



Teachers' Stimulated Recall Reflections on their Negotiation of Meaning Strategies

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Abstract: Classroom interaction is a challenging yet crucial part of language teaching, where teachers play a critical role in successful learning. Teachers' awareness of interaction strategies, such as negotiation of meaning strategies, including when and how to implement them, significantly affects learning outcomes, and reflective practices like stimulated recall interviews (SRIs) can effectively develop their awareness. Thus, the research aims to find out the EFL teachers' negotiation of meaning strategy (NfM) use reflected in stimulated recall interviews (SRIs) and the effect of awareness-raising activity on the negotiation of meaning strategies on teacher's reflections. The research participants are two in-service EFL teachers working at a private university in Türkiye. This research uses a mixed-method explanatory sequential design in a quasi-experimental framework. Teachers completed two SRIs, and between the interviews, they participated in an awareness-raising activity where they were informed about NfM strategies. In the light of qualitative and quantitative analysis, the findings reveal that after the awareness-raising activity, the number and the type of NfM strategies increased. Furthermore, it was found that teachers demonstrated initiation in starting reflections and took more deliberate actions in the strategy choices. It could be stressed that teachers' reflections, as in SRIs, serve as a valuable tool for professional development opportunities to think, reflect, and improve their teaching, helping learners' language learning. These findings suggest that such awareness-raising activities positively impact teachers' professional development, classroom interaction, and, ultimately, student learning experiences.

Keywords: *negotiation of meaning, stimulated recall interview, classroom interaction, awareness-raising activity, teacher reflection*

INTRODUCTION

Oral interaction is a dynamic and co-constructed process, at least between two interlocutors, essential for effective communication. As Vygotsky (1978) argued, social interaction plays a fundamental role in cognitive development, particularly in language learning. During the interactions, due to differences in language proficiency levels, it might be challenging to convey the message with the intended meaning, or to understand what is meant. To address potential communication breakdowns that might arise during interaction, negotiation of meaning (NfM) strategies is employed, often initiated by the more proficient speaker, which is the teacher in classroom settings. Teachers can adopt effective negotiation of meaning strategies not only to avoid communication breakdowns but also to improve learners' comprehension, provide feedback and help them produce target language more.

Teacher Talk (TT), the language specifically used by teachers in the classroom with specific objectives plays a significant role in the negotiation of meaning strategies. As Walsh (2011) points

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out, TT is not just about delivering the educational content in the target language but also about creating opportunities for meaningful interaction with the help of the use of effective strategies. This adaptation is vital in creating a supportive learning environment where both teachers and students actively engage in meaning-making during classroom interaction.

Negotiation of meaning is one of the key elements to language learning, and one of its basis is related to Krashen's (1985) comprehensible input hypothesis. The theory explains that learners acquire language best when they are exposed to input slightly above their current level of proficiency ($i+1$) so that the input is just above their level, which creates room for learning by exposing learners to new knowledge. Long's Interaction Hypothesis (1996) is also one of the fundamentals of negotiation of meaning, which stresses that modifications and adaptations during interaction such as clarification requests, confirmation checks and comprehension checks are crucial to providing comprehensible input as they help make meaning clear. Swain (1995) focuses on the output as opposed to the input and highlights the importance of "pushed output," where learners are expected to produce language as a reflection to their language abilities, which leads to interaction naturally.

In foreign language classrooms, the effective use of NfM strategies by the teacher is critical to overcome communication breakdowns and to create a better learning environment. Teachers must create suitable language learning conditions where students can express themselves accurately and fluently, and they should be able to effectively use NfM not only to address breakdowns but also to emphasize key points and guide students' learning. Effective use of NfM strategies lead to comprehensible instruction and feedback for learners, fostering both task completion and overall language learning.

An important tool for enhancing teachers' ability to reflect on their classroom practices is the use of stimulated recall interviews. Gass and Mackey (2000, 2017) point out that stimulated recall interviews, which is recording classroom interaction and then watching and reflecting on the actions taken and decision-making processes, provide valuable insights into teachers' instructional practices from their eyes. When stimulated recall interviews are used to analyze classroom practices of the teachers, such as their use of NfM strategies, they can identify areas that need improvement and refine their techniques as needed. This reflective practice is crucial for teachers' professional development as it helps them become more aware of their interaction patterns they adopt in class (either consciously or unconsciously), why they adopt those specific patterns or strategies and their impact on students' learning. As Borg (2006) notes, teacher reflection is a key component of professional development, leading to more effective teaching practices and, ultimately, greater student success in language acquisition. Thus, being aware of which strategies to use, how and when, understanding and implementing NfM strategies, supported by retrospective reflective tools like stimulated recall interviews, is essential for fostering successful classroom interaction and language learning.

Interaction in a foreign language has always posed challenges for both teachers and learners. Teachers, having the heaviest role in this scale, are expected to create an environment where learning takes place. In order for it to take place, students need to effectively be in interaction with each other and their teachers. Furthermore, teachers need to ensure the message, either coming from the teacher herself or other students, is clear, and comprehensible. That is why it is of fundamental importance to give students a learning environment where teachers can tackle the problems occurring during interactions, stress the important point by drawing students' attention and ease the overall learning process for learners by using negotiation of meaning strategies. However, due to busy schedules, objectives to meet and lack of professional development opportunities, teachers are not given the opportunity to have awareness-raising activities in their professional development objectives, and an environment where reflection is encouraged and supported in practice; therefore, teachers lack the opportunity to improve skills and strategies to implement in their teaching. Thus, it has vital importance for teachers to have the awareness of what, how and when to use negotiation of meaning strategies and reflect on their teaching practices to foster language learning.



