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Inside the black box: do teachers practice assessment as learning?

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Abstract: The conceptual development of assessment literature in recent years has been remarkable. One of the latest concepts to have emerged in parallel with this development is Assessment as Learning (AsL). This study investigated how AsL pertains to classroom practices within its conceptual framework by examining teacher reports. Case study design, a qualitative research method, was used to collect detailed information about in-class teacher practices. The teachers were interviewed with semi-structured interview forms and the data obtained were then analyzed using content analysis. The results revealed that in-class teacher practices were incapable of supporting AsL and promoting self-regulated behaviors and that many of the activities conducted in class were teacher-centered. Teachers did not apply self-assessment or peer-assessment practices, and the feedback they gave to students was mainly based on measurement scores. The researchers discussed the results in relation to the relevant literature and offered some suggestions for applying AsL in practice.

1. INTRODUCTION

Assessment greatly impacts student learning. Given the relationship between assessment and learning, it is no surprise that many studies have been made that examine this relationship. The terms formative assessment and summative assessment have been widely used in assessment literature, particularly since the 1990s. Formative assessment is used to support and improve student learning, whereas summative assessment is used for certification, ranking, or accountability purposes concerning student achievement.

The literature on formative assessment has continued to develop with different concepts for more than 30 years: mastery learning programs in the 1970s and 80s (Bloom, 1974; Popham, 1978), feedback-based assessment approaches (Sadler, 1989), and issues related to measuring, reporting, and profiling success in the 1990s (Torrance, 1991). In 1999, the Assessment Reform Group (ARG), an influential group of educational researchers within the United Kindom (UK),

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used the concepts of "Assessment of Learning" (AoL) and "Assessment for Learning" (AfL) for summative and formative assessment, respectively, by increasing the emphasis on learning in the assessment process (ARG, 1999). While AoL is generally used to judge measurement results and performance after a formal learning activity, AfL serves the purpose of improving the process of learning and teaching (ARG, 1999; Earl, 2003). In addition, based on Black and William's (1998) review of the literature and this study, it can be seen that debates about formative assessment are influenced by the studies made by the British ARG (2002) and Black et al. (e.g., Black et al., 2003, 2006) and focus on "assessment for learning."

The review study conducted by Bennett (2011) stated that the most frequently repeated definition of formative assessment, more specifically AfL, is that it is an assessment method that provides both students and teachers with feedback on student development and what more can be done to facilitate this development. Bennett (2011) also mentioned two different goals that stand out when conceptualizing AfL. The first is to develop diagnostic measurement tools within the scope of full learning tradition, and the second is informal ways to understand student outcomes and steer their learning. When the current definitions are examined, the second goal is more prominent. For example, the definition of AfL made by the UK Assessment Reform Group (2002) is as follows: "Assessment for Learning is part of everyday practice by students, teachers, and peers that seeks, reflects upon, and responds to information from dialogue, demonstration, and observation in ways that enhance ongoing learning." However, this definition has been criticized, particularly in classroom practices, because it focuses too much on achieving narrow learning program goals through tests (Swaffield, 2011; Torrance, 2012). In parallel with these criticisms, Klenowski (2009) made a definition of AfL that is "more pedagogical" and focuses on learning: "AfL is a part of everyday life activities in which the individual obtains information from conversations and observations, reflects this in his thoughts and actions, and reacts to it."

Conceptual discussions about AfL are also closely related to learning theories. When compared to the social constructivist approach, the role of assessment is completely different from the behavioralist traditional approach. In the behavioralist approach, we define learning goals, teach them specifically to students, and ensure that teachers know what "counts" for students to achieve that goal; that is, they know what behaviors are needed to complete the task at hand. This indicates a very well-structured and hierarchical approach in terms of organizing the syllabus and assessment processes, just like "building blocks." The social constructivist approach influenced by Vygotsky's (1978, 1986) arguments is treated as an interaction rather than a "transference" of knowledge and understanding. This interaction takes place between student-teacher, student-task, and student-student. Consistent with Vygotsky's (1978, 1986) arguments, what matters is determining what students have learned (what they have achieved or failed to achieve), as well as what they can achieve or are ready to achieve with teacher support or, in some cases, peer collaboration.

Although these two theoretical approaches assign different roles to assessment, in the accountability system, which focuses on test results, the development of AfL appears stuck in the "past" to a great extent (Torrance, 2012). More specifically, many studies addressing the relationships between AfL and learning (e.g., Graham et al., 2015; Klute et al., 2017; Lee et al., 2020; Hattie & Timperley, 2007), took increased test scores into account and highlighted "raising standards" (Torrance, 2012). This situation is seen as an important problem since an increase in test scores is not always an indicator of real improvement in academic achievement (Wyse & Torrance, 2009). When test scores are the only way to assess improvement, teachers have to increase test scores or exam results instead of focusing on the students' learning experiences or the diversity in their learning outcomes. This problem can be called "inside the black box." In other words, education policies in many countries treat the classroom as a "black box" (Black & Williams, 1998). To increase the quality of education, the focus is on changing

the inputs (e.g., teacher quality, standards for student achievement, technical and educational resources) and mainly using standard achievement tests to assess the outputs. This means that little or no consideration is given to what is happening in the classroom.

Conceptual discussions about AfL, particularly the criticisms of addressing AfL in relation to test scores, prompted us to consider the relationship between assessment and learning from a different perspective. In 2003, Earl (2003, 2013) added a new concept to assessment literature: Assessment as Learning (AsL). AsL is a key concept that facilitates learner independence and flexibility to improve learning. AsL refers to the development of learning by incorporating environments that support self-assessment, self-efficacy, and other self-regulated behaviors into the teaching and assessment processes (Dann, 2014; Earl 2013; Torrance 2007). With this suggestion by Earl, we can see that the scope of AfL has expanded in terms of assessing the role of the learner (student) in the link between the assessment and learning processes (Dann, 2014). From an AsL perspective, the student becomes involved in the learning process when his metacognitive and self-regulated skills are supported, and this in turn directly supports the learning process (Black et al., 2003; Lam, 2014). Students in a classroom organized according to AsL have more of a say in steering the learning process. At the same time, they understand the learning objectives and evaluation criteria and can their metacognitive skills to provide quantitative and qualitative feedback to steer their future learning (Davies & LeMahieu, 2003; Ferris & Hedgcock, 2014).

Conceptual definitions of AsL show that feedback, self-regulation, and self-assessment are key components of AsL. Up until the mid-20th century, the behaviorist learning approach was applied to feedback, and it was seen as a reward or a punishment that either increased or decreased learning (Kruger & Denisi, 1996; William, 2018). The definition of feedback evolved over the 20th century in line with changes in learning theory with the behaviorist approach dominant until the mid-20th century before being superseded by the cognitive and constructivist approaches (Brookhart, 2018). Black and William (2006) stated that since feedback for student studies reflects knowledge and understanding of student performance, it is accepted as an integral part of the learning process. Many empirical studies have confirmed the positive impact of effective feedback on learning outcomes (Butler & Winne, 1995; Clark, 2012; Manuel, 2015).

