), M provided the gender of the object (lines 69-70). Applying the inventory of mediational prompts (Figure 3.8), M's support could be interpreted as a level nine prompt ("tutor provides clues to help the learner arrive at the correct form"). As mentioned before, the form of an article depends on the gender, case, and number. Thus, even if the learner knew the case, an incorrect gender of the noun would result in an incorrect form. By providing the gender of the noun, the mediator ensured that this aspect was not enabling the learner from expressing the meaning he intended to convey in his choice of the form. M offered the correct gender to reduce the likelihood that he would select the incorrect article form.

After a brief pause in which K deliberated over which form to choose, K provided the correct form (lines 72-73) and seemed to overcome the problem of producing the correct form based on case, gender, and number. He ended his turn with the words “or no?” (line 73) with a rising intonation, which led to M’s assumption that his utterance was intended to be an alternative question. Larsen-Freeman and Celce- Murcia (2016) said about alternative questions that “the degree of speaker irritation appears to increase with the amount of redundancy expressed in the second alternative” (p. 272). Thus, besides his ability to arrive at the solution independently, K showed doubt and is, therefore, not yet self-regulated (Lantolf & Thorne, 2007).

M reacted to K’s irritation by asking for clarification about the article he chose (lines 15-16) as M did not understand if the article ended with an *m* or *n*. However, this also allowed K to reflect on his decisions and brought him closer towards self-regulation (Lantolf & Thorne, 2007). The ending of the article was relevant as it determined whether it was accusative or dative, and asking for clarification was the only way to know about the meaning K had decided on, as his materialization was not visible to the mediator.

K clarified the article ending being *m* which implied the subject being dative. As this decision was wrong, M kept K engaged in the mediation and guided him through the steps to find the correct form to express the meaning. M asked K when the form *dem* is used (line 77), which K answered with “when it is dative” (line 78). This showed the mediator that K has made a conscious decision about it being dative. Thus, M had to mediate his understanding of the object being accusative due to its characteristic of being

a location (I am putting a book in the ((accusative)) cupboard). Thus, she made a gesture of putting a book into a cupboard to help K's understanding of the action (line 80). This resulted in his correct production of the form (line 81) but as he did not provide any explanation or share his thinking process, his reasoning behind the choice was not obvious to M. In order to gain a better perspective on his level of developing understanding of location and destination, M prompted, "why is it in den Schrank stelle ich ein Buch" (line 82).

K provided a translation of the sentence, and while the translation was correct, it did not label his decision through the terms *direction* or *location*. To encourage K to think through the tool, M provided a more explicit form of feedback by asking him an alternative question with the two options being location and destination (line 85), which K correctly answered with "direction" (line 86). His answer was correct, but ended with the question tag *no?*, stating his insecurity (line 87). This time, M closed the move by confirming his decision while pointing out that "it is just a matter of getting used to the terms" (lines 87-88).

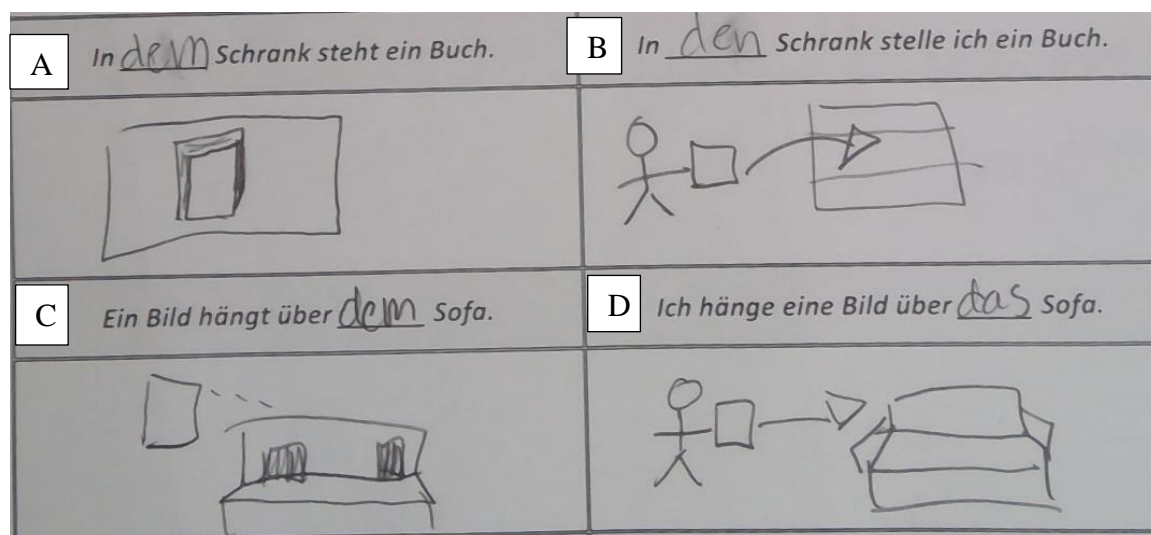
Due to time restrictions, M had to leave the group, so she was not able to provide additional feedback. Following the meeting, the learners were asked to submit their notes and worksheets as part of their homework. They were informed that M would provide feedback. The submissions of K and D will be analyzed in the following paragraphs.

K's submission (Figure 4.6) showed materializations that were completed using a pencil but no colors. Thus, K neglected labeling the cases of the nouns which allows

room for several explanations. First, K may not have had colored pencils at home. Second, M did not stress the importance of using the colored pencils to complete assigned activities and therefore, K did not deem them essential. Reason two could have been eliminated with a written requirement to use the drawing tool of the word processing program, something M did not consider prior to the mediation.

Figure 4.6

Kevin's First Independent Materialization



Sentence B (I put a book in the cupboard) showed the visual discussed in Excerpt 3. It showed that an eraser had been used to make corrections regarding the blank, but there were no corrections made for the drawings. Thus, K was able to decode the meaning of the sentence as he chose a solid line but was not able to produce the correct form following his analysis of the case. In contrast to sentences B, C, and D, Kevin included neither line nor arrow to describe the action of sentence A (*In the cupboard*

stands a book). A potential explanation could be that he did not know how to add the detail as there was no room between his depictions of the nouns *cupboard* and *book*.

Next, the analysis will focus on D's interaction with the mediational means *mediator*, *partner*, and *tool*. While M worked with the group, D did not verbally interact with either the mediator or his peer K, even though M started the mediation with a question that addressed everyone (Excerpt 3, line 61). His silence might not be interpreted as him being unresponsive but as a reaction to not feeling addressed by the question. D submitted his solutions of [Appendix D](#) as a scan (Figure 4.7).

Figure 4.7

Daniel's First Independent Materialization

Lea Plenkoss
Kasusübung mit Visualisierung
Visualisieren Sie die folgenden Sätze:

Nominative
Dativ
Akkusative

GER 102


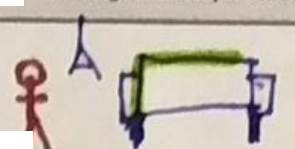

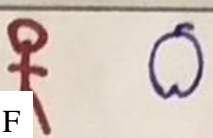

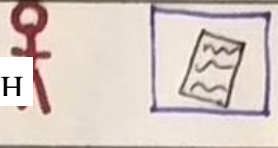

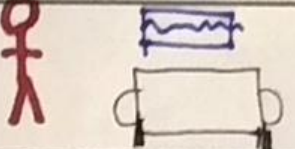
| LOCATION | DESTINATION/ DIRECTION |
|---|---|
| <p>A Lampe hängt neben dem Sofa.</p>  | <p>B Er hängt die Lampe neben das Sofa.</p>  |
| <p>C Der Apfel liegt in der Box.</p>  | <p>D Ich lege den Apfel in die Box.</p>  |
| <p>E In dem Schrank steht ein Buch.</p>  | <p>F In der Schrank stelle ich ein Buch.</p>  |
| <p>G Ein Bild hängt über dem Sofa.</p>  | <p>H Ich hänge eine Bild über das Sofa.</p>  |

Figure 4.7 shows how D, in contrast to K, used colored pencils for his materializations to differentiate between dative, accusative, and nominative, and also added a key for the colors at the top of the worksheet. However, unlike K, D did not include arrows in his drawings even though the mediator expressed their importance

(Excerpt 3, line 63). However, his thinking process can still be followed as it showed that he identified the case correctly. Sentence B (*He puts the lamp next to the sofa.*) showed *the sofa* (location, accusative object) in blue to map the accusative on it, but parts of it were also drawn in green. There are two possible reasons for the use of green: 1.) D used the wrong pencil by mistake or 2.) he first believed *sofa* was dative, then changed his mind and identified it correctly as accusative. Either way, the final drawing was correct, just like the drawings and fill-in-the-gap activities of the worksheet.