THEORETICAL FRAMEWORK

Negotiation of Meaning

According to sociocultural theory (Vygotsky, 1978), language learning is a socially and culturally bonded and shaped process. Unlike cognitive theories that view learning as an individual mental process, sociocultural theory focuses on collaboration. In communication, when misunderstandings arise, interlocutors often engage in negotiation of meaning (NfM) to overcome the issue (Nakahama, Tyler, & van Lier, 2001). As Wagner (1996) notes, NfM makes input comprehensible for learners, and therefore facilitates language learning. NfM strategies are used to clarify points when needed, introduce and guide tasks, and provide feedback.

There are different NfM strategies used in classroom interactions, commonly used and researched ones include clarification requests, comprehension checks, confirmation checks, recasts, self-repair, and repetition (Long, 1983; Pica & Doughty, 1985; Hartono & Ihsan, 2016). *Clarification requests* are the requests that you make to correct misunderstandings, while *confirmation checks* are used to ensure that the message has been correctly understood (Long, 1983). *Comprehension checks*, on the other hand, aim to prevent breakdowns by confirming understanding. *Recasts* can be defined as the correct restatement of a learner's incorrect utterance (Nichols et al., 2001). *Self-repair*, as its name suggests, is repairing what one's said to correct the statement or to make it clearer. *Other-repetition* is an effective way to make sure what others say is heard clearly and correctly, or it can be used to draw attention to the utterance (Schegloff et al., 1977; Drew, 1997). *Self-repetition* can be used to draw attention to what the teacher says and helps maintain coherence and understanding, especially in complex interactions (Mauranen, 2006; Kaur, 2010).

Research on NfM highlights both the importance of student-student and teacher-student interaction. Foster and Ohta (2005), in their research, emphasized the social and cognitive benefits of the use of NfM strategies in student-student interaction, arguing that it is more than just providing clarification but also it fosters collaborative meaning-making. Effective use of negotiation of meaning strategies when needed and by choosing the most applicable one to the context and to the needs of the class, they demonstrate critical impact on teaching effectiveness and improve student comprehension (Garcia, 2007). Although there are a lot of studies focusing on student-student interaction for NfM use, there are not many studies investigating the teachers' use of NfM strategies in the language classroom. In one of the studies focusing on NfM use in teacher-student interaction, Musumeci (1996) discussed that while teachers often initiate NfM to address breakdowns, sustained and informed negotiation is not common, which suggests a need for more intentional use of NfM strategies by teachers. Shi (1998) found that teacher-led interactions encourage longer, more target-like student turns, while student-led interactions offer valuable communicative practice. In addition to the lack of studies focusing on teachers' NfM strategy use, it is rare to find studies, if not none, concentrating on teachers' reflections on their use of NfM strategy in their teaching practice. Therefore, in this study, it is aimed to find out whether reflective tools such as stimulated recall interviews have an effect on teachers' negotiation of meaning strategy use.

Teachers' Professional Development through Reflection

Teacher training plays a pivotal role in professional development, which significantly affects not only teachers' teaching techniques and their approaches to teaching and their students but also student success and performance (Yoon et al., 2007). Learning about new pedagogical techniques, teachers can implement new strategies into their classroom (Darling-Hammond et al., 2009). Professional development opportunities may also serve as reminders of the teaching techniques and strategies teachers may already know but have not yet implemented effectively into their teaching due to lack of awareness or simply not being able to translate it into practice from theory. Effective teacher training and professional development activities have been shown to positively impact student learning outcomes (August & Shanahan, 2006) since teachers are equipped with the tools, new techniques and approaches needed to address diverse learning and student needs (Guskey, 2002) and those



opportunities also foster student engagement (Emmer & Stough, 2001). By incorporating these strategies, teachers can create more interactive and student-centered learning environments. This research therefore aims to provide the participant teachers with an awareness-raising activity training them on the negotiation of meaning strategies, their types, and how they can be used in classrooms effectively. With the awareness-raising activity mentioned, whether teachers show different negotiation of meaning strategy use and reflect on that use is researched.

Recent Work on NfM Strategies

Negotiation of meaning (NfM) strategies have traditionally been studied in the context of learner-learner interactions in communicative tasks (e.g., Gass & Varonis, 1985; Long, 1996). However, more recent research has also included teacher talk (TT) and the pedagogical use of interactional strategies in classrooms. Ellis and Shintani (2014) distinguish between incidental and planned negotiation strategy uses, emphasizing how teachers manage meaning and scaffold learner understanding through NfM strategies such as clarification requests, recasts, and confirmation checks. Naughton (2020) emphasizes the role of teacher-initiated feedback and its potential to facilitate deeper learner engagement during classroom interaction. Sert (2015) investigated how teachers systematically construct opportunities for meaning negotiation based on learners' responses and their language needs. Moreover, recent conversation analysis (CA) studies have explored how teachers adapt their NfM strategies, depending on indirect cues in learner output (Walsh, 2013; Yazan, 2018). These advancements in the scope stress that NfM is not only a matter of learner strategy use but also a critical component of teacher interactional competence, requiring reflection, intentionality, and pedagogical sensitivity.

