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Different Types of Teacher Feedback on Student Errors in Whole-class Interaction

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In recent pedagogical discourse, errors are understood as opportunities for learning. Increasing research has provided evidence about the relationship between the quality of student-teacher interaction and learning outcomes. Consequently, the role of teacher feedback during interaction is especially critical, particularly in error situations where the learning process can be supported. This research focuses on teachers' feedback during whole-class interaction in the Czech language classes. The research question is: 'How do teachers support students by providing feedback on students' errors during whole-class discourse?' The study was designed as a qualitative investigation, with data collected through classroom observations and interviews with teachers (N=4). Four teachers from ninth grade participated in the study, with six lessons observed for each teacher (N=24). Data analysis was based on linguistic ethnography, accompanied by inductive coding. Based on the empirical data and an analysis of error situations (N = 153), two types of teacher feedback on student errors resulting from student misunderstanding were distinguished. Firstly, teachers tended to support students by providing hints and questions to encourage self-correction during curriculum practice, mainly using closed-ended questions. Secondly, teachers supported students by fostering discussion or explaining the source of the error in the case of open-ended questions. The results indicate that analyzing the nature of error situations in relation to teacher questions and feedback is essential for understanding the principles of teacher error management behavior.

Keywords: student error, teacher feedback, error management behavior, error situation, teaching

INTRODUCTION

Students' errors in class are generally defined as behaviors or actions that deviate from expected standards or objectives (Grassinger & Dresel, 2017). However, the significance of a student's incorrect answer depends on the source of the error. A clear distinction can be made between errors and slips (Gardee & Brodie, 2021; Olivier, 1989). Errors, caused by students' misconceptions, are systematic and stem from deeper conceptual misunderstandings. Slips, on the other hand, result from carelessness and are

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often simple, correctable mistakes (Kaufmann et al., 2023; McMillan, 2018). As Edge (1990) notes, errors cannot be self-corrected, whereas slips can. Constructivist theories, which reshaped views on errors in learning, emphasize their potential as opportunities for student growth and development (Ball & Friel, 1991; Gagatsis & Kyriakides, 2000). As a result, constructivist approaches emphasize teachers' role during classroom interaction, considering errors as valuable insights into students' understanding and as opportunities to create engaging, educational content (Santagata, 2005; Borasi, 1994).

Given this conception of error, increasing emphasis has been placed on how teachers manage student errors, as they play a key role in how errors are used in the teaching process (Grassinger et al., 2018; Seifried & Wuttke, 2010). Teacher error management behavior refers to the set of actions teachers take in response to student errors, which can be evaluated based on how effectively these errors are addressed (Tulis, 2013). Additionally, these actions influence how students handle errors in both the affective and cognitive dimensions (Zander et al., 2014). The affective dimension concerns how students emotionally respond to errors and how teachers shape the emotional climate surrounding errors (Käfer et al., 2019; Tulis, 2013). In contrast, the cognitive dimension focuses on a positive learning orientation toward errors, which can be enhanced by how teachers leverage errors as opportunities to improve student learning, particularly in their approach to repairing student errors (Ingram et al., 2015; Oser & Spychiger, 2005; McHoul, 1990).

The goal of this research is to identify types of teachers' feedback in error situations that aims to support erring students in modifying incorrect answers. The main question is: 'How do teachers support students by providing feedback on students' errors during whole-class discourse?'

Teacher Feedback in Error Situations

Student errors cannot be fully understood without considering the broader context, which is shaped by the characteristics of classroom discourse and teacher-student interactions. The fundamental organizational mechanism of classroom talk is known as the initiation-response-feedback (IRF) pattern (Sinclair & Coulthard, 1975; Molinari et al., 2013). Typically, the teacher initiates interaction with a question directed at the student, who responds, and his/her answer is followed by the teacher's feedback. The teacher's question is crucial to the error situation because its format (open vs. closed) determines the situation's cognitive demands and influences the form of the potential error (Walsh & Sattes, 2016). Due to feedback trajectories, the type of feedback depends on the nature of the student's response, as teacher feedback can vary across different types depending on the character of the feedback information (Chin, 2006). For instance, correct answers may be followed by affirmation and direct instruction, or by teacher questioning, focusing, or zooming. Thus, an error situation can be understood as a sequence involving teacher initiation, an erroneous student response, teacher error feedback, and potential follow-up exchanges (Santagata, 2005). This conceptualization provides a framework for analyzing student errors and understanding the teacher's error management behavior within teacher-student interactions.