4.4 Chapter Conclusion

This chapter analyzed the implementation of a CBI approach in the teaching of the dative and accusative case in an online course for elementary German learners. German case markers are a challenging area of German as a foreign language grammar instruction, and to avoid instructional practices that required learners to memorize rules, the research sought to promote learner capacity to mentally conceptualize the German case system and use them in authentic tasks through her design of concept-based materials. The materials are imagistic in nature and convey the meaning of the dative and accusative case markers through visual elements in terms of lines, arrows, and colors. To render the concept-based materials meaningful to learners, M designed a series of tasks following the concept-based instructional approach referred to as Mediated Development (MD) (see Infante, 2018). The program guides learners toward the recognition of how concept-based materials may serve as tools to support their subsequent attempts to understand and use L2 features, such as the German case system.

The first activity within the program, referred to as labeling-visualizing, introduced learners to the visual elements of the concept-based materials and their significance in conveying the meaning of the accusative and dative case markers in the context of exemplar sentences. As noted in Infante (2018), “labeling [concept-based materials] with [their visual elements] engenders a corresponding mental picture” allowing learners to visualize the meaning of grammatical features. Following this activity, M implemented a comparison activity that promoted learner ability to juxtapose how moving from one case marker to another generates a different construal of an event. Through the interaction with the symbolic tool (i.e., concept-based materials) and mediator, the learners engaged with the dative and accusative case markers along with their respective use. The lesson was a first step towards the learners’ self-regulated understanding and production of articles in agreement with the noun's case.

Lastly, the materializing activities contributed to D and K’s analysis of the subject and came to correct conclusions. More specifically, learners were asked to depict or materialize the meanings of accusative and dative case markers and then proceed to verbalize the meanings of their drawings through the visual elements. However, the evaluation of the visualizations showed that both learners had not fully used the visual elements represented in the concept-based materials. While K indicated the accusative and dative objects by drawing dotted and solid arrows and lines, D focused on depicting the objects through his use of colors and omitted the use of arrows or lines.

As a next step, M made suggestions based on the learners' worksheet submissions including the prompt so as to incorporate the previously neglected visual elements. For K, this meant to incorporate the color-scheme into his materializations, while M recommended D add the aspect of movement or location by using arrows and lines.

Chapter 5: Learner Understanding in and Through DA

This chapter takes a closer look at the mediation provided during one-on-one writing conferences. The excerpts explore how M's implementation of DA during the writing conferences contributed to the learners' understanding of the German case system. The DA sessions had two purposes: (1) providing individual assistance to learners; and (2) assessing the learners' proficiency of the case system to ensure their essays were written without an online translator or someone's help.

Like in Aljaafreh and Lantolf (1994), the writing conferences were based on essays learners had to prepare independently. The participants in this study received assignment instructions ([Appendix E](#)) two weeks prior to the meeting. For the first essay, the class wrote about their greatest vacation and had a word requirement of 200 words. As the learners had expanded their German vocabulary and grammatical complexity for the second essay, they were provided with three topics from which they could choose ([Appendix F](#)). The first option was writing a letter to a friend and a hotel, both with inquiries about an upcoming vacation. As a second option, the learners could decide to write an adventure story based on their own experience or fiction. Their third option was to rewrite an old fairy tale. Each of the options related to the second essay came with a word requirement of 300 words.

The learners submitted a draft for the first essay three days prior to the first writing conference. That way, the learner and the mediator had time to review the essay and prepare for the writing conference. The mediator identified mistakes and situations where the learners had to choose between dative and accusative cases. It was those areas

of potential difficulties that the mediator brought up during the DA session. The writing conferences took place during routine class meetings to ensure the learners' availability. Following the first writing conference, learners worked on a second draft of the essay for which their peers provided feedback during a peer workshop. Once the writer revised according to the classmates' comments, the learners submitted their final version of the essay.

During the preparation for the first writing conference scheduled for week nine of the course, the mediator decided on an interactionist approach to DA (Lantolf & Poehner, 2011) to support learner understanding and use of the German case markers and offer an individual picture learners' emerging abilities and development of this challenging feature of German grammar. M adapted the *Inventory of Teacher Prompts* by Lantolf and Poehner (2011) with a minor modification for prompt 5 and an additional step, both indicated in cursive (Figure 5.1). These changes were aimed at revealing the possible need for feedback when mediating the learners' ability to select an appropriate case marker in their compositions. These forms of support allowed M to provide feedback of increasing explicitness to determine the learners' need for support during the revision process.

Figure 5.1

Inventory of Mediatlional Prompts

1. Pause
2. Repeat the whole phrase questioningly
3. Repeat just the part of the sentence with the error
4. Teacher points out that there is something wrong with the sentence. Alternatively, she can pose this as a question, "What is wrong with that sentence?"
5. Teacher points out the incorrect *form*
6. *Teacher provides additional information, such as the gender of the noun*
7. Teacher asks either/or question
8. Teacher identifies the correct answer
9. Teacher explains why

Note. Adapted from "Dynamic assessment in the classroom: Vygotskian praxis for second language development", by Lantolf, J. P. L. & Poehner, M. E. P. Lantolf & Poehner, 2011, *Language Teaching Research*, 15(1), p. 20
<https://doi.org/10.1177/1362168810383328>

For warm-up purposes, M started all meetings with some small talk to ease possible anxieties of the learners. Next the mediator explained the procedure of the writing conferences to learners: the learner would read their draft, and M interrupted whenever she had a question or comment. In all DA sessions, learners had the chance to ask questions and then guide the mediator through their work.

In the following section, excerpts of the sessions with Kevin will be presented chronologically to offer a comprehensive picture of his emerging understanding and use of the German case system.

5.1 Writing Conferences with Kevin

Writing Conference I

After some small talk to warm up, M transitioned to the DA component of their meeting by asking for potential problems K had faced while composing his essay. K

mentioned that he encountered difficulties identifying vocabulary when writing his draft and often 'made up' words to satisfy the meanings he wished to convey. K's tendency to approximate German words in his writing demonstrated to M that K did not utilize help in the form of dictionaries, German speakers, or translators in the creation of his essay. After offering words of encouragement, M described the process of the writing conference: the learner reads out the essay and is encouraged to correct any mistakes he might realize on his own. Otherwise, M would indicate whenever there is something she would like to discuss. They started working on the essay, with K sharing his screen to view the same Word document. We enter Excerpt 4 with K reading aloud his composition:

Excerpt 4

| | | |
|----|---|--|
| 1 | K | ich war mit meiner Familie an dem Urlaub mit meine |
| 2 | | <i>{I was with my family *at *the vacation with my}</i> |
| 3 | M | ok (.) an {at} (.) Präposition an {preposition at} |
| 4 | K | ah ok (...) what do we just do an {at} get rid of the den oder |
| 5 | | am oder {the or at or} use am {at/ next to the ((combination |
| 6 | | <i>of preposition at and the article))}</i> |
| 7 | M | ich bin an der Tasse {I am next to the cup} (.) sind Sie an |
| 8 | | dem Urlaub {are you next to the vacation}? ich bin an der |
| 9 | | Tasse {I am next to the cup} (.) sind Sie an dem Urlaub {are |
| 10 | | <i>you next to the vacation} ? oder- {or}?</i> |
| 11 | K | in in dem {on on ((literal: in)) vacation} |
| 12 | M | sehr gut {very good} |
| 13 | K | ok that is one thing I probably need more practice on the |
| 14 | | prepositions like I get confused like the meaning they like |
| 15 | | translate the same thing in English they can mean something |
| 16 | | different or more specific in German so I- |
| 17 | M | ja Deutsch ist sehr spezifisch {yes German is very specific} |
| 18 | | <i>ehm ok aber jetzt in {but now in}(...) visualisieren Sie es</i> |
| 19 | | <i>{visualize it} (.) denken Sie {think} location destination</i> |
| 20 | K | ehm für {for} this location for this sentence I think (.) so |
| 21 | | we would change that to ehm like I do im Urlaub {on vacation} |
| 22 | M | super {super} |
| 23 | K | alright |

At the end of his first sentence (line 1), K did not change his intonation and continued reading sentence two aloud. Because of the missing pause, M had to interrupt him and provided a level 5 prompt by indicating the incorrect preposition (line 2). M used the German word for *preposition* as the terms sound very alike in German and English, which caused M to believe the German word would not bring a language barrier. M decided on a rather explicit form of feedback as the session just started and K demonstrated his need for co-regulation regarding identifying the error by continuing to read his composition without any pauses (line 1).

Based on the indication of the mediator, K chose a different but still incorrect form by combining the local preposition (*at*) and with the dative article for *vacation* resulting in *am* (lines 4-6). This selection showed that K did not grasp that the preposition was incorrect as he was more concerned about combining the article and preposition. Combining the article and preposition into one word is a subtlety of the German language that does not change the meaning of the article or preposition, showing M that K was not able to correct the mistake himself.

M interpreted this as the need for more co-regulation, causing her to provide a more explicit form of mediation. She provided additional information on prepositions' meaning by using a cup next to her (lines 7-10), making her feedback more explicit while not revealing the solution (level 6 prompt). She added an open question to her explanation of the preposition which asked the learner "are you next to the vacation or...?" (lines 9-10). This question can be seen as another level 6 prompt as it did not

narrow down the learner's choices but offered another explanation of the preposition's meaning. By doing so, M ensured that K reflected on his prepositional choice.

After this more explicit form of feedback, K provided the correct preposition and article, to which M confirmed his appropriate selection (line 12, level 8 prompt). Besides his self-correction after a slightly more explicit form of feedback, K also demonstrated metacognitive awareness as he reflected on the situation and identified *prepositions* as an area of improvement (lines 13-16). M expressed her sympathy for him and confirmed his self-awareness (line 17). She directed K's attention to the sentence as she had identified the situation as an opportunity to promote the usefulness of the concept-based materials by prompting him to visualize the sentence and "think location destination" (lines 18-19). M's mediational move caused K to go back and analyze the newly produced form which made him conscious of the object describing a location (line 20). By doing so, M anticipated raising K's awareness of the produced form rather than just having him react to her feedback without consciousness.

K kept working on the form in lines 4 to 6, he again combined the article and preposition (line 21). M positively commented on this move as she interpreted it as him still being involved in the task and reflecting on his production (line 22). K interpreted her encouragement as permission to continue to the next sentence.

Excerpt 4 (continued)

| | | |
|----|---|--|
| 23 | K | wir sind im Hotel neben dem See gebliebene |
| 24 | | <i>{we stayed in the ((dative)) hotel next to the ((dative))</i> |
| 25 | | <i>lake}</i> |
| 26 | M | ok (.) warum im Hotel und warum neben dem See |
| 27 | | <i>{why in the hotel and why next to the lake}</i> |

28 K ehm so (...) **das Hotel ist neben** {the hotel is next to}(.)
 29 **dem See und** {the lake and}(.)
 30 **wir sind im Hotel geblieben** {we stayed in the hotel}
 31 ((laughs))
 32 M [ehm ok]
 33 K [I guess I should]
 34 M ok (.) **sehr gut** {really good} (.)
 35 **das heißt ist es ein direktes oder indirektes Objekt?**
 36 {that means is it a direct or indirect object}
 37 Location **oder** {or} destination? **Was ist es** {What is it}?
 38 K ehm (...) **dem neben dem See ist** {next to the lake is} loc
 39 or yeah location for sure. **im Hotel** {in the hotel}(.)
 40 that's a little tougher because we were **wir sind geblieben**
 41 {we stayed in} like or staying ehm would (...) it be direct
 42 then? or **nein** {no}((falling intonation))
 43 M **Sie sagen es** {you tell me} (.)
 44 **Sie können das** {you can do it} (.)
 45 **Sie können das** {you can do it}
 46 K ((laughs)) I guess I were originally thinking **im Hotel** {in
 47 the hotel} because (.) that's our location where we are
 48 staying is our location [so that's why I did]
 49 M super
 50 K ok
 51 M K **Sie machen das wirklich toll ja**
 52 {you are doing this really well yes}
 53 K ok ((laughs)) alright ehm alright next sentence

After the learner read his sentence (line 22), M prompted him to reflect on his preposition selection and choice of the case by asking him "*why + [preposition] + [article] + [noun]*" in German (lines 25-26). Her question pointed out the nature of the mistake, making it more explicit feedback and allowing K to follow her prompt rather than struggling to identify the error. As the explicit prompt initiated an explanation of the form rather than a correction, it can be interpreted as a level 5 prompt.

The learner replied using German and even though it was the sole repetition of what he wrote down, it indicated that he was aware of its meaning regarding location and destination (lines 27-29). K ended his turn by laughing, which was interpreted as a sign

of insecurity or discomfort as he realized he just repeated his sentence. As M started to provide feedback, there was an overlap with K as he started reflecting on his explanation (lines 31-32). M took over the conversation and continued with her encouragement (line 33) and provided him the choice (level 7) between indirect or direct object in the target language (lines 34-35) as well as offering him a two-choice prompt regarding the function of case marker to signify location or destination (line 36). With those prompts, M encouraged K to elaborate an in-depth analysis using scientific terms from the concept-based materials to describe the meaning of the prepositional phrase.

K took a few seconds to think about his answer. His explanation included several pauses, which can be interpreted as insecurity but may indicate his need to reflect on his response carefully. In lines 37-38, K confirmed his answer as signifying that the prepositional phrase refers to "location for sure" (lines 37-38) and that he found identifying the meaning of the object was "a little tougher" (line 39). His disclosure was supported by him switching between languages and translating the problematic part of the sentence into English. As he concluded his statement (line 41), his intonation fell while vocalizing a tag question. Larsen-Freeman and Celce-Murcia (2016) describe that the falling intonation of a tag question "call for confirmation of or agreement with the assertion in" the first part of the sentence (p. 269).

M did not follow this call but, with encouraging words, offered K more time to reflect upon the issue (lines 42-44). She decided not to provide him more explicit forms of mediation predicated on his previously demonstrated ability to make the correct case

marker decision (see Excerpt 4). Rather, M believed that K lacked confidence and felt additional support was not the appropriate course of action. Taking control of the interactional floor, K laughed and shared, “[he was] originally thinking im Hotel *{in the hotel}* because that’s our location” (lines 46-47). By including the term *location*, he demonstrated that the terminology of the tool became part of his thinking as he analyzed the object regarding it’s meaning. K’s performance showed that M’s assessment of his abilities was correct as he was indeed able to provide reasoning without further co-regulation even though he was asking for reassurance (line 41).

M confirmed the logic of his verbalization with her remark "awesome" (line 48) and words of encouragement that acknowledged his emerging understanding of the grammatical concept (line 50). The learner recognized the support with an "ok" and a laugh and immediately continued with the following sentence (line 52).