Stimulated Recall Interviews

Stimulated recall interviews (SRIs), a specific type of retrospective verbal report, which is a commonly used qualitative research method to explore one's thought and decision-making processes during specific activities and events. In an SRI, participants listen to the audio or watch the video recordings of their actions and reflect on their thoughts and decisions, what they do at that specific moment and why they do it. The type of stimulus (audio or video) can significantly influence the accuracy of recall, and also the interviewer's questions should be guiding rather than leading to avoid bias or pressure on the participant (Borg, 2006). SRIs have been widely used in educational research to investigate teachers' decision-making and cognitive processes during classroom interactions. SRIs are also a very useful tool for professional development since they allow teachers to reflect on their actions and therefore engage in deeper learning (Schön, 1983). One of the key advantages of SRIs is their ability to access cognitive processes that are difficult to capture through external observation alone or simply not being able to remember the exact actions taken due to limited recall. In this research, teachers take part in two stimulated recall interviews, where they reflect on their classroom practices and the NfM strategies they use while they are watching the classroom recordings. These interviews, as the research questions point out, aim to assess the impact of the intervention between two SRIs, the awareness-raising activity they completed, and identify any changes in teachers' reflections.

SRIs, for this research, were selected for their capacity to elicit participant reflection based in actual classroom behavior (Lyle, 2018). This method reduces reliance on retrospective generalizations and therefore enhances validity due to the stimuli used. While SRIs offer rich insight, they are not without limitations, including possible memory decay and potential social desirability bias (Gass & Mackey, 2017). To mitigate these limitations, interviews in this research were conducted immediately following lessons, and neutral prompts were used.

Teacher Cognition and Reflection

Teacher cognition studies highlight the role of reflective practice in shaping classroom decision-making (Borg, 2006; Farrell, 2015). Stimulated recall interviews, as a method for eliciting



teacher's reflection, allows researchers to explore teachers' thought processes of their classroom actions (Lyle, 2003; Meade et al., 2021). However, SRIs are still underused in studies of teacher's use of negotiation of meaning strategies. Recent work has emphasized the importance of combining SRIs with actual classroom data to ensure contextual validity and triangulation (Gass & Mackey, 2017; Yazan, 2018).

Thus, this research intends to discover the significance of teachers' negotiation of meaning strategy use and teachers' reflective practices through stimulated recall interviews. Finding out the change in teachers' reflection after the awareness-raising activity, intervention, in terms of their reflective practices (what and how) is aimed to reveal the impact of awareness-raising on NfM meaning strategy use and reflecting it. Comparing teachers' pre- and post-intervention SRI reflections to their strategy use choices, the study not only responds to Sezgin's (2024) call for strategy training research but also offers practical insights into how reflective practices can enhance NfM strategy use in L2 classrooms and how awareness-raising activities have an impact on it. While NfM strategies have been extensively studied from the learner's perspective (e.g., Fernández-García & Martínez-Arbeláiz, 2014; Bitchener, 2012), research on teachers' NfM strategies remains scarce. Furthermore, no prior studies have investigated an awareness-raising activity as an intervention and stimulated recall interviews on teachers' negotiation of meaning strategy use, which Shim (2007) suggested investigating to reveal teachers' intentional decision-making process during classroom interaction. To address these gaps in the literature, this research focuses on teachers' stimulated recall reflections on their negotiation of meaning strategy use including the intervention awareness-raising activity as a tool to see the shifts in teachers' reflective practices.

Despite the growing interest in teacher cognition and reflection, few studies have investigated how teachers consciously reflect on and evaluate their NfM strategies post-lesson. This study addresses this gap by integrating SRIs to capture reflective processes, contributing to a deeper understanding of teacher strategy use. In the light of the gap in literature, the research aims to answer the research questions below:

1. *What are the reflections of the EFL teachers' on their negotiation of meaning strategy use?*
2. *Does the awareness-raising activity on negotiation of meaning strategies have an impact on teachers' reflections?*

METHODOLOGY

This study adopts a mixed-methods explanatory sequential design within a quasi-experimental framework to investigate the impact of awareness-raising training on EFL teachers' use of negotiation of meaning (NfM) strategies by concentrating on two in-service EFL teachers' reflections on their negotiation of meaning strategies through stimulated recall interviews. This mixed method study's data collection is done by stimulated recall interviews (SRIs) participant teachers completed. The interviews were transcribed using the software MAXQDA and analyzed qualitatively by thematic analysis; while quantitative data were analyzed in IBM SPSS 29.0.2, aiming to find the statistical consistency and changes in the data.

Setting and Participants

The participants of this study are two in-service EFL teachers, whose ages are 31 and 32, working at an English preparatory school in Türkiye for eight years and teaching the same level of English, B2 according to CEFR levels. Both teachers are graduates of English Language Teaching departments and completed their master's in the same department. They teach different classes and to different students. Each teacher teaches a class of twenty students for twenty hours each week. They teach eight-week long English classes, and English is taught in an integrated way where four skills, grammar, vocabulary and pronunciation are taught together.



Data Collection and Data Analysis

Participant teachers completed two stimulated recall interviews (SRIs) where they reflected on their NfM strategy use in their recorded classes. Teachers' six lessons were video-recorded when students completed given tasks. In the stimulated recall interviews that teachers completed, they watched the video recordings of those classes. After the first three lessons, teachers completed the first stimulated recall interview and then took an awareness-raising training on the negotiation of meaning strategies. The second stimulated recall interview took place after the completion of the last three lessons. The first stimulated recall interview focuses on reflecting on the NfM strategy use of the first three classroom recordings (99 minutes for Teacher-1, 79 minutes for Teacher-2) while the second stimulated recall is for the last three recordings (108 minutes for Teacher-1, 114 minutes for Teacher-2).

SRIs were conducted in-person. In the SRIs, teachers watched the recordings and (1) they stopped it where they want to reflect on their classroom actions; (2) the researcher stopped the recording and asked questions regarding teachers' actions, what they think the action is, the rationale for those actions taken, and whether they would take the same action again.