Teacher feedback is conceptualized as information provided by an agent, such as a teacher, peer, book, or parent, to a student as a consequence of their performance (Hattie & Timperley, 2007; Kluger & DeNisi, 1996). This information is expected to help students improve their learning, although the effectiveness of feedback can vary (Lipnevich & Smith, 2009; Ouch & Shimizu, 2025). Educational research often focuses on identifying different types of teacher feedback and developing typologies based on the function or content of the feedback (Panadero & Lipnevich, 2022). Generally, feedback can be categorized as either evaluative or descriptive (Hargreaves et al., 2004). Evaluative feedback includes rewards or punishments and expresses approval or disapproval. In contrast, descriptive feedback strategies involve providing students with specific information, such as whether their answers are correct or incorrect, explanations for why an answer is correct or incorrect, highlighting achievements, suggesting ways to improve, or proposing better approaches to solving problems. Descriptive feedback aligns with formative assessment practices, where teachers build on students' answers and help them overcome difficulties to enhance their learning (Lipnevich & Smith, 2009; Shepard, 2000).

Feedback on incorrect answers can be categorized based on whether it simply informs students that their response is incorrect or provides information to help them correct their errors (Irons, 2007; Kulhavy & Stock, 1989; Shute, 2008). When students provide incorrect answers, teachers typically offer two types of feedback (Chin, 2006). The first type is explicit correction, which involves directly identifying the error and elaborating on the normative ideas or correct concepts. The second type is described as a constructive challenge, which is often accompanied by an evaluative or neutral comment, followed by a reformulation of the question or the introduction of a new challenge through another question. In general, the main trajectories in error situations include direct teacher correction, the absence of teacher evaluation, and teacher-initiated repair without correction, using various strategies to support students in addressing their errors (Ingram et al., 2015). Strategies to support students during feedback include providing hints, repeating the question, asking the student to explain their answer, waiting for their response, or facilitating a whole-class discussion (Santagata, 2005; Tulis, 2013). Kaufmann et al. (2023) add that teacher feedback, as a direct response to a student's incorrect answer, may take interactive or non-interactive forms, depending on whether the student's answer is interpreted by the teacher as an error or a slip.

Supporting student learning through error feedback is closely connected to the error climate in the classroom, as a positive error climate is characteristic of classrooms where students and teachers view errors as learning opportunities (Steuer & Dresel, 2015). Research by Schleppenbach et al. (2007) indicates that the absence of fear and negative feelings among students is a prerequisite for effectively using errors in the teaching context. Therefore, teacher feedback not only focuses on the process of learning but also influences students' emotional reactions and motivation in error situations.

METHOD

Research conducted in the field of feedback and error studies shows that teachers can respond to errors in various ways, which may support student learning to varying degrees or influence the error climate in the classroom. However, less attention has been given to the broader context of error situations, where the interaction between teachers and students consists of a teacher's question, a student's incorrect answer, and the teacher's error feedback. The feedback that teachers provide to support students who make errors can, therefore, vary depending on the nature of the teacher's question. This research emphasizes not only the interaction processes during teaching but also teachers' interpretations of different error situations to better understand the complexity of error feedback. Accordingly, the research question is: 'How do teachers support students by providing feedback on students' errors during whole-class discourse?' In the context of this research, errors are conceptualized as behaviors or actions that deviate from expected standards or objectives, caused by misconceptions and identified by teachers (Gardee & Brodie, 2021; Grassinger & Dresel, 2017).

The collection of empirical data was part of a broader research investigation conducted under the CSF project *The Relationship between Characteristics of Classroom Discourse and Student Achievement* (GA17-03643S), carried out between 2017 and 2019. As part of the qualitative phase of the project, four 9th-grade classes were selected, during which six Czech language lessons were observed, and interviews with four teachers were conducted. The observation method was chosen to capture the actual interaction of participants during lessons. The lessons were recorded using two cameras, and the recordings were transcribed verbatim with the aid of transcription markers. Semi-structured interviews were conducted to maintain focus on the research topic while accommodating the specific experiences of the participants. For each interview, a prepared scheme outlined the main questions posed to the interviewees. The scheme for teachers centered on their beliefs and practices related to errors and error-handling activities, however, the interviews were not directly connected to the observations, which represents a limitation of the research.