At a later point during the writing conference, M prompted K to articulate the reason behind a decision for another sentence.

Excerpt 5

54 M Ok Kevin **warum in den** *{why in the ((accusative))}*
 55 State Park?
 56 K ehm oh (...) **oder** *{or}*
 57 M **nein es** *{no it}*
 58 K [ok]
 59 M [**ist korrekt** *{is correct}*]
 60 K [that was what I was thinking ok]
 61 M **erklären Sie** *{explain}*
 62 K for sure (.) so I (...)
 63 **später sind wir in den State Park** gefahren
 64 *{later we went to ((literal: in)) the State Park}*
 65 **wir** *{we}* going to the State Park like we are heading that way
 66 so it’s our destination so it’s accusative (.) right?
 67 *((raising intonation))*
 68 M **ja** *{yes}* (.) **sehr gut** *{very good}*

69 K ok perfect ((laughs))

Like line 26, M provided the part of the sentence she wanted K to examine (level 4 prompt) following the structure “*why + preposition + article + noun*” (line 54) to ask K to verbalize his reasoning behind *in den State Park* (line 54). K briefly considered the structure he selected in his composition (line 56), and he realized his answer was incorrect before M could even finish her sentence (lines 57-59) and corrected his own response. This understanding was reflected in overlapping speech (lines 59-60). Unlike Excerpt 4, this sequence of interaction indicates a noticeable change in K’s feeling of confidence about his word choice selection (line 60) to which M prompted him to elaborate his reasoning (line 61), which he did after rereading the sentence (line 63). Using the term *destination* (line 66), he described the situation by verbalizing his mental image and indicating the destination with the phrase *heading to* (line 65). Like in lines 41 and 42, K ended his explanation with a tag question (line 66). He raised his intonation while asking, inviting M to answer with a yes/no question (Larsen-Freeman & Celce-Murcia, 2016, p. 269). Even though K still asked for M’s confirmation, he showed a higher level of confidence by presenting his answer without hesitation or thinking-pauses, and indicating less of a need for explicit feedback. The excerpt ended with M’s confirmation of K’s choice (line 67) and K expressing his relief (line 68).

The presented part of the first writing conference showed how K started doubting himself. It led to M having to confirm K’s choice, and thus, provide more explicit forms of mediation following the inventory of mediational prompts (see Figure 5.1). The learner

reacted positively and explained his decision by implementing the terminology and logic of the concept-based materials. Through tag questions, he indicated uncertainty which he was able to overcome independently after M's encouragements.

In sum, the excerpt demonstrated K's development towards self-regulation. However, SCT views development as nothing linear, which means that the emerging understanding will not guarantee a flawless use and production of the concept. Rather, "[the participant's] understanding is in a state of developing, or ripening," as Poehner & Infante (2016a) described (p. 286). It is critical to highlight that these observations, allowing to state a developing comprehension of the concept, were the result of DA. As described by Poehner and Infante (2016a), it was only because of the dialogic interaction between M and K that it was possible for them to discuss the meaning of the objects through symbols and terms defined by pedagogical material.

Throughout the first writing conference, K made correct decisions regarding the German case system (lines 1, 28-29, 63-66) and showed increasing confidence in identifying and justifying his choices using the logic of the concept-based materials (lines 28-48, 54-69). Excerpts 4 and 5 point to the importance of M's contingent and graduated forms of mediation that helped shape K's capacity to think with the symbolic tool to revise his composition. While M provided very explicit support at the beginning (line 12, level 8 prompt), M's mediation became more implicit over time (level 7 prompt; line 35). Comparing this with the level 4 prompt she provided in line 54, one can see significant learner development towards self-regulation. In addition, K was able to talk about

language on a metacognitive level and shared his thoughts on his performance (lines 13-16).

Performing DA, M gained an in-depth understanding of K's abilities to an extent that she decided to forgo providing more explicit feedback (lines 38-48). Like in Lantolf and Poehner (2011), the "ultimate goal of the interaction was not [...] to produce the required form but rather for him to struggle through the process of determining which forms to produce and how to do so. Their interaction may be considered not so much a negotiation of form as a negotiation of control over performance" (ibid, p. 29) and Kevin's subsequent self-regulation (line 41) demonstrated his "control over performance" (ibid, p. 29).

Writing Conference II

The second writing conference took place three weeks after the first writing conference and focused on the second essay, in K's case a fairy tale. Towards the end of the essay, M detected a segment where both location and destination made sense in the story's context, and it is at this point we enter the exchange in Excerpt 6.

Excerpt 6

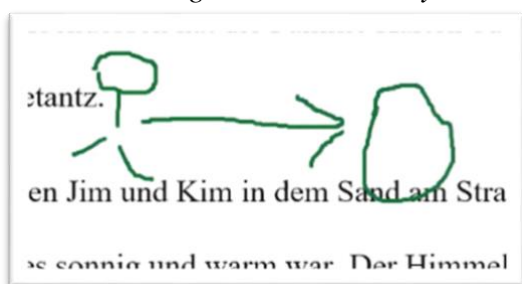
-
- 69 K alright and then (.) so then (.) **also sind sie zum Meer**
70 **gelaufen** {thus they ((two kids)) went to the sea}
71 ehm **sie springen in dem kalten Wasser**
72 {they jumped in the ((dative)) cold water}
73 M ok **können Sie das bitte visualisieren**
74 {can you visualize that please} (.)
75 **sie sprangen in dem kalten Wasser**
76 {they jumped in the ((dative)) cold water}
77 K ehm
78 M **können Sie es visualisieren** {can you visualize it}
79 K sure yeah so and then into the water
80 ((K draws two stickman and wave, Fig. 5.2))
81 M ok **das heißt ist es** {does it mean} location **oder** {or}
82 destination
83 K ähm I think destination because they are going, they are going
84 into the water ((adds solid arrow))
85 M [ok]
86 K ehm so **sie springen in** {they are jumping in} mhm **in** {in}
87 M **Wasser ist neutrum** {water is neutral}
88 K ehm so just n **den** {the ((accusative))}
89 M **Wasser ist neutrum** {water is neutral}
90 K **ja das** {yes the ((neutral nominative))}
91 M **und Sie haben gesagt es ist ein** {and you said it is a}
92 movement **eine** {a} direction direct object **Akkusativ**
93 {accusative}
94 K so then **in den** {in the ((accusative masculine))}
95 M **in das kalte Wasser** {into the ((accusative neutral)) cold
96 water}
97 K oh **ja** {yes} (.) ja in das {yes into the ((accusative neutral))}
98 ((laughs))
99 M **kein Problem** {no problem}
100 K **Sie springen sprangen in das kalte Wasser** {they jump jumped
101 into the cold water}
102 M **sehr gut** {very good}
-

As K read his composition (lines 69-72), M took control of the floor and asked K to consider the last sentence he read (*they jumped in the ((dative)) cold water*) by prompting him to visualize the sentence (lines 73-76). M's move served to encourage K to articulate whether his sentence conveyed the meaning he wanted to express. K only responded with a word filler (line 77) which caused M to repeat her question (line 78). The prompt being in German, M wanted to give K another opportunity to hear her question so that there would not be a misunderstanding regarding the task.

After hearing the question for the second time, K started to draw and externalize the mental image generated by the sentence through a drawing he generated using the screen stylus: more specifically, his materialization illustrates a stickman indicating a child and a circle representing the water positioned to the right of the stickman (line 80, Figure 5.2).

Figure 5.2

Communication Through Visualization by Kevin



After K finished drawing and M and K looked at it together, M initiated the analysis of the sentence by providing the choice between location and destination (lines 81-82). K chose the option *destination* as "they are going into the water" (lines 83-84)

and added a solid arrow starting from the stickman and pointing towards the water (Figure 5.2). The phrase "I think" gave K time to prepare his answer and indicated his understanding. He kept going with his explanation when M provided the gender of the object (line 87) to ensure that the vocabulary was not the source of the problem (level 6 prompt).