In addition to academic performance, effective feedback is also discussed in terms of its relationship with the other component of AsL, i.e., self-regulated features. Andrade and Brookhart (2016) and Clark (2012) suggested that feedback can support students' self-regulated learning and that it complements self-assessment in improving learning outcomes. These discussions reveal that effective feedback improves learning outcomes both directly and indirectly through self-regulated features. As a separate component, self-regulated behaviors are considered a form of self-regulation, a more general concept, that has been adapted to educational settings (Dinsmore et al., 2008). Zimmerman (2000) defined self-regulated learning as cyclically adapted self-generated action, emotion, and thought planned so as to achieve personal goals. According to these explanations, self-regulated learning refers to the mental, metacognitive, emotional, and motivational processes that learners go through while striving toward a goal. Weinstein et al. (2011) considered all cognitive, metacognitive, emotional, and motivational self-regulated learning processes used by students as "learning strategies" applied to generate meaningful learning content. The results of a meta-analysis of studies conducted at different grade levels confirmed that self-regulated learning has a positive effect on academic achievement (Dignath & Büttner, 2008; Theobald, 2021).

When considering self-regulated learning in the context of AsL, another structure that affects this relationship stands out: self-assessment. Self-assessment is an important component of formative assessment (Assessment Reform Group 1999) and is defined as students evaluating

their own work according to well-defined and understandable criteria and standards to improve their learning or performance (Brown & Harris, 2013). Panadero et al. (2018) stated that self-assessment is a critical self-regulated behavior. Recent meta-analysis studies have shown that self-assessment positively affects self-regulated learning (Andrade, 2019; Panadero et al., 2017) and success (Andrade, 2019).

Another important issue when discussing self-regulated learning is the presence of "others" (Panadero et al., 2018). "Others" interact with the learner and assist him in completing the task and regulating his actions (McCaslin & Hickey, 2001). In classroom settings, this interaction can take place with peers as well as an expert (teacher) (Andrade & Brookhart, 2016). Peer assessment is defined as the arrangements in which the success, quality, or value of the individual's product or learning outcomes are evaluated by their peers of equal status (Topping, 1998). The benefits of peer assessment for learning outcomes seem to be closely related to Vygotsky's (1978) theory of social development, which says that a child's development occurs through interaction with peers, teachers, and/or parents within a community and that a rich social environment supports learning and development by strengthening this interaction. Peer assessment can support students' cognitive development (Topping & Ehly, 2001), metacognitive awareness (Kim & Ryu, 2013), and social-affective development (van Gennip et al., 2009). Furthermore, if students are actively involved in peer assessment, they can be more autonomous learners (Bloxham & West 2004).

Discussions about formative assessment as a whole emphasize the active role of the student in the learning process. Studies made in the past 10 years show that the focus has shifted from the teacher to the learner (Lee et al., 2020). Assessment approaches including AoL as well as AsL need to become widespread to help students cope with the challenges they will face with their future learning and to support the lifelong learning process (Boud & Falchikov, 2006).

Despite the developing literature on AfL in the past two decades, it is noteworthy that studies on AsL as a sub-concept of AfL are particularly concentrated at the conceptual level. Given the breadth of definitions and the diversity in educational contexts, it is not easy to understand AsL, AfL, and AoL completely and accurately (Baird et al., 2017). In their comprehensive review study, Black and William (1998) pointed out that AfL remained a "weak" teaching practice. Remarkably, even though more than 20 years have passed, this situation is still true today. Recent studies have revealed that AfL and AsL are concepts not well understood by teachers (Dann, 2014; Lam 2013). Marshall and Drummond (2006) emphasized that formative assessment practices of teachers are often "convergent," that is, they focus on whether students have achieved the goals set in the syllabus. In other words, empirical evidence confirms that the correct and effective use of formative assessment in practice is still incomplete. This reveals how AsL, a somewhat new concept, pertains to teacher practices and shows that more studies are needed to determine its place in classroom practices.

Study results based on actual practice will facilitate our understanding of the interrelationships between assessment, learning, and teaching in a school context. It appears we need to examine what happens inside the classroom as a "black box," particularly in the context of preparing programs and content in support of AsL and to support teachers' skills in these practices. Although the conceptual framework of AsL has been defined, this study differs in that it reclarifies this concept to make it easier to understand AsL's complex conceptual framework and facilitate its integration into the learning process. In addition, this study methodologically focuses on what teachers do in practice beyond external test scores. Lam (2020) argues that this concept should be investigated with the best qualitative methods due to the process-oriented, content-sensitive, and reflexive nature of AsL. In light of all this, the researchers decided it was best to use qualitative methods to determine how AsL pertains to teacher practices.

This study aimed to collect information about the in-class teaching and assessment activities of teachers working in primary schools and to assess them in terms of their congruence with the conceptual framework of AsL. To this end, the researchers interviewed the teachers and asked them about the approaches they adopted with respect to the learning process, what they used measurement tools for, and feedback.

2. METHOD

2.1. Research Design

The study was conducted as a single case study based on qualitative research methodology. Case studies involve the researcher using qualitative data collection methods to collect in-depth information about cases in real life or those bounded by time (Creswell, 2018). This study focused on whether the teacher practices supported the critical components of AsL and attempted to reveal existing practices in detail using the information obtained from the interviews.

2.2. Participants

The participants of the study were 16 teachers teaching language, mathematics, and science in different secondary schools. In order to select most participants most beneficial to the study, maximum variation, volunteer (convenience), and criterion sampling were used together. Accordingly, taking into account ease of accessibility, the participants were selected from three Turkish provinces (Denizli, Istanbul and Kocaeli). The researchers were careful to select teachers who taught different subjects in different middle schools to ensure maximum variation.

Data saturation was considered when deciding on the number of samples (Hennink et al., 2017). According to Francis et al. (2010), saturation is a key indicator that the study's sample size is sufficient, and states that the collected data should the diversity, depth, and nuances of the topics being examined, thus ensuring content validity. Data collection was terminated when no new information was obtained from interviews and when the data began to repeat. It was, therefore, assumed that it was no longer necessary to collect more data and that adequate sample size had been reached. Table 1 describes the participants.

Table 1. *Demographic characteristics of the participants*

Participants	Gender	Seniority	Branch
P1	Female	16	Language Teacher
P2	Male	11	Mathematics
P3	Female	15	Science
P4	Male	14	Language Teacher
P5	Female	12	Language Teacher
P6	Female	8	Language Teacher
P7	Female	12	Science
P8	Female	12	Mathematics
P9	Male	22	Mathematics
P10	Male	12	Mathematics
P11	Female	12	Mathematics
P12	Female	20	Science
P13	Female	20	Mathematics
P14	Male	21	Language Teacher
P15	Male	18	Science
P16	Male	19	Mathematics

Table 1 shows that nine of the participants were female and seven were male. Seven of the participants were mathematics teachers, four were science teachers and five were language teachers, and their seniority varied between eight and 22 years.