Table 1
The data corpus with teachers' pseudonyms is represented

Class	Czech language teacher	Observation (*N=24)*	Analysed error situations (*N*=153)	Teachers' interviews (*N=12)*
9th A	Andrea	6 lessons	40 situations	3 interviews
9th B	Beata	6 lessons	65 situations	3 interviews
9th C	Carol	6 lessons	31 situations	3 interviews
9th D	Donna	6 lessons	17 situations	3 interviews

Linguistic ethnography, which focuses on the relationship between communication and human actions, was chosen as the interpretative framework. This approach also allows researchers to infer broader structures or schemas from the analysis of specific interaction events (Maybin & Tusting, 2011). Linguistic ethnography enables researchers to focus on local acts occurring during teaching and situate them within a broader context, as language and interaction are understood as manifestations of actions in a social setting (Copland et al., 2015). This approach facilitates the integration of

observation data and teachers' perspectives concerning the researched phenomenon (Snell & Lefstein, 2015). An error situation represents a moment involving the teacher, the erring student, and potentially other classmates. The chosen interpretative framework provides a means to examine the situation from multiple perspectives. Additionally, an advantage of this approach lies in its capacity to combine various sources of empirical data, enabling a more comprehensive understanding of the situation and its social context (Snell et al., 2015).

In the context of linguistic ethnography, the analysis of the data corpus was performed consistently. Atlas.ti software, which facilitates the management, coding, and classification of data, was used for the analysis (Friese, 2014). Analytic inductive coding was employed as the method of analysis (Bryman, 2016). The codes represent the theoretical and analytical aspects of the given text, relating to the meaning of the sequences of empirical data. These codes were grouped into categories (Flick, 2022). Inductive coding was applied to analyze observation data and interviews with teachers and students. The researcher continuously coded interviews during data collection. Data-driven coding was used, meaning the names of the codes were based on the data (Gibbs, 2007). The analysis of the lessons took place in two steps. In the first step, the entire teaching unit was analyzed to identify errors occurring during whole-class interaction. In line with pedagogical discourse, an error was identified as a discrepancy in a student's response or performance that does not match the expected norm or goal and is recognized and identified by the teacher using error feedback (Seifried & Wuttke, 2010; Grassinger & Dresel, 2017). So, the criteria for identifying error-situation episodes include student's error response as reaction to teacher individual or whole-class initiation and teachers' error feedback. A total of 153 error situations were analyzed. An error situation is defined as one in which a student's error occurs, consisting of teacher initiation, an erroneous student response, feedback, and possible teacher follow-up (Kaufmann et al., 2023; Santagata, 2005). In the second step, the unit of analysis shifted to the error situation itself, with follow-up responses in the form of the teacher's questions and feedback being analyzed. The identification and analysis of the error situation provide insight into both the causes of the error and the method of its resolution. For the purposes of this study, only excerpts were selected in which the teacher attempted, through feedback, to support students who had made an error in finding the correct answer. Out of 153 excerpts, teacher support was evident in a total of 50 error situations. In 27 error situations, students were guided by the teacher to correct their mistake during practice, which typically involved closed-ended questions. In 23 cases, the support was provided in response to an open-ended question that the teacher used during the discussion. Feedback types were observed among all participating teachers, but a link to lesson content was evident: closed-ended questions occurred more often in grammar lessons, whereas open-ended questions were more frequent in literature classes.

Different forms of errors, such as errors and slips, were distinguished during the analysis based on the student's ability to self-correct an error. If self-correction occurred immediately without teacher assistance, the situation was recognized as a slip. Analytical codes reflected the character of each turn at talk within an error episode. Teacher questions were therefore coded as open or closed, addressed to a specific

student or to the whole class, focused on practice or discussion, and so on. For student errors, codes included a memory error, an interpretation error, or an error in the area of literature or grammar. For teacher feedback, the emphasis was on the content of the feedback, so codes included, for instance, explaining the error, pointing out the error, asking a follow-up question to the class, using guiding questions, praising the student, offering an opportunity to correct the answer, and giving more time. With regard to closing the error episode, analytical codes included, for instance, self-correction, teacher correction, or correction by other students.