Based on that level 6 prompt, K provided an incorrect article (line 88), which caused M to repeat the gender of the noun (line 89) and not provide more explicit feedback, a decision based on his previously demonstrated ability. After K simply confirmed and repeated the article (line 90), M restated the object's case and meaning (lines 91-93), intending to provide another opportunity for K to choose the form without more explicit feedback. This time, K responded with the masculine article in the dative case (line 94). The incorrect form caused M to provide K with the correct form of the article (level 8 prompt; line 95). Because K showed signs of discomfort by laughing and approving the form (line 97), M showed empathy and mitigated the problem (line 99). However, K kept working on the sentence and corrected the adjective ending in addition to the article M and K had discussed. This is significant as it demonstrated his awareness of adjectives reflecting the gender of the noun they are describing. Making the self-regulated correction demonstrated his knowledge of the case, gender, and form of the adjective. After making the correction, K read the corrected version (lines 100-101) and M acknowledged his edit (line 102).

The excerpt of the second writing conference with K showed how M implemented the symbolic tool to communicate with K. Through K's drawing, M was able to understand his intended meaning and mediated K's language use to express the idea K wanted to bring across. DA allowed M to not only see the need for co-regulation to correct the article but also allowed her to observe K's independent correction of the adjective ending.

Summary

The presented excerpts evidenced K's changing understanding of the tool as M saw a decreasing need for explicit feedback. The following situations demonstrated development: (1) increasing confidence by his taking control of the interactional floor to arrive at a revision with M's provisional assistance (lines 28-48, 54-69); (2) his ability to express meaning visually through the symbols of the tool (lines 78-87) and his capacity to differentiate between the cases and their meaning (lines 83-100); (3) his ability to revise the use of articles in his written composition that drew from his emerging knowledge of the concept-based materials in conjunction with the support of M (line 1-13) (4) the ability to form case agreements and apply them independently to adjective endings (line 100).

5.2 Students' Voices: Pre- and Post- Dynamic Assessments

The researcher has refrained from examining interactional data from D's writing conferences as the DA sessions in which D and M worked on revising his German compositions reflected similar language-related issues and patterns of mediation

documented with K in Section 5.1. Next, the chapter will explore the learners' perspectives regarding what they took away from the DA sessions in the following section.

The mediator also sent out links for online surveys to hear the students' opinion on the use of English and German, visualizations, explicit feedback, as well as the amount of feedback provided through the mediator, and for self-assessment purposes. For each topic, statements were posted, and students stated their agreement with them by choosing from the options *fully agree*, *somewhat agree*, *somewhat disagree*, and *fully disagree*.

Prior to the first writing conferences, both K and D “somewhat agree[d]” with the statement *I can talk about cases* but “somewhat disagree[d]” with the statement *I can find case- disagreements on my own*. Their choices were interpreted as a working knowledge about the cases and scientific terminology and showed that the learners did not yet become self-regulated when working with the case concept.

When being asked about his level of comfort in visualizing the concept, Kevin showed discomfort with his visualization skills (“somewhat disagree”) and only partially agreed with the statement on the perceived usefulness of the visuals (“somewhat agree”). It is up for future research to explore a possible correlation between comfort with visualizing a concept and the perceived helpfulness of the visuals.

In the survey before and after the DA sessions, K stated his appreciation for explicit feedback on grammar (*fully agree* for “I appreciate[d] the explicit feedback on

my grammar") and commented "you're [sic] feedback was very clear during the tutoring session. And it was nice that we worked through some of the mistakes, instead of you just giving me the answers, because I think that will help me in the future correct myself." Thus, taking the time and performing a DA was positively valued by the students and contributes to self-regulation.

When they were asked for their opinion about the amount of explicit feedback they received during the sessions, D wrote that he "would have needed more explicit feedback" while K said "I think you gave me quite a lot of feedback during the session. The only reason I would've needed more feedback would be if I made more mistakes!" These comments demonstrate the differing views students hold about the kinds of support that they deem beneficial within L2 writing activities, and it is important for language teachers to consider the ways in which support can be tailored to address these contrasting beliefs. DA allows language teachers to provide mediation attuned to their learners' needs to arrive at an understanding of the challenges they encounter in terms of focal language features—in this case, the distinction between German accusative and dative case markers—and their ability to apply that knowledge within authentic communicative activities.

The survey also covered the use of German and English during the DA sessions. D stated his complete agreement with the statement *I preferred receiving grammar feedback in English*, while K somewhat disagreed. K elaborated "it's easier in English, obviously. But I would like to try to better my comprehension of German speakers." This

part of the survey aligned with the mediator's perception that using the target language was more challenging for D than it was for K. It supported the mediator's decision to mainly use German in K's mediation but speaking English with D.

5.3 Chapter Conclusion

This analysis chapter looked at DA sessions organized as writing conferences in which K developed his understanding of the tool as he learned to implement the scientific terms *location* and *destination* along with the names of the cases in his analysis of noun phrases. While K continued to analyze the objects and their function in English, he demonstrated growing confidence in doing so. Another indicator for his developing self-regulation was the decreasing number of prompts and level of explicitness needed to correct mistakes or provide sufficient reasoning of their form-production.

This perceived development was assessed through a summative assessment at the end of the semester. In week 16, the class was tested on their performance in a listening task, several tasks focusing on context-based production of different grammar topics, a reading comprehension, and a free writing task assessing their writing.

Interesting in the context of this study was a multiple-choice task on the identification of all four German cases. By the end of the semester, the course members were introduced to the fourth case of the German language, the genitive, which is used to demonstrate ownership. In the final exam, eleven different sentences were presented to the course, with a noun highlighted for each sentence. The task for the students was to identify the case and indicate their answers by ticking one box for either the nominative,

accusative, dative, or genitive case. Both students, K and D, identified every noun correctly and scored full credit for the task.

For the free writing task, K submitted a 96-word essay and did not make a single mistake related to the case system. However, he missed one article and one preposition in a sentence. Daniel's 60-word submission showed one incorrect ending of a possessive pronoun. Even though the mistake was not related to an article, pronouns are defined by the number, gender, and case of the noun just like articles. Thus, it should be treated as a mistake for the sake of this study.

Chapter 6: Discussion and Results

The final chapter of this work discusses the results of the study on foreign language learners' developing conceptualization of the German case system through CBI and DA in an online course at a beginner level. The study presented data from surveys, excerpts of writing conferences, and submissions of assignments to capture Kevin and Daniel's process towards developing an understanding of the meaning and use of dative and accusative objects in the German language. With the mediator's guidance, the students learned to use scientific terms to describe the function of nouns in German sentences and demonstrated their ability to produce forms of articles consciously and correctly.

The discussion and results chapter outlines the research outcomes organized around the two research questions on CBI of the case system and DA to support and assess the learners' understanding. Thereafter, limitations and implications resulting from the data analysis are outlined to improve future research conducted in this field of Second Language Acquisition.

6.1 Summary of Findings

The study started with the teaching of the dative and accusative cases through a CBI approach. Through labeling-visualizing, comparing, and materializing (encoding-decoding) activities, the learners engaged with the symbolic tool and explored the meanings and functions of a *subject, accusative, and dative object*. Students' submissions of their materializations, surveys, and their performance in the final exam contributed to

the pool of data to find answers for the first research question: What are the ways in which a concept-based instruction program supported learner understanding and use of the German case system?

First and foremost, the data analysis showed the learner's increasing confidence and ability to make decisions regarding structures introduced through CBI. Following the understanding of development through a Vygotskian lens, development can take place during short periods of time: for example, within a semester. By analyzing K's performance over time, the interactional data can be said to show such *microgenesis* (Poehner, 2005) in his understanding and use of the German case system.