2.3. Instrumentation and Procedures

The research data were collected by online meeting using a semi-structured interview form. An interview form was prepared based on the related literature of ASL and presented to expert opinions. The steps suggested by Cresswell (2018) were taken into account when planning the interview steps. First of all, open-ended and general questions were created in line with the research problem. In addition to these questions, sub-questions were asked to obtain more detailed information depending on how the interview progressed. The interview form contained three general questions that represent the critical concepts of AsL relevant to planning and teaching the lesson, student autonomy, and measurement-feedback. These questions were: "How do you start your teaching process and how do you proceed, what do you pay attention to?" "What are the roles of the teacher and the student in the learning process?" and also "What do you do to measure and assess your students' progress? How do you use feedback?" In addition, subquestions questions were asked to elaborate the questions and make them better understood. Experts (three in measurement and assessment, two native tongue experts, and two teachers) examined the interview form to check for clarity, comprehensibility, and suitability for the study. In accordance with the feedback from the experts, additional explanations about some concepts (for example, learning strategies) were included in order to enable the participants to understand and easily answer the questions in the interview form. In addition, probe (sub) questions were added to provide more detailed information about the measurement tools and the use of feedback. All of the experts reported that the questions could be answered by the teachers.

In line with the participants' preferences, the researchers decided to conduct the interviews in online meetings so they could take place in a relaxed and practical setting. Before the participants were interviewed, the researchers conducted pilot interviews with two teachers. All of the interviews were scheduled by making prior appointments and agreeing on a time. The researchers recorded each interview on video while paying attention to the quality of the sound and image. To gain the participants' trust, the researchers briefed them about the study and told them the video and audio recordings would be kept confidential, and that their identities would not be shared. They also asked the participants to participate voluntarily in the interviews. In addition, they told the participants to truthfully explain the actual situation, not the ideal situation, when answering the questions. Both researchers conducted the interviews, which lasted 30 to 40 minutes each. Ethics Committee Permission (Document No: E-93803232-622.02-193607) was obtained from Pamukkale University Institute of Social Sciences before the study began.

2.4. Data Analysis

The researchers followed the content analysis steps suggested by Berg and Lune (2016) and Cresswell (2018) when analyzing the data. They first collected data using interviews and then watched the videos to check whether there were any problems with the data recording. Once it was determined that the recordings were fine, one researcher transcribed the audio recordings verbatim. Analytical codes were then developed. This involved one of the researchers creating a code list and the other researcher re-coding the interviews using this code list. The codes that were not in the coding list or that the other coder could not determine were revised and this process continued until the two coders were in accord. The commonly used codes were grouped to determine categories and sub-themes. The sub-themes were then grouped to find the main themes. Two academics with experience in qualitative research were consulted to determine the logical fit of the main themes, sub-themes, and categories and to see if they were appropriate

for the study. Once consistency between themes and categories was assured, the researchers presented the findings obtained in the relevant theme and sub-theme together with examples taken from the teachers' comments. Furthermore, two other experts in the field coded two videos selected at random using these themes and the table containing the codes to check for consistency between the researchers and the other coders.

2.4.1. *Validity and reliability of the study*

The researchers pursued four strategies to ensure the validity of the study: clarifying researcher bias, member checking, rich thick description, and external audit (Creswell & Miller, 2000). Based on their previous interview experiences and because they are experts in measurement and assessment in education, the researchers briefly explained the purpose of the study to the participants at the start of the interview and told them how important it was that they answer based on their own in-class practices. Member checking involved creating a focus group consisting of four out of the 16 interviewees and asking them to evaluate the results. The participants were asked what they thought of the analyses and to offer any additional opinions they might have. All of the participants in the focus group said the findings reflected their views. Rich and thick descriptions were added to increase validity. This involved writing a detailed report about the participants, data collection, and the findings obtained from the interviews. Finally, for the purposes of external audit, the opinion of the two external researchers were asked to examine and evaluate the research process and the results. It can be said that the steps taken for validity also support the reliability of the study. The codes generated by the two researchers were checked for consistency with one another, then the first researcher created the code list. The other researcher used this code list to see if their codes were consistent with those of the outside coders. To do this, they checked for consistency between the codes by applying them to three randomly selected videos. Furthermore, to ensure external audit, the two coders, who had nothing to do with one another and the study, were asked to compare the relevant coding list with their own coding lists. Themes and codes that did not match were revised again.

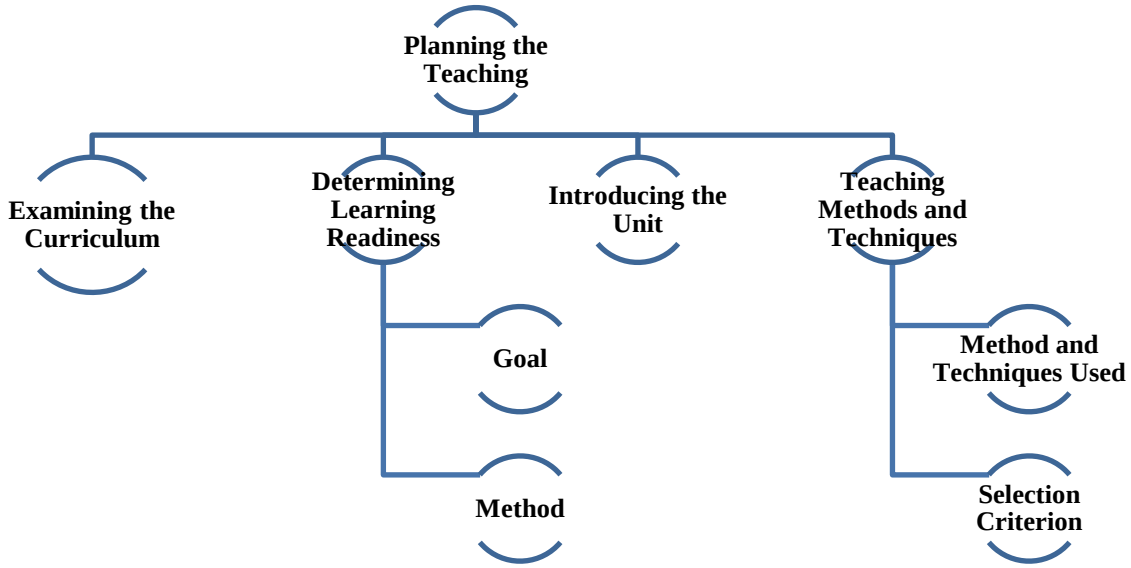
3. FINDINGS

The findings of the research were grouped under three themes (planning the teaching, teaching, assessing the learning outcomes) and 10 sub-themes; also, common categories were seen to form under the sub-themes.

3.1. Planning the Teaching

This theme includes the teacher's plans for the entire process before learning begins. Teach-er responses resulted in the creation of four sub-themes. Figure 1 shows sub-themes and categories in the theme of planning the teaching.

Figure 1. *Sub-themes and categories in the theme of planning the teaching*



3.1.1. *Reviewing the curriculum*

The first sub-theme gave information about how teachers prepare for the lesson before they start to teach it. The teachers stated in the interviews that they reviewed the syllabus and learning outcomes before starting the lesson or the learning process. The teachers' stated goals in doing this are "remembering the student's performance, planning activities around classroom facilities, scheduling time, remembering the topic content, planning activities suitable for the student level, and preparing a daily lesson plan."