FINDINGS

According to teachers, the form of feedback may vary based on the task and the nature of the teachers' question. Firstly, teachers distinguish tasks focused on practice, which are often associated with closed questions. As teacher Andrea explains: *"But if those errors happen as part of practicing, repeating, or consolidating the subject matter, it doesn't matter. There is space for errors."* Secondly, tasks that involve discussion with students are typically associated with open-ended questions, such as those used in literature classes. Teacher Beata illustrates this: *"In literature, that's where they can get confused by misunderstanding a text... when interpreting, there isn't like one correct answer."* The broader context in which an error occurs is therefore significant. Feedback can be differentiated based on the nature of the error situation, which depends on the type of teacher's question—closed-ended questions with a single correct answer or open-ended questions that engage students in discussion. These two approaches to feedback can be described as support for modifying an incorrect solution and support for students as they navigate errors during discussion. These two approaches to feedback can be described as support for modifying an incorrect solution and support for students as they navigate errors during discussion.

Feedback to support student self-correction during practicing

Supporting the erring student involves the teacher helping the student find the correct answer, ensuring the error is addressed during the process of correction. Modifying an incorrect solution represents a dyadic interaction in which communication exchanges occur between the teacher and the student. Leading the student to self-correct is particularly effective in cases where the problem has a single correct solution. This clarity allows the teacher to identify the error and use guiding questions or hints, which are the two primary methods of supporting the correction process.

Firstly, in teacher feedback, guiding questions are used to direct the student toward finding the correct answer. The goal of this approach is to encourage the student's active participation in their own correction. These questions serve as an intermediate step; when answered correctly, they enable the student to deduce the correct solution. As teacher Donna explains: *"I will either try him, of course, and if the questions don't help, of course, I will take someone who claims to know and explains it to us. But I try to get that person to figure it out on their own, and I only call out someone else when we're groping in the dark for five minutes and we don't know."*

However, guiding questions require a certain level of prior knowledge from the student. If the student cannot answer, the teacher may redirect the process to another student. The use of guiding questions is illustrated in Example 1:

Example no.1:

> A task in grammar lesson focuses on practising identification of dependent clauses and independent clauses. Then the students also identify the type of dependent clause. The students are specifically called out by the teacher to a specific sentence from the textbook. At the beginning of the sequence, the student has correctly identified the independent clause and continues by identifying the dependent clause.
>
> **1 Teacher**: Agatha?
>
> **2 Student Agatha**: they did not have any idea (.) how how to do it. so they did not have any idea. the first independent clause. the second dependent clause=
>
> **3 Teacher**: =good.
>
> **4 Student Agatha**: and there is the how, so it will be a relative one? ((looks at the teacher))
>
> **5 Teacher**: CAREFUL careful ((moves her hand and raises it towards the student)) how do you ask for it? it does not always have to be (.)
>
> **6 Student Agatha**: =who or what? ((looks at the teacher))
>
> **7 Teacher**: did not have any idea. (.) who or what. (.) ((moves the hand according to the syllables)) exactly. yes? who or what did not have any idea. And when I am asking who or what, with a case question. so it is?=
>
> **8 Student Agatha**: =so it is a subject- ((looks at the teacher))
>
> **9 Teacher**: so it is?
>
> **10 Student Agatha**: objective.
>
> **11 Teacher**: objective yes ((emphasizes with her hand)) a case question except for the first case. (.) that is a subjective. otherwise it is objective. yes? did not have any idea who or what. (.) be careful about the how. yes? that is (.) that is a lot. (.) that can also be adverbial. be careful about that.

The example presents a task in which students practice determining the character of dependent clauses. At the beginning, a student is called upon to identify the dependent and independent clauses (1). The teacher explicitly evaluates the response as correct by saying, *"good"* (2). The student then determines the nature of the dependent clause, suggesting that it is a relative clause (3). However, at the start of line no. 4, the teacher signals that this answer is incorrect by saying, *"careful, careful."* The second part of the sentence shows that the teacher asks an additional question related to an intermediate step, designed to help the student find the correct solution. Student Agatha responds to this feedback with a case question (6). As line no. 7 shows, the teacher confirms the correctness of the answer by repeating it and explicitly stating, *"exactly, yes."* The

teacher then reiterates the original question, referring to Agatha's previous response. However, the student once again makes a error (8). The teacher signals the presence of an error by repeating the question (9), offering no further support but allowing the student another chance to self-correct. This reduces the number of possible answers. On the next attempt, the student correctly identifies that it is an objective clause (10), and the teacher accepts the answer (11). The teacher also provides an explanation of the case question associated with the subjective clause, completing the task. This example clearly illustrates that the support leading to correction is primarily realized through guiding questions. These questions enable the student to modify their erroneous response and arrive at the correct solution. The process of correction, therefore, occurs exclusively between the teacher and the student.