The step-by-step approach of analyzing the nouns introduced through the mediator and mediating material guided the students' decision-making process and broke down the analysis into reasonable questions the students learned to understand and correctly respond. While they materialized their thoughts initially, they were able to analyze the noun independently and correctly. The tool also opened new ways of communicating: K used visualizations to share his intended meaning so that K and M collaboratively expressed that meaning in the target language. K also used scientific terminology to label his thoughts, allowing precise and comprehensive communication between mediator and learner when discussing language on a metalevel.

When the learners started to work on their materialization of the concept which was discussed in Chapter 4.3, D and K showed only a partial implementation of the visual elements of the concept-based materials. While K used arrows and lines to

visualize movements and relationships, D only color-coded the different nouns. The partial implementation of visual elements indicated that too many details might lead to a learner's partial appropriation of the tool. For the sake of this study, it was not problematic as the primary purpose was to identify the dative or accusative case rather than the direct-indirect relationship or the distinction between location and destination. However, a second round of the study would not include colored visual elements as the colors carry no significance in relation to the meanings of the German case markers, whereas the use of dotted or solid lines and arrows offered learners a visual medium to make sense of the relationships between indirectness-directness and location-destination.

The analysis of the survey regarding the question *I can visualize cases and visualizations help me* showed that D felt more comfortable visualizing problems and perceived it as more helpful than K did. K felt slightly less comfortable about materializing the concept. This indicates a possible relationship between the learner's ability to use the tool and its perceived usefulness which should be investigated in future research.

The second research question examined the interactions during the writing conferences in which the mediator and learners met to discuss and revise the student's essay. The one-on-one conferences that implemented a DA framework were intended to assess and develop the learners' understanding of the German case system. The data were analyzed to answer the following question: How did dynamic assessment sessions

contribute to learner understanding and offer a more comprehensive picture of learner emerging understanding of the German case system?

In the context of teaching online, it is challenging to assess the learners on the originality and correctness of their essays. The accessibility of resources such as translators, grammar books, or even friends was out of the mediator's control, and even lockdown browsers only provide limited help. In addition, the instructor followed the belief that the combination of (language) learning and anxiety or stress harms students' development. DA sessions implemented within scheduled individual conference times offered benefits to both the mediator and student: while the mediator gained an insight into a more comprehensive understanding of learner concept and language comprehension, the learner had the chance to ask for help and was provided with individual support. Thus, DA sessions made the assessment situation for mediator and learner less stressful, which led to an open relationship without the fear of making mistakes. The students' responsiveness and verbalization of internal processes also drew a more detailed picture of the learners' understandings in comparison to the traditional assessment forms. By referring to the symbolic tool during the DA sessions, K demonstrated increasing confidence in the appropriate adoption of the scientific terms to analyze the function of the noun in the sentence, resulting in justifications of his choices using scientific terms. During the first writing conference, the mediator had to prompt the implementation the terms *location* and *destination* and name the noun's case. While it took that initial reminder of those terms at the beginning of the second conference, K's

responsiveness and decreasing need for explicit feedback during the DA sessions and his performance in the final exams demonstrated their success in understanding and applying the concept of case systems by the end of the semester.

6.2 Limitations and Recommendations for Future Research

This study documented the ways CBI and DA support learners' understanding and use of the German case system and how DA provides a more comprehensive picture of learners' emerging conceptual understanding. While the study contributed to the field of research on CBI and DA, especially within online learning environments, it had many limitations.

First, it should be noted that this study had been conducted amid a global pandemic. While research consistently embodies a stressful situation for the participants, this outstanding scenario might have impacted the students' financial situation and health (among other things), resulting in stress and anxiety outside of school that might have negatively influenced the learning experience. Those stressors added to the challenges of performing successfully in a virtual learning environment. Not only did the instructor have minimal experience in teaching online, but the students were also not offered a choice between online or virtual learning. Due to the virtual character of the course, it was also not possible to make observations apart from those documented by the camera or submissions. It allowed the students to take control over what they shared and limited the researcher's insights into participant language learning experiences. As a result, the researcher, who also served as the course instructor, decided to design all assignments

and assessments, including the final assignment, as open-book examinations. The restrictions to online-only communication also made it impossible to ensure the usage of the concept-based materials.

The limited insight due to the online format of the course also affected the communication in the classroom. Especially in a classroom where language is the focus of attention, non-verbal language, including body language, is vital to consider, which again was limited by what could be captured through the learner's computer video camera. Because of these factors, it is possible that the U.S. undergraduate student participants missed non-verbal cues that otherwise would have helped them to overcome intercultural differences that resulted from the mediator's German background.

The analysis of DA sessions also brought up the role of the two languages used in the mediation of the concept. The data analysis did not include a focus on the role of translanguaging but only included the information that explanations in the foreign language are more cognitively challenging. Thus, future research should investigate the constraints and affordances that result from offering dialogic mediation through a translanguaging approach within a CBI or DA framework.

Finally, the mediator observed how the participants had to utilize additional resources to identify the appropriate selection of indefinite and definite articles as they pertain to the German case system. Consequently, a revised version of the concept-based materials should include a table with indefinite and definite articles for each case marker, which would mean that learners need only refer to one resource.

6.3 Conclusion

In this study, I attempted to mediate learners' understanding of the German case system through the implementation of concept-based instruction (CBI) and dynamic assessment (DA). I designed a symbolic tool (i.e., concept-based materials) to provide a materialized explanation of the concept of German cases and designed activities that would support learner development and understanding of this challenging L2 concept. Two writing conferences in which DA was implemented allowed me to assess the students based on their justifications of their article and preposition choices while providing additional instruction as needed.

By the end of the semester, both participants profiled in this study, K and D, made conscious decisions about their use of case markers within their German compositions, evidenced by the participants' final exams in which they made only minor mistakes regarding the case system. Thus, I agree with the suggestion made by Ritterbusch et al. (2006) to introduce the German case system through concept-based instruction.

The first round of this study showed that the symbolic tool would need further improvement regarding the color-coding of the dative and accusative case and should include a table of the articles for the different genders and cases. However, even with those limitations, the study provided learners with the capacity to use appropriate conceptual and systematic knowledge about German case markers (i.e., a scientific understanding) as evidence to reason and identify appropriate forms within their L2 writing. Especially helpful was the symbolic tool in situations where partners encountered

communication issues. In that moment, I was able to prompt K to draw out the intended meaning, so that I could help him express the meaning of the drawing in German.

A major concern of teaching online was to ensure that learners would show development. While lockdown browsers might limit some ways of cheating, it also meant more stressful assessments and implied distrust from my side. By implementing DA into the writing conferences and the regular lessons, I was able to assess the learners in more depth than a traditional assessment would have, and this led to an even more detailed picture of their understanding of their L2 development.

I started this project with a personal interest in the effect that different forms of feedback and the language of instruction have. While the language component will have to be discussed in future research projects, this study showed me that each form of feedback has its rightful place in instruction. In the various sessions, I learned to be patient and provide feedback with increasing explicitness. This method allowed students to demonstrate their actual level of comprehension leading to a more accurate picture of their abilities. Thus, I would like to encourage educators to take the time and follow a implicit-explicit scale when providing feedback as it does not just benefit the learners' development but also the quality of the assessment. For researchers, these findings should encourage a perspective that is sensitive to a learner's zone of proximal development when looking at forms of feedback. As Lantolf and Poehner (2014) noted "[t]he question is not which form of feedback, implicit or explicit, is inherently better but which is most appropriate in the context of a particular interaction" (p. 72).

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Appendices

Appendix A

Symbolic Tool

Kasus Übersicht

A sentence can consist of several words, each having a unique function within the sentences. In this exercise, we only focus on nouns and pronouns. *Remember: all nouns are capitalized in German.*

He writes **his friend** **a letter**.