Following Guba and Lincoln's (1985) framework, the study ensured trustworthiness through several strategies. Credibility was supported via member checking, where participants reviewed SRIs' transcripts to ensure their accuracy, also the interpretation of the thematic analysis. Transferability was enhanced by providing thick description of the teaching context and participant teachers, which was described in the previous section, so that it could be understood by an outsider and the data collection environment's and participants' features could be transferred to a new study if requested. Dependability was addressed through structured research design, consistent data collection and analysis protocol. The data collected from SRIs was transcribed and the themes derived from the data led to the use of thematic analysis in this research. Lastly, confirmability was ensured through audit trails where the researcher has a checklist to note different negotiation of meaning strategies, yet the details of checklist and analysis of it is not used in this research. Depending on the list of phrases collected from various NfM research, the researcher decided which strategy is used and records the strategy use.

Data triangulation was employed in this study by incorporating multiple data sources and analytical approaches, including classroom video recordings, two rounds of stimulated recall interviews (SRIs), and both qualitative (i.e. thematic analysis) and quantitative (i.e. descriptive and comparative statistical) analyses. This methodological triangulation allowed to cross-validate teachers' reflections with their actual classroom practices, which offers a richer and more reliable analysis of their negotiation of meaning strategy use. As Meydan and Akkaş (2024) emphasize, triangulation enhances the credibility, validity, and depth of qualitative findings by integrating diverse perspectives, and it leads to more comprehensive and trustworthy conclusions. In this research, triangulation strengthened the findings by allowing a more nuanced understanding of how teachers' NfM strategy use evolved following the awareness-raising activity.

The stimulated recall interviews were transcribed by MAXQDA software. Data were collected and analyzed qualitatively, using thematic analysis, which is "a method for identifying, analyzing and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79), for analysis considering teachers' reflections in the SRIs on their NfM strategy use, when and why they use the strategies. It is also analyzed quantitatively by IBM SPSS Statistics Program version 29.0.2. in terms of the teachers' reflections with their initiation, researcher's initiation, and the strategy uses that are not reflected at all in order to compare the change, if any, between two SRIs. The data were also analyzed to find out if the awareness-raising activity has an effect on teachers' reflections of their NfM strategy use as they complete one of the SRIs before and the other after the completion of the mentioned activity. These interviews aim to assess changes, if any, in teachers' negotiation of meaning (NfM) strategy use, such as repetition, recasts, and clarification requests, following the awareness-raising training.



The interviews are semi-structured, with questions designed to guide teachers in reflecting on their NfM practices. Teachers are asked to reflect on (1) the types of NfM strategies they use in their teaching, (2) the situations in which they implement these strategies, and (3) their perceived effectiveness.

FINDINGS

Qualitative Results: Teachers' Reflections

Stimulated recall interviews were transcribed and analyzed qualitatively by thematic analysis. Each participant's SRIs were compared with each other so as to find duplicating points, which generated codes and led the researcher to create themes for the similar codes. The qualitative data were analyzed to understand the reason why teachers use negotiation of meaning strategies and how different negotiation of meaning strategies is used. Comparing two SRIs' codes helped see the change after the intervention of teachers' reflections, also the variety of NfM strategies used in terms of different strategies, how those strategies are used and the purpose of using the strategies. The themes that emerged from the qualitative data are *teacher's comprehension*, *students' comprehension*, *student's production* and *student's accuracy*. Each theme reflects teachers' aim to use negotiation of meaning strategies, and codes explain which strategies are used and how they are used by the teachers.

Table 1. Teacher 1's aim to use NfM strategies as themes and codes of SRIs

Teacher 1's aim to use NfM strategies	Teacher 1's actions and NfM strategies in SRI1	Teacher 1's actions and NfM strategies in SRI2
Teacher's Comprehension	Saying what the student said by other repetition	Asking for an example by clarification request
	Asking for repetition by clarification request	Checking her understanding by other repetition
		Checking her understanding by comprehension check
Students' Comprehension		Checking her understanding by confirmation check
	Asking a question with rising intonation by clarification request	Asking for elaboration by clarification request
	Repeating what has been said by self-repetition	Asking for further explanation by confirmation check
	Rephrasing by other repetition	Clarifying a word's meaning by other repetition
	Giving examples by other repetition	Asking for additional questions by comprehension check
Student's Production		Rephrasing by other repetition
	Rephrasing by other repetition	Expanding on the idea by other repetition
	Asking for reasons by clarification requests	Asking for additional questions by comprehension check
	Giving a more suitable word for a better meaning by recasting	Repeating the instruction by self-repetition
		Rephrasing by other repetition



Teacher 1's aim to use NfM strategies	Teacher 1's actions and NfM strategies in SRI1	Teacher 1's actions and NfM strategies in SRI2
	Asking for elaboration by clarification request	Referring to the context clues using other repetition Leading students to an answer by comprehension check Asking for elaboration by clarification request Leading student to elaborate on the answer by other repetition Giving a more suitable word for a better meaning by recasting Providing explanation of the word by other repetition Joining the conversation by comprehension check and clarification request
Student's Accuracy	Giving the correct form by recasting Giving clues by self-repetition Giving examples by self-repetition	Giving the correct form by recasting Asking students to repeat their answers by clarification request Rephrasing by other repetition Giving the correct pronunciation by recasting

There are 4 themes derived from stimulated recall interviews for both teachers, which are *teacher's comprehension*, *along with students' comprehension*, *production* and *accuracy*. In the analysis of Teacher 1's stimulated recall interviews, it has been found that the *teacher's comprehension* theme has 2 codes in SRI1 while it has 4 in SRI 2. In SRI1, there are 4 codes for *students' comprehension* while there are 6 in SRI2. *Student's production* theme has the biggest increase, while there are 4 codes in SRI1, there are 10 codes in SRI2. Lastly, for the *student's accuracy* theme, in SRI1 there are 3 codes and for SRI2, 4 codes emerged from the data.