The participants explained how they started would begin the lesson by examining the curriculum and said their basic aim was to plan in-class activities. The teachers also stated that they reviewed the curriculum and learning outcomes to determine the topic to be covered in the lesson. The participants express their views as follows:

> The curriculum changes all the time depending on the grade level. For 6th Graders, there are a lot of changes between the subjects and outcomes I taught them last year and what I'm teaching them this year. One topic can have three learning outcomes in one grade, then none at all in the next. (P16)
>
> I review the curriculum at the start of each week and decide what to do in each lesson and what activities to do. Some weeks, I do special activities and use materials, so I look at the outcomes every week. (P6)
>
> I review the curriculum and its outcomes to see which outcomes are different in which unit, to plan how I'm going to teach, plan our activities, and make initial preparations by realizing what is different in that unit. (P3)

The teachers said they do not do this for every grade level or at the start of each unit/learning process; nor do they feel the need to review the outcomes, given their experience. They did say that they review the curriculum "to remind themselves" of the outcomes if they are going to teach in a class that is new to them. One participant said:

> Some themes have specific outcomes. I need to see which theme has different outcomes and plan my teaching accordingly. Beginner teachers always have their lesson plans with them, but because we are a bit more experienced, we know what lessons have what outcomes. We don't need to keep a constant track of them. (P4)

3.1.2. *Determining learning readiness*

The teachers said they use what they know about the students from previous terms or at the beginning of the learning process to determine learning readiness before starting the lesson. In addition, teachers who said they know the class and the student well stated that they do not do any activities to determine readiness. Two categories emerged in line with the answers of the teachers who do activities related to determining readiness: The reason why the teacher determines readiness and the method he uses to do this. The teachers' main objectives in determining readiness are planning the teaching process and motivating the student about the lesson. Here are some teachers' opinions:

> At the beginning of each semester, I give my students an achievement test. This lets me get to know the student. If I already know the students, I don't really need to do this. I decide what kind of activities to do. (P9)

> I check the students' readiness before each lesson. We plan what to give and how much to give in the lesson. If the student's achievement level is low, I start the lesson at a lower level. If the child is successful, I start the lesson with an outcome that measures higher-level processes. (P16)

One teacher who thought that determining readiness played an important role in motivating the student before the lesson begins made the following remarks:

> I usually check learning readiness at the beginning of the year. I see what level the kids are on. For example, kids come not knowing much about multiplication tables. If this skill is not learned enough, we are going to have trouble solving other problems, and this can be demotivating. (P2)

The teachers used different ways to determine learning readiness levels. They assessed it by using readiness tests, asking short questions based on previous learning, assigning homework, or examining test scores from previous terms. Some teachers said that they also create small spaces to discuss the concepts in the unit to be taught. Here are the comments made by two teachers on this topic:

> I hold a readiness test at the start of the year. For 5th-graders, I do a test on what they learned in the 4th grade. I started doing this as I became more aware of the students. (P7)

> In the first five minutes of the lesson, I try to find out whether the student is competent enough to learn the topic. By asking questions. This is mostly a question/answer session. If the answers are incomplete, I try to complete them. I check whether they are lacking anything with respect to the previous topics. (P10)

3.1.3. *Introducing the unit*

The participants said they brief the students on the unit or the outcome before the learning begins. For example, telling them the topic titles, mentioning the content of the topic, associating the unit with daily life, explaining the relationship with the previous unit, explaining the activities to be done during the lesson, and having the student look over the content of the unit. Here are three teachers' comments:

> Just before starting the unit, I draw their attention to the topic headings in the list of contents. First, I introduce the general outline. This is important because if I don't, they can drop out of class, I tell them what they are going to learn, and I give them examples from daily life. (P12)

> We need to do some work every time we switch to a new unit. We may have to do some groundwork or some preliminary research. Apart from that, let's say he will acquire different skills, for example, writing skills, so I first explain what we are going to do, what our goal is, and step-by-step how we are going to do this in the lesson. (P1)

> I associate it with something from our daily lives so the student can picture it in his mind. I do this using a question/answer technique. I try to introduce the topic by using the images in

> the book. I also tell them what information they're going to get. I don't explain the outcome in detail. (P15)

3.1.4. *Methods and techniques of teaching*

The last sub-theme determined under the theme of Planning the Teaching was teaching methods and techniques. It was also determined that when planning the learning process, teachers made preparations for choosing the teaching methods and techniques they are going to use. This process is divided into two categories, namely, "the method they use" and "the criteria for choosing this method." The teachers said the preferred to use the "direct instruction, group work, discovery, experiment-observation, creative drama, and case study" methods in the classroom.

> Unfortunately, we utilize straightforward instruction. But, what I want him to do is learn by doing and living. Alas, there are many methods we can't use in the classroom. Sometimes, I teach using a smart board. We can also do group work. (P5)

> If I am going to teach grammar, I usually teach the lesson, meaning I give them the lesson. Sometimes, if we are going to do writing activities, they can be active. (P6)

> If necessary, I use direct instruction and learning by discovery, depending on the diversity of the topic. Sometimes, we use methods that allow them to learn interactively with each other. We use the weighted expression technique and the question/answer technique. (P10)

As can be understood from the comments above, although the teachers tended to use different teaching methods and techniques, they preferred the direct instruction method in which the teacher is active. They paid particular attention to "the content of the topic, the learning outcomes, the class's physical characteristics, the time allocated for the relevant unit in the syllabus, and student readiness" when choosing which teaching method to use. Here are three teachers' comments:

> I decide which method of instruction I'm going to use depending on the outcome or based on a daily plan. Sometimes it may not be appropriate for the level of the class, but I usually decide which teaching method and technique I'm going to use based on the learning outcome. (P13)

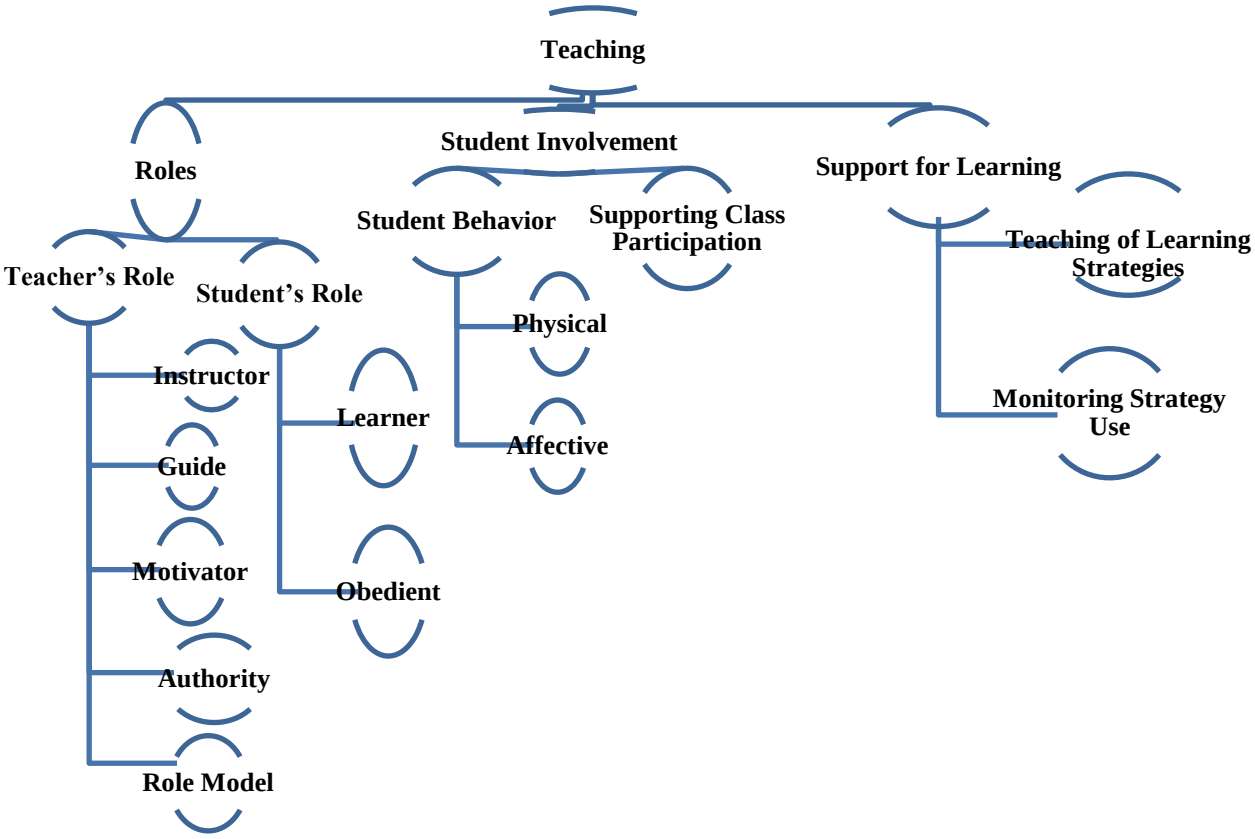
> I determine the method I will choose depending on the topic. If the topic appeals to more than one sense, the method I choose, such as writing, reading, and grammar also changes. (P14)