Secondly, the use of hints in teacher feedback can be observed. In this case, the teacher provides the erring student with information that aids in modifying the erroneous solution. A hint represents a specific piece of information that can be integrated into the correction process. The use of hints is illustrated in Example 2:

Example no. 2:

> The aim of the task is to practise punctuation and identifying constituents. The students first place the comma, then they identify the constituent. The students are called out to individual sentences from the workbook by the teacher.
>
> **1 Teacher**: so I came up with a couple of sentences, in which you will say. (.) where are the commas and why they are there. (2) the commas don't have to be here, but let's put them there, yeah? (.) and raise your hands, so that I know who to look at.
>
> **2 Student Joseph**: ((non-verbally called out by the teacher)) what a bugger, comma, this mole.
>
> **3 Teacher**: good. (4)
>
> **4 Student Joseph**: apposition?
>
> **5 Teacher**: no. (.) bugger and mole does not always have to be the same. (2)
>
> **6 Student Joseph**: then an independent constituent.
>
> **7 Teacher**: independent constituent. (.) there is the demonstrative pronoun, yes? that will help you. (.) that is an independent constituent. ((non-verbally calls out another student)) (2)

The sequence begins with the specification of a task in which students are required to add commas to sentences and determine the nature of the clause (1). In line no. 2, a student responds by successfully adding commas to the sentence, and the correctness of this action is explicitly confirmed by the teacher (3). After a pause, possibly indicating hesitation, the student provides an incorrect answer (4). As part of the feedback, the teacher marks the answer as incorrect and provides a hint to encourage the student to self-correct (5). In line no. 6, the student utilizes the hint and makes a correction, which is then confirmed by the teacher and supplemented with an explanation of the problem (7). The hint takes the form of a declarative sentence that contains information designed

to help the student modify their solution and self-correct the error. Additionally, providing a hint allows the student to remain engaged in dyadic communication with the teacher and to make another attempt at correcting their answer. The teacher's hint supports erring students by enabling them to refine or complete their responses. This approach gives the student an opportunity to make the correction without revealing the correct solution, allowing them to adjust or supplement their response. However, it is evident that the teacher does not directly identify the source of the error, placing some demands on the student's knowledge and thought process. This interaction fosters critical thinking and encourages the student to engage more deeply with the material.

Feedback to foster learning during discussion

The different approaches teachers use to address student errors can be observed in the context of discussion, where errors are utilized to generate additional stimulating content that enhances the conversation. Firstly, in the context of discussion with open-ended questions, teachers employ strategies aimed at guiding students to justify their own answers. Secondly, teachers provide feedback to erring students that includes an explanation of why their answer is considered incorrect.

The use of open-ended questions with multiple correct answers is a fundamental characteristic of the discussion segments of lessons. In such cases, it is more challenging for teachers to evaluate which answers are incorrect. As teacher Beata explains, it is crucial to understand why the student provided a particular answer: *"In literature, that is where they can make a error in understanding a text. So then I ask them how they meant it, and I would definitely ask them to explain how they meant it, and if they can defend it, I accept it. Because in literature, when you're interpreting some work, there's not like one correct answer."*

During discussions, students present their viewpoints or opinions, which cannot simply be deemed wrong because there is no single definitive answer. In such cases, the teacher's goal is to uncover the reasoning behind the student's response. If the student can justify their answer, the teacher accepts it as correct. Thus, the error serves as a foundation for further student involvement in the discussion, encouraging them to provide arguments and justify their answers. Feedback in the form of a developing question offers students the opportunity to engage in argumentation and defend their perspectives.

This teaching situation is illustrated in Example 3:

Example no. 3:

> The example illustrates a situation from a style lesson in which students work in groups. Within the task, they are to come up with associations to the assigned term. In the given example, the specific term is "source", for example, what sources exist, where they can be found, who and what can be a source. The following discussion focuses on the relationship between "source" and "help". The teacher's question is directed towards which of the terms is superior to the other.

1 Teacher: if we take. hypernym (.) hyponym. here this help. and here the source. ((pointing to the board)) which of these would be a hypernym? (2)

2 Student Richard: source.

3 Teacher: why? (1)

4 Student Richard: because=

5 Teacher: =because is not good enough. you're not on the first stage.

6 Student Alexander: logical assumption.

7 Teacher: it is not logical to me. (.) explain it to me. (.) I don't understand it. (2) why is the source a hypernym to help? (1) I actually see it the other way around. (3) let me ask in another way. what is broader? leave the cards. (.) what is a broader term? and what is like more specific term? from these two. source and help.