Table 2. Teacher 2's aim to use NfM strategies as themes and codes of SRIs

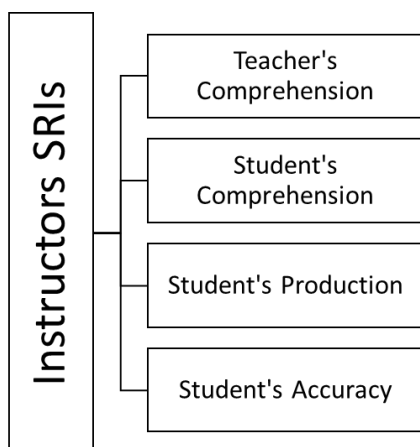
Teacher 2's aim to use NfM strategies	Teacher 2's actions and NfM strategies in SRI1	Teacher 2's actions and NfM strategies in SRI2
Teacher's Comprehension	Rephrasing what the student said by other repetition Asking a question by clarification request	Repeating what the student said by other repetition Asking a question with rising intonation by clarification request Making sure to understand the message clearly by other repetition Checking her understanding by confirmation check



Students' Comprehension	Asking a question to check students' understanding by comprehension check	Asking for further explanation by comprehension check
	Rephrasing by other repetition	Clarifying a word's meaning by other repetition
Student's Production	Saying what the student said by other repetition	Repeating what the student said by other repetition
		Summarizing student's answer by other repetition
		Giving a more suitable word for a better meaning by recasting
Student's Accuracy	Giving the correct form by recasting	Checking what student means and providing two options by confirmation check
	Giving clues by self-repetition	Giving the correct form by recasting
		Giving the correct pronunciation by recasting

Regarding Teacher 2, there are 2 codes from SRI1 and 4 codes from SRI2 for the teacher's *comprehension* theme. In the *students' comprehension* theme, both SRIs have the same number ($n = 2$) yet different codes. While the *student's production* theme for Teacher 2 has only one code for SRI1, this theme has 3 codes for the SRI2. There are 2 codes emerged from the SRI1 for the *student's accuracy* theme and 3 for the SRI2.

Figure 1. Themes of Instructors' SRIs



Drawing a conclusion from themes and codes derived from the data collected from the SRIs, although both SRIs for both teachers have the same themes, it is found that there are more codes in the second SRIs for both teachers (Teacher 1 = 24, Teacher 2 = 12), which may be interpreted as (1) teachers use negotiation of meaning strategies more, (2) teachers use them for more reasons (3) negotiation of meaning strategies are used for different reasons after the intervention session. This could be explained as the awareness-raising activity teachers completed after the first SRI as intervention has a positive effect on increasing the number and variety of reasons for using negotiation of meaning strategies and the frequency of using different strategies for different purposes (i.e. themes). Moreover, it could be read as there is a significant increase in the number of strategies used for student's production in the SRI2 (Teacher 1: SRI1 = 4, SRI2 = 10 codes; Teacher 2: SRI1 = 1, SRI2 = 3 codes), which is the most increase compared to other themes' codes, as it might be seen as



the awareness-raising activity may lead teachers to utilize strategies to increase student's language production.

Quantitative Results: Reflections in Stimulated Recall Interviews

Quantitative data obtained from the stimulated recall interviews carried out with the participant teachers were analyzed in IBM SPSS Statistics Program version 29.0.2. Descriptive statistics were presented to summarize numerical data for stimulated recall interviews and graphs and tables are shared below. The variables in the data aimed to compare the number of task-based reflections between two independent groups (Teacher 1 and Teacher 2), the Mann-Whitney U test, a non-parametric test, was used. This test was used to analyze data because of the small sample size ($n = 6$), the inability to meet the normality assumption, and the fact that the data level often consisted of ordinal or count values. The Mann-Whitney U test is frequently used to assess whether the median values of two independent groups differ statistically significantly.

Table 3. Ranks of Teachers' Stimulated Recall Interviews

Group	Number (of tasks)	Mean Rank	Sum of Ranks
Teacher 1	6	7.58	45.5
Teacher 2	6	5.42	32.5

Note. $n = 6$ (6 tasks completed in the classroom)

Table 4. Mann-Whitney U Test of Stimulated Recall Interviews

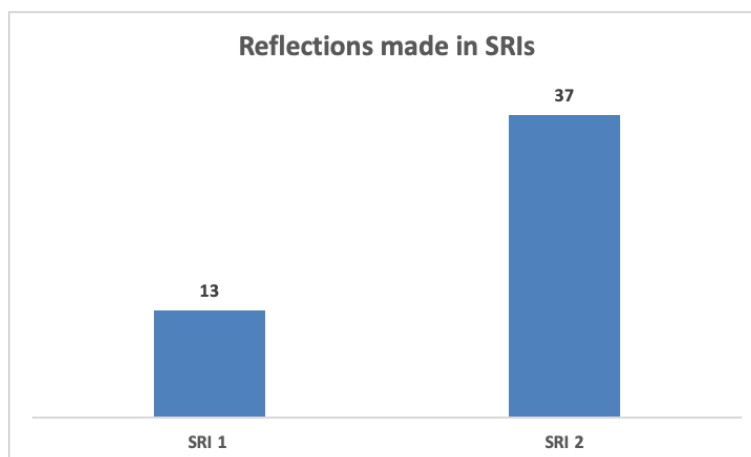
Statistics	Number
Mann-Whitney U	24.5
Wilcoxon W	32.5
Z	-0.97
p (2-tailed)	0.335

According to the table above, when comparing two teachers' SRIs, the significance level is .335. Significance level is greater than .05 ($p = 0.335 > \alpha = 0.05$); therefore, with the 95% Confidence Interval of the Difference, there is no significant difference ($p = 0.335 > \alpha = 0.05$) between two teachers who participated in this study. It should be noted that the alpha level was tested at a significance alpha level of 0.05 taking the risk of committing 5% Type I error.