He He is the **subject** of the sentence, the one carrying out the **action** of the verb. In German, it requires the Nominativ. You can ask for that piece of information in a sentence by using the word *Who or Who or what?// Wer oder was?*

writes

his friend

A *friend* is an object not directly included in the action but an additional information on *to whom or for whom something is done*. It is therefore also known as indirektes Objekt or **Dativobjekt** and is asking for the Dativ case. It then answers the question *Wem oder was?// Whom or what?*

In the following, the indirect relation of subject and Dativ object will be indicated by using a dotted line. - - -

Dativ is also being used when there is information of a location given. In that case, it is the answer of the question *Wo?// Where?*

It will be indicated with a dotted arrow.→

a letter.

A *letter* is an object of the sentence. It is *directly* belonging/related to the verb and thus, also known as a direktes Objekt. One can ask the question words *Who or what? Where? // Wen oder was?* to ask for the **Akkusativobjekt**. *Tip: Who or what is being "accused"?*

In the following, the direct relation of subject and accusative object will be indicated by the use of a solid line. _____

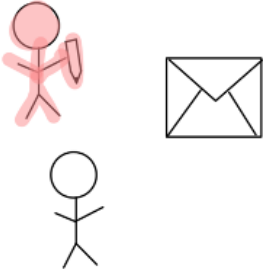
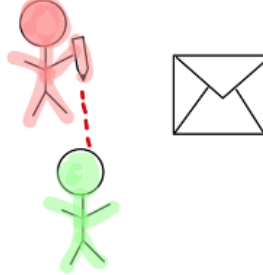
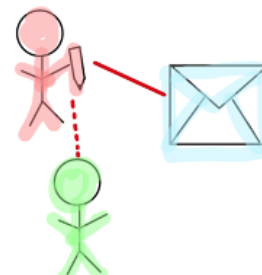

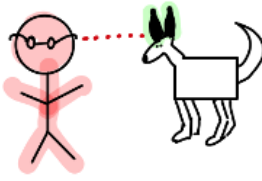
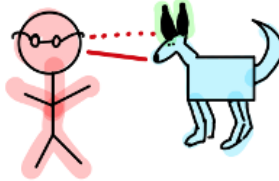
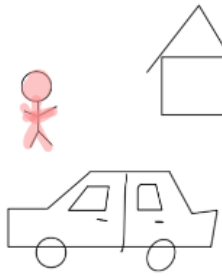
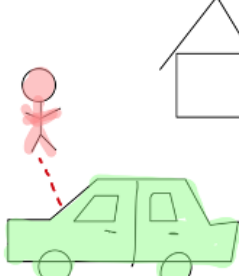
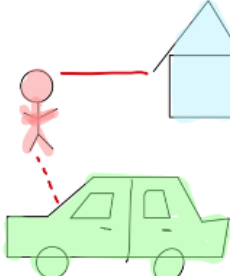
The Akkusative case as the direct object can also indicate direction. It is then the answer to the question *Wohin// Where to?* It will be indicated with an arrow with a solid line. →

Step 1: Wer oder was? Identifying the **Nominativ = das Subjekt**

Step 2: Wem oder was? Identify the **Dativ = das indirekte Objekt** (if there is one)

Step 3: Wen oder was? Identify the **Akkusativ = das direkte Objekt** (if there is one).

| Dativ | | Akkusativ | |
|-----------------|-----|---------------|-----|
| indirect object | --- | direct object | --- |
| location | → | direction | → |

| Step 1 | Step 2 | Step 3 |
|---|--|---|
|  |  |  |
| Er schreibt seinem Freund einen Brief. | | |
|  |  |  |
| Sie sieht den Hund mit den schwarzen Ohren. | | |
|  |  |  |
| Er fährt mit dem Auto zu dem Supermarkt. | | |

Appendix B

IRB Approval Letter



August 18, 2020

Dear Paolo Infante, P.h.D.:

Re: IRB Proposal entitled "[1628821-4] Grammar instruction via translanguaging strategies: German as a foreign language students' perception of feedback on oral language production in a U.S. university-level classroom"

Review Level: Level [III]

Your IRB Proposal has been approved as of August 18, 2020. On behalf of the Minnesota State University, Mankato IRB, we wish you success with your study.

Please bear in mind that your research activities must comply with all federal, state, and Minnesota State system guidelines and directives related to the COVID-19 health crisis. Since circumstances may change, you are responsible for monitoring developments that may affect your ability to conduct your research.

Remember that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study (see <https://research.mnsu.edu/institutional-review-board/proposals/process/proposal-revision/>). Should any of the participants in your study suffer a research-related injury or other harmful outcomes, you are required to report them immediately to the Associate Vice-President of Research and Dean of Graduate Studies at 507-389-1242.

When you complete your data collection or should you discontinue your study, you must submit a Closure request (see <https://research.mnsu.edu/institutional-review-board/proposals/process/proposal-closure/>). All documents related to this research must be stored for a minimum of three years following the date on your Closure request. Please include your IRBNet ID number with any correspondence with the IRB.

The Principal Investigator (PI) is responsible for maintaining signed consent forms in a secure location at the university for 3 years following the submission of a Closure request. If the PI leaves the university before the end of the 3-year timeline, he/she is responsible for ensuring proper storage of consent forms (see <https://research.mnsu.edu/institutional-review-board/proposals/process/leaving-campus/>).

Cordially,

A handwritten signature in cursive script, appearing to read "Bonnie Berg".

Bonnie Berg, Ph.D.
IRB Co-Chair

A handwritten signature in cursive script, appearing to read "Jeffrey Buchanan".

Jeffrey Buchanan, Ph.D.
IRB Co-Chair

A handwritten signature in cursive script, appearing to read "Mary Hadley".

Mary Hadley, FACN, Ph.D.
IRB Director

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Minnesota State University, Mankato IRB's records.

Appendix C

Consent Form

Study Title: Grammar instruction via translanguaging strategies: German as a foreign language students' perception of feedback on oral language production in a U.S. university-level classroom

Introduction and description of the study

You are kindly requested to participate in a research study that will help your English grammar and writing development. The purpose of the study is to investigate how the dynamic and flexible use of English and German can benefit your German grammar understanding and your perceptions of my feedback given in English and German to your oral German language production.

You will be asked to participate in mid- term and end-of-semester interviews during scheduled student-teacher conference time so that I, the researcher, can obtain your background information as well as insights and perspectives about your previous and current learning experiences. The interviews will take place during student-teacher conferences in our scheduled classroom and will be video- recorded.

If you have any questions about this research study, please contact me, Lea Pienkoss, at lea.pienkoss@mnsu.edu. You can also contact Dr. Paolo Infante at paolo.infante@mnsu.edu. If you have any questions about participants' rights and for research-related injuries, please contact the Administrator of the Institutional Review Board, at (507) 389-1242.

Your participation

As part of the course requirements, you will be asked to participate in German grammar activities through writing and speaking tasks, complete grammar assignments and assessments related to writing and speaking, and perform student-teacher conferences. I am asking your permission to use video-recordings of classroom activities and student-teacher conferences as well as retain copies of your course assignments and assessments for my research. Only recordings of classroom activities and conferences as well as copies of assignments and assessments from students who have consented to participate will be used as data for research purposes. If you do not provide consent, video recordings of classroom activities that capture your image and/or voice will be obscured to remove any personally identifiable information.

The decision whether or not to participate will not affect your relationship with Minnesota State University, Mankato, and refusal to participate will involve no penalty or loss of benefits.

IRBNet ID #: 1628821

Participant has read this page [Initial Here] _____

Confidentiality

Participation is voluntary. The video-recordings, course assignments and assessments related to this research study will be kept confidential. No one will have access to the recordings and coursework other than your class instructor, Lea Pienkoss, and Dr. Paolo Infante, who are the researchers in the study. It is assured that the collected data will not be used besides the research purpose outlined above. Only recording data from those who consented will be used in the research. In addition, no names and personal information will be identified in a presentation or paper. Lea Pienkoss and Dr. Paolo Infante will transcribe the voice-recorded data in this study. The researchers will ensure the protection of participant confidentiality and privacy by using pseudonyms in all transcriptions and coded information. All files will be stored and password protected on Dr. Paolo Infante's personal computer for a period of 3 years before they are deleted and destroyed.