8 Student Adele: help is s- it is specific. (2)

9 Teacher: SO TELL ME kids. (1) I really just simply see it differently. (.) so tell me. explain it to me. why is the source a broader term for you (.) more specific term? ((some classmates laugh))

10 Student Austin: I don't know what a more specific term is.

11 Teacher: narrower meaning.

12 Student Austin: we are able to find sources (.) and we are looking for help in narrower z-. ((smiling)) (1) not like that. (.) ((some classmates laugh))

13 Teacher: kids the source. what does the source concern? (.) when you have a topic set? then you search for sources to the topic. but what can be a help? (.) that does not have to be to the topic though=

14 Student Austin: help with presentation. ((multiple students speaking))

15 Teacher: exactly. and that is why this term is broader to me. (.) because here the help can be (.) or the experience. (.) I already have experience from another subject. I already know how to say it. (.) last time, I got an F. now I know what to avoid. (.) this is much broader. a source is to a specific thing, and I can know more about something. (.) something less. (.) but this is much broader. yes? so that is why I understand it in this way. (.) but I am not forcing you to understand it that way.

The example begins with the teacher posing a question about the difference between *help* and *source*. Student Richard answers by identifying *source* as the hypernym (2). The teacher asks him to explain his answer (3), thereby building on his response and giving him an opportunity to elaborate. However, Richard responds with a simple *"because"* (4), which the teacher does not accept, as it does not constitute a justification. Student Alexander then joins the discussion, suggesting that the relationship between the chosen words can be explained through logical reasoning (6). However, in the following line, the teacher points out again that the relationship

requires further explanation. The teacher compares the student's answer with her own perspective, making her disagreement explicit. This is evident in line no. 7 when she says, *"it is not logical to me"* or *"I don't understand it."* At the end of this line, the teacher signals a potential error by stating, *"I actually see it the other way around."* The answer is not explicitly marked as incorrect but is instead relativized in relation to the teacher's opinion, which is clearly communicated to the students. Student Adele enters the discussion, suggesting that *help* is more specific (8). In her response, the teacher reiterates her disagreement and initiates another round of discussion (9). Student Austin then admits that he does not understand the meaning of *more specific* (10). His willingness to openly express a lack of knowledge can be seen as evidence of a supportive classroom environment, though some classmates laugh in response. The teacher provides a hint, explaining that *more specific* refers to a narrower meaning (11). Austin then attempts to explain the relationship (12), after which the teacher poses guiding questions (13) designed to offer hints or introduce a different perspective that might help the students arrive at the correct answer. These questions do not repeat the original query but aim to enable students to resolve the problem independently. Austin responds to the guiding question (14), and this time, his answer is positively received by the teacher. In the final line (15), the teacher builds on Austin's response by providing an extensive explanation and illustrating why *help* is the hypernym. Importantly, at the end of the sequence, the teacher emphasizes that this interpretation reflects her perspective and that the students are free to form their own opinions. She explicitly states, *"I am not forcing you to understand it in this way."*

This example demonstrates how the teacher uses follow-up questions to address errors and encourage students to explain their reasoning. These questions focus on uncovering the rationale behind the students' answers, prompting them to elaborate further. The teacher's feedback takes the form of questions that build upon incorrect responses, offering students additional opportunities for dialogue and participation by inviting them to defend their answers with arguments.

During the discussion, asking questions related to the error can also be substituted with feedback that focuses on explaining the cause of the error. The teacher's goal is not merely to correct the student but to clarify the source of the error, enabling the student to continue searching for the correct answer. This type of feedback directly addresses the specific error and explains its origin. Opportunities for such feedback arise particularly from student responses, which are further developed and contain errors that are identifiable to the teacher. The use of feedback centered on the source of the error is illustrated in Example 4.

Example no. 4:

> The task takes place in a literature lesson in which the students are asked to explain concepts from a selected book in their own words using a dictionary of foreign words. These are terms such as theology, agora and ethics.
>
> **1 Teacher:** ethics, well, look it up.