> The means offered by the classroom and the school influence how I determine student readiness. (P11)

3.2. Teaching

The second theme obtained from the participants' responses was related to the teaching. This theme had three sub-themes, namely, roles in the class, student involvement in the class, and support for learning. The sub-themes were further subdivided into six categories. Figure 2 shows the themes, sub-themes, and categories obtained from the opinions of the participants.

Figure 2. *Sub-themes and categories in the teaching theme*



3.2.1. *Roles*

The participants were asked about the roles necessary for successfully concluding the teaching. The answers were grouped under two categories: teacher's role and student's role. The teacher defined himself as "instructor, guide, authority, motivator, and role model" in the teaching process. Participants defined their *instructor* role as "transferring information, giving feedback, showing learning paths, and solving questions." Some participant comments:

> Usually, I'm the center of the class, and I'm the one who talks. This situation varies according to the topic; for example, I teach the lesson about mixtures first and then I let them work. They experiment with the materials they bring, and I stay in the background. (P12)
>
> I specifically tell them what the learning outcomes are when the lesson begins, and then we share roles. I ask them questions and let them talk more, and I observe them. (P6)
>
> I'm not supposed to direct; I'm more of a narrator. (P1)

Another role that the participants talked about was being a *guide*. They described this role as "guiding or steering the students, observing them, and intervening when necessary." This guiding role is explicitly mentioned in one participant's comments.

> As a teacher, I don't want to give students ready-made information only. I want to guide them. Of course, this is a difficult path; it's hard for me and the students. In the sense of learning, I want to teach them how to learn, how to study; I want to steer them. I don't want to give them a fish. I want them to learn how to fish. (P5)

The teacher set himself the role of the person who makes students like the lesson and who arouses curiosity in them. One teacher described the role of motivator as follows:

> Our first goal in education and instruction is to arouse the child's sense of curiosity in the classroom. Children do not always come to school with the same enthusiasm and excitement. I always try to light that initial spark of curiosity by asking questions or using activities. (P10)

Teachers emphasized the importance of being a leader in the lesson and exercising control so that learning could continue at a regular pace and defined themselves as the person who is in charge in the classroom. They defined the role of *authority* by using such concepts as "control center, class manager, directive giver." Teachers' remarks:

> You have to be the class's control center. Sometimes, when we show flexibility in managing the class, learning proceeds differently. This is why I try to be in control and have complete dominance over the class. I take charge at the start of the lesson. (P9)
>
> I want to be a guide, but I also like being a leader. Being in charge. I want to be an authority that the students respect and like. (P8)

From the teachers' comments, we can see that they emphasized the need to be a role model and used descriptions that highlighted the "role model" role.

> We must set an example both in society and in class. We try to manage our behavior from entering the classroom to leaving it. We try to set an example by writing something on the board or in our discourses. Right down to the clothes we wear. (P16)

The teachers also had views on what the student's role should be in the teaching. In their responses, the teachers grouped the role of the student into two categories, namely, "*learner* and *obeyer*." As a *learner*, the student should come to the lesson prepared, repeat what he has learned, participate in the lesson (follow the lesson, ask questions, join in activities, etc.), listen to the lesson, strive to learn, and be willing. The teachers gave the following examples in their comments:

> The student should come to the lesson prepared and curious. If he has a goal, he should follow the lesson as much as possible. he should have expectations at the beginning of the lesson. (P14)
>
> When I talk about the topic, the students are listeners only. But, when solving a problem, the responsibility lies entirely with them. They should ask when they get stuck. That's when I step in. (P12)
>
> As far as they are concerned, I am the one who possesses the knowledge and I try to present this knowledge to them. I want them to consult me, but it is debatable just how successful I am here. When explaining grammar, I am the only one talking. It can vary depending on the lesson, but I am usually the narrator. (P1)

The roles of *learner* and *obeyer* were usually mentioned together in the teachers' comments. The student in the role of *obeyer* should fulfill the assigned tasks, follow the rules and instructions, obey the teacher, and act in line with society's expectations. The following remarks support this role:

> The class has specific rules. What I pay attention to is the student doing what I want. As long as the student follows those rules, he can have freedom in the classroom. For example, he should do his homework, respect his friend, and bring the materials I want. (P12)
>
> I can be aggressive when they don't do the activities and homework that I set. The student should both obey the teacher and better himself in some way. (P10)
>
> My goal is that the student should be a good person first and then good at mathematics, a person who isn't unfair to others, who is honest, and who loves his homeland. I want him to like the lesson first. Success comes later. (P2)

3.2.2. *Student involvement*

Another sub-theme related to the teaching was student participation. In their explanations, teachers emphasized that student participation in class is a crucial part of learning and teaching. This sub-theme covered student behavior with respect to class participation and teacher behavior in class to increase student participation.