Table 5. Reflections made in SRIs by Teacher 1

Reflections made in SRIs (Teacher 1)	Number
SRI 1	13
SRI 2	37

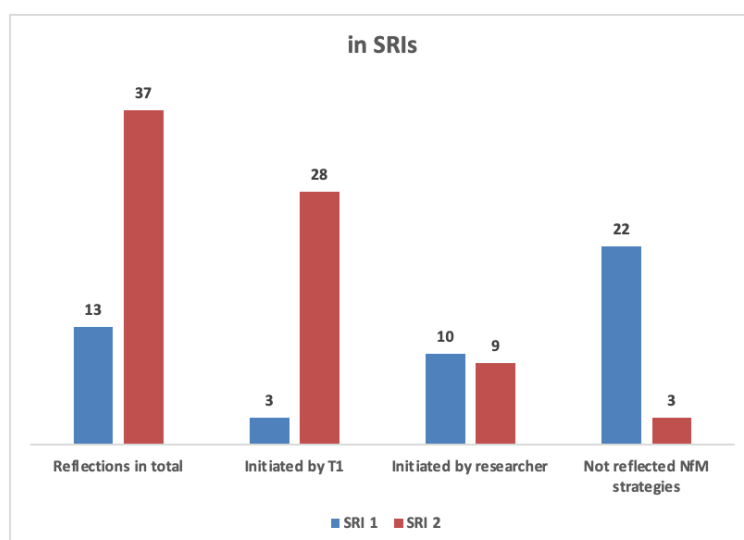


Figure 2. Reflections made in SRIs by Teacher 1

Two teachers completed two stimulated recall interviews to reflect on their teaching practices and negotiation of meaning use. After the first SRI, teachers were given an awareness-raising activity as an intervention with the aim of raising their awareness on negotiation of meaning strategies and how to implement them into their teaching practices. Teacher 1 reflected on 13 negotiation of meaning strategy use in the first SRI considering three lessons' video recordings, and reflected on 37 instances in the second SRI, which reveals 184.61% increase after the awareness-raising activity they completed after the first SRI.

Table 6. Teacher 1's SRIs Summary

SRIs	Reflections in total	Initiated by T1	Initiated by researcher	Unreflected NfM strategies
SRI 1	13	3	10	22
SRI 2	37	28	9	3

Figure 3. Teacher 1's SRIs Summary

When SRIs are broken down into the type of reflections as in whether the reflections initiated by the participant teachers, researcher, or no reflections are initiated, it is found that Teacher 1 initiated

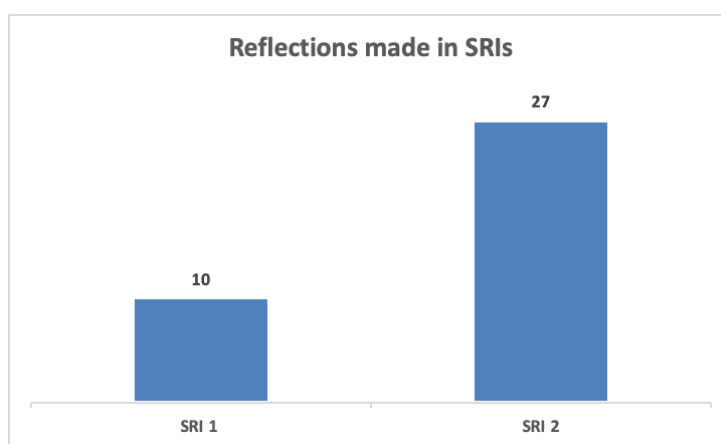


only 3 of the reflections in the SRI1 whereas the number of reflections initiated by Teacher 1 in the SRI2 increased to 28, which is a 833% increase. Reflections initiated by the researcher in the first ($n = 10$) and second SRI ($n = 9$) are quite close to each other. However, there is a drastic decrease in the number of reflections not being made when two SRIs are compared. In the first SRI, although using negotiation of meaning strategies in the lessons, 22 strategy use was not reflected, which outweighed the number of reflections made. On the other hand, in the SRI2, there are only 3 instances of NfM strategy use that were not reflected while reflected strategy use is 37.