2 Student Nancy: ((*looks at the teacher*)) ethics (.) well, that's ethical behavior. (1) a man like, for example, opens the door for a woman, he's like-

3 Teacher: now you're connecting (.) you're connecting two terms (1) ethics and etiquette. (1) etiquette is really ((*nods*)) the science of good manners. so of course it belongs there if a man opens the door for a woman (.) and ethics is a little bit broader term. so we could include etiquette into it too, but it's something more. but now you in the back cannot be heard at all. (.) Ondra? ((pointing at him))

…

4 Teacher: (3) if you behave ethically=

5 Student Charles: =then we behave decently?

6 Teacher: you behave decently. (.) according to some rules. (1) But there is still something deeper. (.) you behave morally (.) according to your conscience (.) best. (.) not only according to some rules. but there's also the conscience. (3) And do you know what a robe is?

The example begins with the teacher asking students to describe what the term "ethics" represents (1). Student Nancy responds by describing ethics as ethical behavior and complements her answer with an example (2). In line no. 3, the teacher provides feedback by identifying the error in Nancy's response. The teacher explains that Nancy is confusing ethics with etiquette and clarifies that ethics is a broader concept that includes etiquette. Through this feedback, the teacher not only points out the error but also provides an explanation as to why Nancy's answer is incorrect. This explanation supports the erring student, enabling her to correct herself. Additionally, the feedback can benefit other students who may engage further in the discussion. In the second part of the example, after the teacher's initiation, student Charles associates ethical behavior with decent behavior (5). The teacher responds with feedback (6), highlighting that ethics has a deeper meaning than simply decent behavior, thereby identifying the error in Charles's response. The teacher follows up with an explanation of what moral behavior entails. This feedback directly addresses the specific error in the student's response and clarifies the aspect in which it is incorrect. This approach helps students understand the source of the error and encourages them to re-engage in the discussion. Feedback focused on explaining the error is beneficial for learning, as it helps students understand why their answer was considered incorrect. The feedback does not primarily aim to correct the error; instead, its main goal is to explain the source of the error. This explanation helps students recognize the cause of the error and encourages further participation in the discussion.

DISCUSSION

The results of this research present different types of teacher feedback in error situations related to teachers' questions. Firstly, teachers support the modification of a student's incorrect answer to a closed-ended question through the use of hints and additional questions. The second type of feedback in error situations is associated with open-ended questions and whole-class discussions. In these cases, teachers tend to ask students to

clarify their errors and provide explanations as to why the students' answers were evaluated as incorrect. Additionally, research by Santagata (2005), Tulis (2013), Ingram et al. (2015), and Kaufmann et al. (2023) highlights that assisting students with correction is an essential aspect of teachers' error management behavior. Accordingly, the findings indicate that any reflection on teachers' error management behavior requires conceptualizing feedback as an integral part of a specific error episode, while also accounting for the interactional goals shaped by question openness and the classroom activity.

The combination of interviews and observations also made it possible to determine that teachers partially understand the support of students concerning the perceived benefits of errors in teaching. In this respect, we can question the assumption that teachers lack explicit conceptualizations of their attitudes towards errors and working with errors (Tulis, 2013). Research conducted by Bray (2011) indicates that teacher error management behavior is influenced by their knowledge and beliefs. We can even refer to this as "professional error competence," which involves a constructive attitude towards errors and knowledge about possible student errors and their solutions. Thus, if a teacher considers errors to be an important part of teaching, it can be expected that their reactions will align with this belief or knowledge. While the provision of feedback varies among teachers, research shows that feedback beneficial for providing information occurs relatively rarely (Margutti & Drew, 2014). As Black and Wiliam (2009, p. 27) caution, feedback aimed at correcting an erring student is a complex process of diagnosis and interpretation, which can make it challenging for teachers to provide such feedback effectively in the context of a heterogeneous classroom.

As the results demonstrate, providing feedback to a student who makes a error consistently leads to further interaction, thereby fostering active student participation. Research clearly demonstrates that active engagement in classroom dialogue is closely connected to learning (Applebee et al., 2003; Macaspac & Prudente, 2025; Sedova et al., 2019). Errors, therefore, can generate stimulating content that enables students to engage with cognitively challenging material. Errors can become opportunities for learning, but feedback that builds upon and addresses the error is a prerequisite for this potential to be realized. In error situations involving supportive feedback, the interaction often takes the form of a dialogue, with the teacher and student speaking in turn. This disrupts the traditional repetitive communication structure commonly found in teaching, characterized by initiation, student response, and teacher feedback. The potential of dialogue to enhance students' cognitive development, engagement, and learning has been emphasized by numerous authors (Littleton & Howe, 2010; Good & Brophy, 1997; Mercer, 2000). Viewing correction as a dialogic process also highlights the crucial role of students receiving the feedback in this dynamic. As Jonsson (2013) points out, the effectiveness of teacher feedback depends on whether students perceive the feedback as useful, sufficiently detailed, and personalized. An additional question concerns how to incorporate peer feedback into classroom discourse to support student learning (Hentasmaka & Cahyono, 2021).