It was seen from the teachers' comments that they differed in what they considered to be class participation. While some teachers treated class participation in terms of the students' *physical*

(obvious) behavior, some emphasized *affective behavior*. Those teachers who considered student involvement in terms of their obvious behaviors stated that any student who spoke in the lesson, asked questions, did homework, took notes, participated in class activities, came prepared, listened to the lesson, and had high exam scores actively involved in the lesson. Here are comments by two teachers:

> Any student who applies what he has learned when asking a question or solving a problem on the board is a student who is actively participating in the lesson. Students who join in activities willingly in group work are those who participate in the learning process. (P8)

> The student comes into play both when the topic is being introduced and when it is being reinforced. I direct them to problem-solving and ask them to prepare some materials. Any student who stands up and solves problems on the board is participating in the lesson. (P3)

The teachers who associated lesson participation with affective behaviors thought that students who care about the lesson and show interest are actively participating in the lesson. One teacher explained:

> For example, we have been doing distance learning and holding live lessons online, but student turnout is low. I mean, there are supposed to be 27-28 students in the class, but only six or seven are online. I'm talking about their interest in the class and their anxiety. Active participation does not necessarily mean raising your hand or speaking up. I do need to see some commitment on the part of the student. he should care about the lesson. (P10)

The teachers said that they have a motivating role to play to increase the level of student participation. However, teacher behaviors also differed according to the degree of student involvement in class. For example, if there was a student who never participated in the lesson and insisted on this, the teacher would meet with the student one-on-one or direct the student to the school's counselor. Another way might be to contact the student's parents. One teacher explained:

> Some students never participate in class. I invite these students to join me in turn and we talk during recess. I talk to them once, then once again, but I won't push it if their behavior doesn't change. (P10)

The teachers stated that in classes where the level of class participation is moderate to high, when the motivation of the class decreases, or the students become distracted, they do activities that will attract students' interest to increase their class participation (giving examples based on daily life, giving awards, asking interesting questions, playing games, role-play, group work, grade threats) or they give them tasks in the classroom that they can be active in.

> I give my students reinforcements to keep them interested in the lesson. Well done, I say. I do mock exams once in a while, and I buy gifts for the top five in these exams. I sometimes give them stickers that say well done. They work hard to win one. They motivate the students. (P14)

> I try to increase student involvement by putting additional questions to the students. However, this situation changes for the 8th graders; those who answer the additional questions are the ones who already participate in the lesson, and I may have to threaten others with grades. (P12)

The teachers also stated that participation varied according to grade level. Participation in the 5th, 6th, and 7th grades is high, but participation in the 8th grade decreases. They explained the main reasons for this as the pressure and anxiety created by the exam to start secondary education and the distance learning during the COVID-19 pandemic. They highlighted student fatigue.

> Participation varies from grade to grade and the pandemic has created a gap between the 7th and 8th grades. The 8th-graders are very tired. They think they should go when the lesson ends, while the 7th graders compete among themselves and motivate each other. (P6)

3.2.3. *Supporting learning*

The last sub-theme in the teaching theme was supporting learning. The researchers tried to determine what the teacher did to ensure that the student was an independent learner. Under this sub-theme, the teachers' explanations were grouped into two categories: *teaching of learning strategies, and monitoring/checking the use of these strategies.*

The teachers in this study emphasized the teaching strategies they used in the classroom more than learning strategies. The teachers' remarks showed that they did not teach their students the learning strategies mentioned in the literature and did not create an opportunity to use them. Teachers intuitively assumed that students could determine the most appropriate strategy for themselves from among different learning strategies. However, they did not know which learning strategies students are aware of or use. The teachers reported this as:

> It is very difficult to determine which strategies individual students use; some students are auditory learners and others are visual learners. Actually, we do this without realizing it. Take explaining grammar, for example. We emphasize some important points. We write these points on the board and ask them to take notes, so what we want is for them to see it on the board. In addition, we use smartboards to get them to do topic-related activities. (P5)

> I use coding a lot when I teach the lesson, I make analogies and give real-life examples. For example, when I ask what is observed when light passes from a very dense environment to a less dense environment, they cannot answer the question, but when I ask what a vehicle does when it moves from dense traffic to light traffic, they answer, and I tell them that light does the same. (P12)

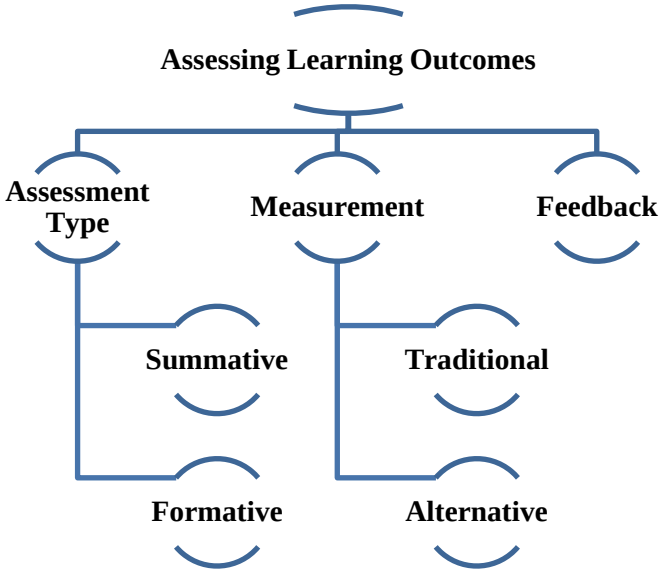
The teachers stated that although they did not do any activities to teach learning strategies, they did monitor whether students used appropriate strategies for themselves through individual observations. One teacher said that if the student gives correct answers to the questions asked, succeeds in the test exams, can do his homework, participates in classroom activities, and can self-evaluate, this means that he can choose and use the appropriate learning strategy.

> We diversify learning strategies to help students learn by using different strategies. We are increasing participation, as well. For example, if the student can apply what he has learned in the lesson alone; what we mean by "apply" is can he make similar examples or solve a question correctly? I use my personal observations to assess this. (P13)

3.3. Assessing Learning Outcomes

The last theme obtained from the teacher interviews was assessment of learning outcomes. This theme covered information relating to the process and assessment of the outcomes. The purpose of the questions put to the teachers was to determine what route they followed to support student self-learning. Three sub-themes were found under this theme: what route the teacher follows to assess learning outcomes (assessment type), the measurement tools and methods used to make this assessment, and feedback. Figure 3 shows the sub-themes and categories under the theme of assessing learning outcomes.

Figure 3. *Sub-themes and categories under the theme of assessing learning outcomes*



3.3.1. *Supporting learning*

The teachers stated that they assessed student performance at the beginning of the academic year, during the semester, or at the end of the semester. The responses were thus grouped into two categories, namely, formative and summative assessment. For formative assessment, they carried out activities aimed at "identifying and repeating what is missing in learning outcomes, receiving feedback from students about the teaching process, following students' individual development, identifying misconceptions, doing activities to reinforce what has been learned, assessing the difficulty of questions, and planning the lesson around student outcomes." In addition, the teachers added that formative evaluations also provide information about their own teaching practices. Here are examples of what the teachers said:

> I test the students at the end of each unit. I want to see where the student is lacking. I do this to repeat the topic where they are missing something. I see what they do and don't understand. This isn't for grades! (P5)
>
> There can be plenty of misconceptions in my class. I want to identify them and find out about the student's performance. Has the student's performance improved? Can I move on to the next unit? I tell him how he's doing. (P10)
>
> I hold a quiz at the end of each unit. I'm doing this for my benefit. I need to see how much the students have learned. If they don't achieve the learning outcomes, I don't move on to the next topic. I don't tell the students if they're doing very badly. (P4)

In formative assessment, they tended to "grade the student, assess student performance based on exam results, and check to see if the learning outcomes have been achieved."