Table 7. Reflections made in SRIs by Teacher 2

Reflections made in SRIs (Teacher 2)	Number
SRI 1	10
SRI 2	27

Figure 4. Reflections made in SRIs by Teacher 2

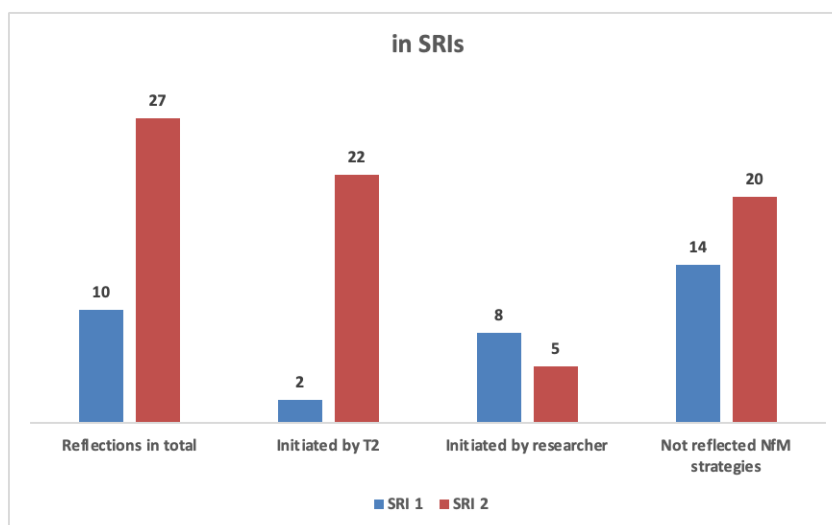


Teacher 2, on the other hand, reflected on 10 of her negotiation of meaning strategy use in the first SRI considering three lessons' video recordings, and shared her reflections on 27 instances in the second SRI, which demonstrates 170% increase after the awareness-raising activity she completed after the first SRI.

Table 8. Teacher 2's SRIs Summary

SRIs	Reflections in total	Initiated by T2	Initiated by researcher	Not reflected NfM strategies
SRI 1	10	2	8	14
SRI 2	27	22	5	20



Figure 5. Teacher 2's SRIs Summary

For Teacher 2, reflections in SRIs are divided into the type of reflections, whether the reflections initiated by the participant teachers, researcher, or no reflections are made. Teacher 2 started only 2 of the reflections in the SRI1 out of 10 reflections made in total while the number of reflections initiated in the SRI2 is 22, which is a 1000% increase. Reflections initiated by the researcher in the SRI1 are 8 and 5 in SRI2. Unlike Teacher 1, for Teacher 2, there is an increase in the number of reflections not being made in SRI2 compared to SRI1, 20 and 14 respectively. Nonetheless, still the number of reflections made ($n = 27$) outweighs not reflected ones ($n = 20$) in SRI2 while in the SRI1, there are more instances not reflected ($n = 14$) than reflected ($n = 10$).

Stimulated Recall Interviews (SRIs) Comparisons

Both teachers stimulated recall interview reflections and reflections' break-downs are shared in tables below. The tables present a comparison of the total number of reflections made by both teachers during their SRIs.

Table 9. Teacher 1's SRI Comparison

Category	SRI 1	SRI 2
Total Reflections %	37%	92.5%
Total Reflections (Number)	13	37
Teacher Initiated %	23%	76%
Teacher Initiated (Number)	3	28
Researcher Initiated %	77%	24%
Researcher Initiated (Number)	10	9

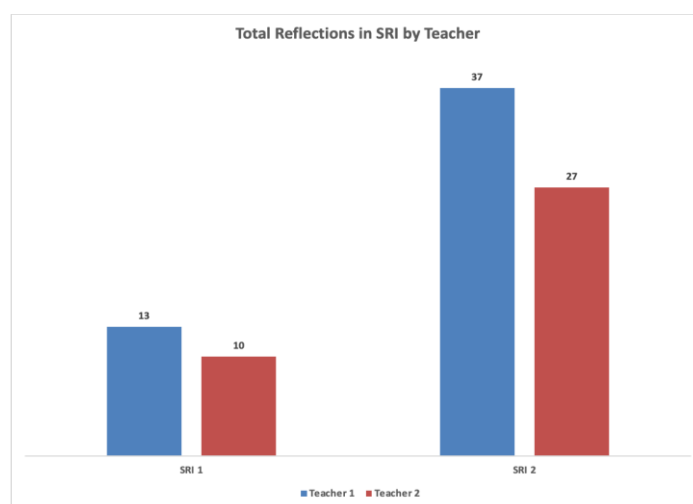


Not Reflected NfM %	63%	7.5%
Not Reflected NfM (Number)	22	3
Total NfM Instances	35	40

Table 10. Teacher 2's SRI Comparison

Category	SRI 1	SRI 2
Total Reflections %	42%	57%
Total Reflections (Number)	10	27
Teacher Initiated %	20%	81%
Teacher Initiated (Number)	2	22
Researcher Initiated %	80%	19%
Researcher Initiated (Number)	8	5
Not Reflected NfM %	58%	43%
Not Reflected NfM (Number)	14	20
Total NfM Instances	24	47

Figure 6. Teacher 1's and Teacher 2's Total Reflections in SRIs



The graph presents a comparison of the total number of reflections made by both teachers during their SRIs.

It is important that both teachers displayed a significant increase in the number of reflections during the SRI2 sessions. Teacher 1 produced 37 reflections in SRI2, while Teacher 2's reflection was recorded as 27. In addition, the total number of negotiation of meaning strategy use reflection shows a raise in the SRI2 for both teachers. These findings suggest that the teachers may have demonstrated an improvement in their reflective thinking skills after the intervention as they completed an awareness-raising activity about negotiation of meaning strategies as they reflected on more in the second SRIs. In addition, it could be noted that for participant teachers, while the number of reflections initiated by them rose in the second SRI, reflections initiated by the researcher dropped. Considering these results, it could be proposed that the awareness-raising activity and the use of stimulated recall interviews as a reflective tool has a positive impact on teachers' use of negotiation of meaning strategies in terms of the type and how they use the same strategies differently. Teacher 1's reflection is more than Teacher 2, which might be interpreted as individual cognitive tendencies, or personal interaction style differences.

DISCUSSION, CONCLUSION AND SUGGESTIONS

This study aimed to explore how in-service EFL teachers reflect on their use of negotiation of meaning (NfM) strategies through stimulated recall interviews (SRI), both before and after an awareness-raising activity. The findings provide insight into how teachers' reflective practices and strategic classroom interaction evolve when supported with targeted professional development.