The importance of feedback on students' errors and their learning is particularly emphasized in the concept of scaffolding (Ninio & Bruner, 1978). Scaffolding refers to

the support provided by the teacher to help students address tasks that they find challenging to solve independently. Scaffolding-based feedback consists of a series of hints that require students to generate their own answers to arrive at the correct solution (Finn & Metcalfe, 2010). Through this feedback, teachers help students reach the zone of proximal development, which represents the gap between what a student can achieve independently and what they can achieve with teacher support (Vygotskskij, 1978). However, implementing scaffolding effectively places significant demands on teachers. The support must be tailored to the student's current performance, with the level of guidance corresponding to the frequency of errors, ultimately enabling the student to solve the task independently in the future (van de Pol et al., 2010). Additionally, for feedback to be effective, it should be appropriate, personalized, and constructive (Jonson, 2013).

According to Grassinger and Dresel (2017), a student's ability to use feedback and apply it to modify their solution can be defined as an adaptive response. This response manifests in cognitive and behavioral processes that lead to correcting the error and finding the desired solution. The resolution of error situations is influenced by relatively stable motivational patterns (Tulis et al., 2018). Furthermore, the motivation to complete a task is affected by the emotions experienced by the student during the error situation. As Zhao (2011) notes, negative emotions can reduce students' efforts to correct errors and arrive at the correct solution because their attention is diverted to regulating those emotions. According to Tulis and Ainley (2011), the type of emotions students experience is shaped by the meaning they attribute to the error, particularly regarding its potential contribution to learning. If students perceive the error as a learning opportunity, they are more likely to associate it with positive emotions.

CONCLUSION

This study shows that teacher feedback on student errors in whole-class interaction takes distinct forms depending on the type of question and, by extension, the instructional situation. In closed-ended practice tasks with a single correct solution, teachers most often support students' self-correction through guiding questions and hints that help students reconstruct the correct answer step by step, typically within a dyadic teacher–student exchange. In contrast, in open-ended, discussion-oriented segments, feedback is less about steering toward one normative response and more about sustaining learning through dialogue: teachers invite students to clarify and justify their reasoning and, when needed, explain the source of an error (for example, a conceptual confusion) so students can re-engage productively in the discussion. Overall, the findings refine understandings of teacher error management behavior by demonstrating that the nature of error feedback is systematically linked to the nature of teacher questioning, and that errors become learning opportunities primarily when feedback builds on them to extend interaction rather than simply closing them down. Nevertheless, future research should pay attention to how students receive feedback and how they reflect on its value for their learning.

Practically, this means teachers should choose feedback that fits the task: during practice, use brief prompts and hints that help students correct themselves, and during

discussion, focus on clarifying students' reasoning and briefly explaining misunderstandings. It also helps to build a classroom culture where mistakes are treated as a normal part of learning, so students stay willing to participate after being wrong. In whole-class talk, it also matters to actively protect participation by managing classmates' reactions, normalizing uncertainty, and making it routine that students get another chance to revise their answer after feedback.

LIMITATIONS

The research was conducted in the teaching of the Czech language, which comprises two curriculum areas. Firstly, there is grammar, where students primarily focus on practicing and learning grammar rules. The second area is based on literature and style, emphasizing discussion. Although feedback is understood as a general pedagogical phenomenon, the specifics of teaching the Czech language provide an important context. Research focusing on feedback in a different school subject could therefore represent a promising avenue for further research. Another limitation is that the teacher interviews were not connected to classroom observations; therefore, teachers reflected only their perspectives and general interpretations of student errors.

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DECLARATION ON THE USE OF AI IN THE WRITING PROCESS

The authors of this manuscript confirm that no generative artificial intelligence (AI) was used to create content or ideas during the writing process or to analyze data from research. AI was used exclusively to improve readability and refine language, with strict human oversight and control.

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