> I quiz them every week, give them a test, and tell them what they are doing right and what they are doing wrong. This kind of assessment does not show the teacher what they have and havent achieved in terms of learning outcomes. It only tells the teacher if the students have learned the topic or not. (P14)
>
> I assess and grade the students based on their exam results at the end of the semester, their participation in the class, and the materials they made. (P8)

3.3.2. *Measurement*

The teachers utilized both traditional and alternative measurement methods. Pen and paper achievement tests, assignments, oral examinations, and opinion scores (observation of classroom student behaviors) are examples of traditional measurement methods.

> I mostly use multiple-choice tests and short-answer questions in the classroom. Observation is the most useful resource I have when it comes to students. I examine the students' notebooks and I look at their in-class speaking skills. I sometimes ask open-ended questions. P(8)
>
> We do tests to determine student performance. I use open-ended questions in classrooms for 5th grades, but I use multiple-choice questions to prepare 7th- and 8th-graders for the high school entrance exam. (12)
>
> I give oral exams to the students to assess what we do in the lesson. Sometimes I get a piece of paper out and ask questions, and I can tell from their answers what they can and can't do. P(15)

From the general comments of the participants, it was understood that many of them frequently use achievement tests consisting of multiple-choice items. They used sometimes alternative measurement methods such as peer assessment, performance assessment, and performance tasks/projects less. These were usually carried out in conjunction with group work.

> When I talk about percentages, I form groups of four. It may not be a fully detailed peer review, but one student evaluates the other in terms of his activities. (P2)
>
> I give the students questions, which they then solve. I then give them the solutions, and they or their peers check the answers. They mark them up or down. They help me with the scoring. (P13)
>
> Sometimes I give performance tasks, although not in every unit. I give performance tasks in the middle of the unit and collect student products at the end of the unit. (P7)

3.3.3. *Feedback*

The practices teachers used included telling students how many of the questions were answered correctly and incorrectly, explaining exam scores, telling them what was missing in their homework, and congratulating them when they succeed (well done, very good, applause, etc.). Here are some teacher comments:

> I call the student over after the test and tell him you made a mistake here. I tell him which type of question he makes the most mistakes in. I don't make a different activity for this. (P13)
>
> I tell him that he can do better if he wants to and is more careful. I congratulate students who excel in the test and tell them well done. (P10)
>
> I give students the answer keys for their homework so they can check for themselves what they got right and wrong. Sometimes, when they give answers, we weren't expecting, I get their classmates to applaud them. I give them plus and minus scores, but it's not that effective. (P12)

Another remarkable finding in the teachers' responses about feedback was that not every student receives feedback relating to access to learning outcomes and that those who ask for such feedback (e.g., students who reject the exam results and want their answer paper rechecked) or successful students are given feedback by telling them the number of right and wrong answers in the exam.

> We have weekly multiple-choice tests. Tests with 10 questions about the gains learned that week. After students answer, I tell them how many right or wrong they did. (P15)
>
> I administer tests to students in the middle and end of the semester. Some students object to their test results and want to see where they went wrong. I show these students their exam papers. (P9)

4. DISCUSSION and CONCLUSION

This study examined teacher reports to determine how AsL pertains to classroom practices taking into account its conceptual framework. Case study design, a qualitative research method, was used to collect detailed information about classroom teacher practices. The teachers were interviewed using semi-structured interview forms and the data obtained were then analyzed

using content analysis. Teacher responses were discussed under the themes of planning the teaching, activities, and measurement-feedback. The results obtained from these themes and the discussions on them are given under the relevant headings.

4.1. Planning the Teaching

The teachers made some preparations before teaching the lesson. These preparations included examining the outcomes in the syllabus, determining the level of student readiness, introducing the unit to the students, and deciding on the teaching techniques to be used. They used achievement tests or short question-answer activities to determine the students' degree of readiness before they start learning. Teachers should make initial assessments to determine what their learning needs are and it is clear that this practice contributes to AsL. Remarkably, some teachers were seen not to make this planning and associated not doing so with their experience.

What stood out in the teacher responses was that the mechanical way in which they informed the students about what was to be learned. The teachers mainly told them about the topics in the unit in question or its scope. The teachers did not provide sufficient information about what learning outcomes they expected their students to achieve by the end of the lesson. In other words, the teachers provided their students with content-oriented information about the subject/unit but did not tell them about the thought processes involved or the outcomes. As a result, the students began the lesson not knowing what was expected of them or what standards/criteria they were expected to meet if they were to pass. When considered in the context of AsL, students need to know the answer to the question, "Where are we going?" to be able to regulate their learning. Simply giving students a mechanical overview is not going to be enough to activate students' self-regulation behaviors within the scope of AsL.

Another aspect of planning the learning process is determining which teaching methods and techniques to use. Most of the participating teachers stated they preferred direct instruction. Teachers can find themselves with students having different levels of knowledge and can show them how to build on their current achievement levels. In this respect, teacher assessment practices should include innovative and efficient teaching, monitoring, and scaffolding activities and should take into account differences between students (Schellekens et al., 2021). The teacher responses did not reflect this point of view, however. The reason for this was seen to be closely related to the scheduling set out in the syllabus. It was understood from the teacher responses that they felt under pressure to complete the units/topics on time. This finding is similar to the findings of Akıncı et al., (2015) and Balbağ and Karaer (2017) studies, which found that the lack of time related to the implementation of the curricula is a problem. Furthermore, most of the teachers stated that the content of the topic was a key factor when deciding what teaching techniques to use. The teachers' answers did not reveal their thought processes or reasoning for the methods and techniques that would allow the students to play an active role in the learning process. Fenwick (2017) emphasized the incompatibility between the planned curriculum and classroom-level active assessment practices.

4.2. Teaching

The researchers obtained the participants' answers concerning the roles of teachers and students in the learning process. Most of the teachers defined their roles in keeping with the behaviorist approach. In other words, the roles mentioned the most were "the authority figure who manages the class" and "the one who teaches." Correspondingly, the role of the student was confined to "learner and obeyer." This finding seems to be smilar with other research findings (Thompson et al., 2017; Schellekens et al., 2021) revealing that learning in practice still depends on the teacher.

Although the teachers stated that the student should be at the center in the learning process, they also said that they adopted roles in which the student was less active and the teacher was the

instructor at the center of the class because of overcrowded classrooms, the packed syllabus, and the lack of resources and amenities at the school. The teachers' remarks do not seem consistent with AsL's approach to creating opportunities and environments that support learner autonomy. This is because the "self" is a key point of focus in AsL-related activities and learning experiences are structured on the "self."

The researchers asked the teachers what they thought about active participation, considering their responses to the role of the student in the learning process, and the majority of them defined active participation as observable student behavior. In other words, teachers thought that students who take the floor in the lesson, perform the tasks given by the teacher, and listen to the lesson were actively participating in class. The teachers' answers here seem to be consistent with the role of the student. AsL requires the student to be active in the learning process. In classroom practices, active participation occurs when there are activities that enable students to work on their self-assessment skills and use them (such as self-peer assessment) (Schellekens et al., 2021). In this case, the student is expected to take responsibility for directing their learning. Activities where the student can plan, monitor, and assess their own learning will support active participation. However, the teachers' responses to active participation seem to be a long way from activating "self" structures and true active participation. Some studies said most students reported that they participated very little in such assessment activities or not at all (DeLuca et al., 2018; Leirhaug & Annerstedt, 2016). Yet, a study has reported students having positive attitudes toward activities involving active participation (Thompson, 2017).