This consent form will be returned to Dr. Paolo Infante after course grades are submitted. The consent forms will be securely stored for 3 years with Dr. Paolo Infante in Armstrong Hall, Office 307F, Mankato, MN. The consent forms will be destroyed after this period. You have a right to a copy of the consent form and to obtain a copy of this consent form, please contact Dr. Paolo Infante (paolo.infante@mnsu.edu).

Risks and benefits

The potential risks you may encounter as a participant do not exceed those experienced in everyday life.

The direct benefits for participating in this study are that you will gain a better understanding of the grammar choices you can make when writing and speaking in German.

Thank you for your consideration and time.

Participant Consent

I affirm that I am at least 18 years of age, have read the above information, and consent to participate in the study (IRBNet ID #: 1628821).

Yes, I consent to participate.

No, I do not consent to participate.

Your name (printed): _____

Your signature: _____

Date: _____

Materialization Worksheet

Lea Pienkoss
 Kasusübung mit Visualisierung

GER 102

Visualisieren Sie die folgenden Sätze:

| LOCATION | DESTINATION/ DIRECTION |
|---|---|
| <i>Die Lampe hängt neben dem Sofa.</i> | <i>Er hängt die Lampe neben das Sofa.</i> |
| | |
| <i>Der Apfel liegt in der Box.</i> | <i>Ich lege den Apfel in die Box.</i> |
| | |
| <i>In _____ Schrank steht ein Buch.</i> | <i>In _____ Schrank stelle ich ein Buch.</i> |
| | |
| <i>Ein Bild hängt über _____ Sofa.</i> | <i>Ich hänge eine Bild über _____ Sofa.</i> |
| | |
| <i>Auf _____ Sofa liegt ein Hund.</i> | <i>Der Hund hat sich auf _____ Sofa gelegt.</i> |
| | |

Appendix E

Instructions Formal Essay I

Schreiben Sie über Ihren besten Urlaub. Wohin sind Sie gereist? Was können Sie über die Geographie sagen? Was haben Sie dort gemacht? Mit wem sind Sie in den Urlaub gegangen? Wie lange sind Sie im Urlaub gewesen? Was haben Sie im Urlaub gegessen und getrunken? Was war das Beste?

Aufsatz 1 consists of a short, typed essay, **minimum: 200 words**.

We will go through the writing process, so at the end you can submit the following parts:

1. outline of your essay
2. draft of your essay
3. peer-reviewed draft
4. final paper

I will be looking for content, varied vocabulary appropriate to the topic, sustained correct spelling, and grammatical accuracy, particularly **spelling, verb and subject placement, subject-verb agreement, and case**. Your goal is to write an essay that can communicate to a fluent reader. You are expected to use much of the vocabulary from *Kontakte* to write an essay that flows well and is clearly and logically organized.

By turning in the essay, you signify that it is a new and original work, representing your own skills and abilities. On certain points of grammar and/or style, you may ask questions of instructors etc. but do not have anyone proofread your essay prior to the peer revision process. Using a translation program is, of course, not allowed.

- type your essay double-spaced
- write a minimum of 200 words in German, count the words
- hand in first draft and notes with essay final draft

Grading (20 points)

- good use of vocabulary
- content
- organization of essay and presentation
- consistent control of the grammar focus
- full participation in the peer revision process (essay finished and ready for in-class editing, contributing valuable and thoughtful feedback to your peers, and responding to their feedback when revising your essay)
- for handing in all versions of the essay

Advice:

- Do not translate from your native language into German.
- Be concise, but try to avoid too many word lists.
- Use words and phrases from recent chapters.
- If you look up a new word in an English-German dictionary, double check it in the German-English section. The first word listed is not always the best or even correct choice. This is a big benefit of dictionaries over Google-translate, or other online translators.

Writing Process

Step 1: Kreieren Sie Ihre Outline

Einführung: Führen Sie Ihr Thema ein (introductory paragraph).

Tell me what you're going to tell me.



Hauptteil: Beschreiben Sie den Urlaub. Mit wem waren Sie? Wo waren Sie? Wie war das Wetter?

Was haben Sie gegessen? (body)

Tell me.



Schluß: Schlussparagrah: (conclusion)

Tell me what you told me, but do NOT repeat verbatim!



Wortschatz: List some vocabulary (words and phrases) that you want to use on the next page:



Step 2: Write the draft of your essay (min. 200 words, double-spaced, word-file)

Step 3: Upload your draft and your outline to the D2L folder "formal essay 1 draft". ***Due October 11, midnight.***

Step 4: *I collect all drafts and sent each of you 2 essays.* You will review them and give feedback with the help of the provided handout. After reviewing it, you submit it to the D2L folder "peer reviews formal essay 1". ***Due October 16, 5 pm.***

Step 5: I sent you the peer reviews. After receiving them, you review the comments on your essay and incorporate them.

Step 6: Submit your final version as well as your draft and peers' handouts on D2L "Final formal essay 1". ***Due October 23, 5 pm.*** |

Appendix F

Instructions Formal Essay II

Option 1: Emails

You will write two E-Mails, one for a friend and one for a hotel. In the email for your friend, you will ask them to take care of a few things at your place while you are gone for your trip. Ideas: your pet, groceries, pick you up from the airport, ... You will ask the hotel for a few things, like a towel, a special diet because of an allergy, bikes, a shuttle service, ... Be creative, take care to address the people appropriate in your emails (*Sie* or *du*? What level of politeness is appropriate? Should you be more or less formal?) and implement typical German phrases.

Option 2: Ich hatte einmal ein Abenteuer. . .

Stellen Sie sich vor, Sie machten als Kind eine wunderbare Reise, entweder mit Ihren Eltern, einem ausgedachten Freund, Ihrem Haustier, oder mit Ihrem Lieblingsscheltier. Während dieser Reise erlebten Sie natürlich viele Abenteuer! Erzählen Sie: wo Sie waren, was Sie sahen, wo Sie übernachteten, wie das Wetter war und welche wunderbaren Sachen Sie aßen. Trafen Sie auch andere kleinen Reisenden? Beschreiben Sie alles bis ins Detail, um die Geschichte spannend und interessant zu machen! Zum Schluss erzählen Sie, ob Ihnen die Reise gefiel und ob Sie wieder so eine Reise machen möchten. Achten Sie auf die korrekten *Zeitformen*.

Option 3: Ein altes Märchen neu geschrieben.

Wählen Sie ein Märchen, das Sie schon kennen, und schreiben Sie es um. Die Hauptfigur soll eine interessante und originelle Reise machen. Erzählen Sie: wo die Hauptfigur war, was er/sie sah, wo er/sie übernachtete, wie das Wetter war und welche wunderbaren/schrecklichen Sachen die Hauptfigur aß. Beschreiben Sie alles bis ins Detail, um die Geschichte spannend und interessant zu machen! Seien Sie kreativ! Achten Sie auf Details und *Adjektive*.

Aufsatz 2 consists of a typed essay, **minimum: 300 words, double spaced.**

I will be looking for content, varied vocabulary appropriate to the topic, sustained correct spelling, and grammatical accuracy, particularly **spelling, verb and subject placement, subject-verb agreement, and case.** Your goal is to write an essay that can communicate to a fluent reader. You are expected to use much of the vocabulary from *Kontakte* to write an essay that flows well and is clearly and logically organized. Get **creative** and use the language you learned!

By turning in the essay, you signify that it is a new and original work, representing your own skills and abilities.

On certain points of grammar and/or style, you may ask questions of instructors etc. but do not have anyone proofread your essay prior to the peer revision process. Using a translation program is, of course, not allowed.

Grading (20 points)

- good use of vocabulary
- content
- organization of essay and presentation
- consistent control of the grammar focus
- full participation in the revision process