The qualitative analysis indicated teachers' improvement in NfM strategy use when comparing two SRI reflection numbers and variety. These results are also supported by previous studies that show how teacher reflection combined with training can enhance teachers' classroom interaction patterns (Nakatsukasa & Loewen, 2017; Lyster & Mori, 2006). The increase in the number of codes in the second SRI put forward that teachers use NfM strategies more, and they use them for different reasons, which could be seen as a positive outcome of being able to reflect on their classroom practices and completing an awareness-raising activity on those strategies. Furthermore, considering the themes derived from the data, the increased use of NfM strategies to improve student production supports Swain's (2005) output hypothesis, which emphasizes the importance of pushing learners to produce language.

The quantitative data results revealed a significant rise in the number of reflections in the second SRI for both teachers (Teacher 1: 13 to 37; Teacher 2: 10 to 27). In addition, there is a shift toward teacher-initiated reflections' increase compared to researcher-initiated ones in the SRI2 for both teachers (Teacher 1: 3 to 28; Teacher 2: 2 to 22) that resonates with Farrell's (2013) work on reflective practice, suggesting that structured interventions can foster greater teacher autonomy in analyzing classroom interactions. The findings revealed significant increases in NfM strategies used following the training, reflected in the second SRI. This result supports Sato & Loewen's research (2018), demonstrating how targeted professional development enhances teachers' interactional skills. Regarding these outcomes, the awareness-raising activity using stimulated recall interviews might indicate a positive impact on using NfM.

It has been found that the number and variety of negotiation of meaning strategies used by teachers increased significantly after the awareness-raising activity, where they learned about the negotiation of meaning strategies, and how they can be used effectively in the classroom. The analyses revealed that teachers became more proactive in initiating reflections and more intentional in using NfM strategies, which indicates the awareness-raising activity's notable impact on their teaching. The findings also highlighted the significance of the teacher's reflection, which aligns with Freeman's (2016) research, where the teacher's cognition in classroom decision-making and its translation into practice through reflections is investigated. Since reflective practices lead teachers to observe, reflect on, and analyze, they create opportunities for teachers to improve their interaction styles.



The data suggest that awareness-raising activities, when coupled with SRI, can serve as powerful catalysts for teacher development. The stimulated recall methodology enabled teachers to consciously revisit their classroom decisions, promoting what Schön (1983) termed “reflection-on-action.” This type of reflective engagement not only deepens teachers’ metacognitive understanding but also influences future practice. The increased variety in strategy use—from clarification requests to confirmation checks—also aligns with Swain’s (2005) Output Hypothesis, as teachers appeared more attuned to encouraging learners’ production and repair opportunities.

Importantly, these findings highlight that teacher learning is not merely about accumulating knowledge but involves transforming teaching through reflective engagement. As Borko et al. (2020) emphasize, professional development outcomes are shaped by individual cognition and context. Teacher 1's greater improvement in strategy diversity may reflect individual cognitive or interactional preferences, yet both participants demonstrated enhanced reflective competence, indicating the method’s adaptability to varied teacher profiles.

The findings highlight that teachers do not merely react to learner communication issues but actively evaluate their strategic options in real-time and retrospectively. From a pedagogical perspective, this study underscores the value of embedding reflection and interaction-focused training into teacher education programs. Rather than treating reflection as an add-on, it should be woven into everyday teaching practice through activities such as SRIs, microteaching, and video analysis. As Walsh (2013) argues, classroom interaction is both the medium and the message of language instruction; supporting teachers in navigating this space is essential to effective pedagogy.

Methodologically, the use of SRIs proved to be a viable tool for eliciting detailed, authentic reflections on strategy use. When integrated with both thematic analysis as qualitative analysis and quantitative analysis of reflection frequency and type, SRIs provide rich data for understanding how teachers’ thinking and classroom actions changes due to the awareness raising activity. Moreover, the study incorporated trustworthiness principles such as member checking, data triangulation, and transparency in thematic analysis, which strengthened the credibility of the findings (Guba & Lincoln, 1985; Lyle, 2018).

The study is not without limitations. Its small sample size and short time frame limit generalizability. Further research could replicate this design with larger groups over an extended period, potentially incorporating learner interviews to triangulate perspectives on the effectiveness of NfM strategies. The inclusion of different teaching contexts—such as online settings or primary education—would also offer valuable comparative insights. The study's mixed-method design makes methodology and research design possible to apply to other research focusing on other classroom interactions with larger sample sizes, longer-term data collection, and diverse education settings.

In conclusion, this study contributes to the growing body of literature on the importance of reflection in teaching and interactional competence by demonstrating that teachers can meaningfully refine their NfM strategy use through structured reflection supported by SRIs. These findings echo the call by Andon and Eckerth (2009) for integrating pragmatic strategy training in language teacher education, and reinforce Vasquez and Harvey’s (2010) argument for incorporating empirical reflection tools into professional development. The implications are twofold: pedagogically, teachers benefit from developing their awareness of their interactional choices in the classroom; methodologically, researchers can leverage SRIs to capture changes in teachers’ cognition and classroom decisions over time. Ultimately, reflective practice supported by targeted interventions can empower teachers to become more effective, intentional, and responsive in their classroom discourse, enhancing both their development and their students’ learning outcomes.

Ethical Statement: This research has been conducted in compliance with the institutional regulations of Hacettepe University, as outlined in the ethical permission document dated 20/08/2024 (Document number: E-48490341-300-00003694069).



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