The teachers stated they carried out activities to ensure and maintain student participation in class. This is especially important in the context of AsL because participatory behaviors and motivation are necessary if students are to be self-regulated (Pintrich, 1999). In this case, it becomes difficult for students who are not academically ready and motivated for the lesson to manage their own learning processes. Remarkably, the teacher responses showed that teachers resort to in-class, context-independent methods such as silence, making jokes, or talking about extracurricular topics to ensure or maintain student motivation. Many strategies can be used to keep student motivation alive (for example, self-consequences, self-verbalization, game learning). These strategies make it easier for the student to manage his learning process, and result in the student developing a sense of being important or useful with respect to content or materials (Wolters, 2003).

The teachers' responses regarding the use of learning strategies and how accurately and effectively they are used showed that practices concerning in-class learning strategies are incomplete or wrong. The teachers said they do not do any activities relating to teaching and monitoring learning strategies or giving feedback to the student throughout the learning process. The reason for this is again understood from the teacher's responses. Remarkably, most of the participant teachers showed conceptual deficiencies or errors in their responses about learning strategies. From their answers, it was clear that the practices they adopted thinking they were learning strategies were teaching techniques. Some teachers stated that they adopted problem-solving (mostly multiple-choice) or repetition of the topic as a learning strategy. In this case, it is naturally difficult for teachers who do not have theoretical knowledge about learning strategies to teach these strategies to students and enable students to use them in different contexts. Other findings have shown that as a consequence of teachers' shortcomings here, students in various grades use basic strategies such as summarizing and making outlines more often than regulatory strategies (Garcia-Perez et al., 2021; Rovers et al., 2018).

4.3. Measurement and Feedback

The teachers stated that they most often used achievement tests to assess learning outcomes. These measurement tools were mostly used for summative purposes at the end of the learning

process, and particularly to manage teaching when the process was under way. Performance tasks and longer-term tasks such as projects were used less frequently than achievement tests.

The multiple-choice item format is widely used in both in-class and high-stakes testing. The participating teachers' responses saying that they frequently used this item format in their classroom exams support this. Similar findings are also found in other studies (e.g. Gelbal & Kelecioğlu, 2007; Karatay & Dilekçi, 2019). As other researchers have pointed out, multiple-choice items can strengthen students' short-term memory, but not foster critical thinking skills (Credé & Phillips 2011; Rovers et al., 2018). This shows why assessment activities matter. Assessment activities are known to have a strong bearing on learning approaches (Panadero et al., 2019). Other research findings showed that innovative assessment practices that support student learning are not regularly applied in the classroom (Hawe & Parr, 2014; Marshall & Drummond, 2006) and teachers are more committed to traditional approaches by focusing on their test scores (Hawe & Parr, 2014). In addition, Tan (2013) suggested that practical assessment applications are for the improving of short-term learning.

The teachers' responses revealed that classroom practices made little use of the feedback mechanism. While the learning process is under way, teachers who use measurement tools for formative purposes primarily use their results to check the effectiveness of their teaching. Their students received very little feedback regarding learning outcomes or student studies, and the feedback that was given was very superficial. Teacher feedback at the end of the learning process was largely limited to the number of right and wrong answers in the exams. Yet, the formative feedback given by the teacher is vital if students are to carry out and manage the learning process correctly. The purpose of formative feedback is to provide the person with the power to supervise and direct their own learning so that the person can be a more determined, responsible, and effective learner (Black & Jones, 2006). This explanation reveals the relationship between formative feedback and self-regulated learning. Butler and Winne (1995) stated that feedback is a natural catalyst for all self-regulated activities to support this. In this case, feedback such as informing the student about the number of right and wrong answers in the exam, telling him to "work harder" or "revise and recalculate your answer" will not help them become self-regulated learners because this does not strategically guide the student on how or why they should do this. The results of many meta-analysis studies revealed that formative feedback is effective for supporting students' high-level skills and deep learning (Hattie & Timperley, 2007; Swart et al., 2019). The responses of the teachers in this study showed that the feedback process takes place from teacher to student and there was no interaction between teacher and student. In the study conducted by Hargreaves (2014), interviews were conducted with teachers and similar answers were obtained emphasizing that teachers are active regarding the functioning of the feedback mechanism.

The teachers' responses showed that the students did not carry out activities to evaluate their own performance or the performance of their peers. The answers that stand out here reveal that the teachers did not trust the students when it came to assessment. In other words, the teachers did not believe that students could assess their own performance or that of their peers accurately and fairly, which is why they chose not to use self- and peer-assessment in class. In addition, this finding was not surprising considering the responses of the participating teachers that they mostly adopt approaches focused on test scores in their classroom practices.

Yet, a series of studies demonstrated good reliability and validity of peer assessments on average (Li et al., 2016; Liu & Ji, 2018). On the other hand, other studies support the teachers' concerns about self- and peer-assessment (e.g. Kovach et al., 2009; Ward et al., 2002). However, the reliability of self- and peer-assessment can be improved by increasing the assessors' understanding of content, quality and standards, assessment criteria, training, and means of self-

and peer-assessment (Sung et al., 2005). Nevertheless, despite these concerns, other meta-analysis studies have demonstrated the positive effect of formative self-assessment on self-regulated learning (Andrade, 2019; Panadero et al., 2017). Similarly, peer assessment is known to support autonomous learner characteristics (Bloxham & West 2004).

4.4. Limitations and Suggestions

This study does have some limitations. First, we met the teachers once only. It would be interesting to conduct follow-up interviews and observations, especially with teachers who practice ASL-based activities in the classroom, to collect more reflexive data regarding the process. Second, we collected online data based on solely teacher reports in the context of AsL. Future qualitative studies can collect and analyze data that reflect a more detailed process, such as in-class observation and interviews with students. Third, we did not limit our interviews in this study to any particular task. To provide a better perspective for AsL, teacher behaviors can be examined in learning tasks that require high-level skills.

This study presents some theoretical and practical implications for teachers, policy makers, and researchers concerning in-class AsL. As understood from our discussions, the teachers' AsL activities were highly superficial and seemed far from supporting learner autonomy. In addition, national high-stake testing, in particular, closely influenced what assessment activities teachers choose to conduct. AsL should be reflected in national-level curricula and activities rather than simply on a classroom scale and adopted as policy because teachers cannot be expected to adopt AsL conceptually and apply it in the classroom without knowing what it is. By adopting a political approach at the national level, teachers' professional development or the content of teacher training could be organized to accommodate AsL.

If teachers are to design a learner-centered learning process, they should acquire skills that will allow them to teach learning strategies. In particular, teachers should be helped academically in teaching deep learning strategies and designing assessment activities in support of this.

For AsL, teachers must use feedback effectively throughout the learning process. Examples of formative feedback and practices can be made available to the teacher through teacher education and digital content.

Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest. This research study complies with research publishing ethics. The scientific and legal responsibility for manuscripts published in IJATE belongs to the authors. **Ethics Committee Number**: Pamukkale University/Institute of Educational Sciences, E-93803232-622.02-193607.

Authorship Contribution Statement

Ozen Yildirim and **Safiye Bilican Demir** performed the same contribution for all the processes of the research from the beginning to the end.

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