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# Three Paradigms of Classroom Assessment: Implications for Written Feedback Research

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## ABSTRACT

Classroom assessment has always been an indispensable and integral part of any curriculum. In particular, assessment plays the role of reporting students' learning summatively (assessment of learning), providing diagnostic and formative information for teachers to inform their instruction (assessment for learning); more recently, Earl (2013) proposed the notion of assessment as learning, which puts students at the center of assessment. Students in this assessment paradigm act as critical connectors between assessment and learning through self-reflection and self-regulation. The first section of this article reconceptualizes summative and formative assessments into three assessment paradigms: assessment of, for, and as learning through incorporating Serafini's assessment models and Habermas's three human interests. In so doing, our understanding of the three paradigms is consolidated and enriched to encompass not only the pedagogical implications but also their philosophical and epistemological underpinnings. The second section of the article focuses on one particular kind of assessment method commonly used in language classrooms, which is written feedback. I summarize and categorize recent written feedback research with reference to the three assessment paradigms and suggest directions for future research.

## Introduction

Black and William's (1998) seminal work on the role of assessment in catalyzing students' learning marked a tipping point in classroom assessment research. Traditionally, assessment has been viewed as shouldering the summative role of certification, measurement, and accountability; this kind of assessment is also called "assessment of learning" (AoL) (Earl, 2013; Serafini, 2001) with a primary focus on technical interests, which highlights the control of environment, dominance of rules and standards, and effectiveness and efficiency (Ewert, 1991; Habermas, 1971; Mezirow, 1981); however, Black and his colleagues (1998, 2004) suggested otherwise: the top priority of any assessment should be "formative," in which learning outcomes of students are analyzed critically to inform teachers of their instruction and help students achieve their learning needs. In particular, teachers play a prominent role in establishing this communicative process with the students to understand students' learning needs (Serafini, 2001). Since then, there has been a proliferation of research into how this kind of formative assessment, or assessment for learning (AfL), could be implemented at the teaching-learning interface effectively. Researchers looking into AfL have garnered an array of evidence affirming the positive impact AfL has on students' learning (Black & Wiliam, 2006; Clarke, 2005). This body of work also suggests that more research into the issues related to practical implementation at the institutional level is needed. It is especially evident in studies situated in East Asian regions where high-stakes assessments dominate (Lee, 2007; Lee & Coniam, 2013). Educators in these areas focus primarily on the

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reliability and validity of assessment, and they face an educational system that prefers AoL over AfL. Scholars came to realize that when teachers implement AfL, they are affected by four key factors, which include the teacher factor (teacher beliefs), the student factor (students' readiness to take an active role in their learning), the school factor (school culture, appraisal policies), and the system factor (educational policies, curriculum orientation, and examination) (Carless, 2011).

## Paradigmatic developments

In response to these potential constraining factors faced by teachers, scholars have embarked on conceptualizing a new kind of assessment orientation, which places students in the limelight of the assessment process, called "assessment as learning" (AaL) (Earl, 2013; Ontario Ministry of Education, 2010). AaL, which is essentially, a subset of AfL, differs from AfL because students, instead of teachers, serve as the critical connector between assessment and learning. Contrary to the backward-looking orientation of AoL, which summarizes students' performance, AaL empowers students to be self-reflective and self-regulated to set personal learning goals and narrow the gap between their current learning and their future learning—the zone of proximal development (Vygotsky, 1978). AaL accentuates students' ability to do self-reflection and self-determination through utilizing their own "historical situations" (Mezirow, 1981, p. 6) (past learning experience) to solve current problems.

Summative assessment (AoL) and formative assessment (AfL) are often conceptualized as a dichotomy; their potential for complementarity has been underplayed. Two factors have contributed to this. First, most of the articles on AoL and AfL focused on the operational level, that is, how teachers put into practice these two paradigms of assessment; there is not an in-depth understanding of the philosophical and epistemological underpinnings of these paradigms, resulting in the widespread perception that AfL is the default approach and the "standard" practice. Second, AfL is generally regarded in the professional literature as an umbrella term to describe all forms of assessment that are used to promote students' learning. However, a closer look at the relative importance of the roles played by teachers and students in an assessment sheds light on a subset of AfL, AaL, which is more student directed. Being a relatively new notion of assessment, research on AaL remains scant, and a more thorough understanding of this new assessment paradigm is warranted.

This article first conceptualizes summative and formative assessments into three paradigms of assessment: AoL, AfL, and AaL (Earl, 2013). Instead of focusing on the operational level of assessments, the discussion will center on the undergirding philosophical and epistemological foundations of the three paradigms. In the discussion of these theoretical underpinnings, the three human interests (technical, practical (communicative), and emancipatory interests) proposed by a German sociologist and philosopher, Jürgen Habermas (1971), and the three assessment paradigms (assessment as measurement, assessment as a process, and assessment as inquiry) put forward by Frank Serafini (2001) will be constantly referred to. Habermas's knowledge-constitutive interests is a critical theory that "tries to understand why the social world is the way it is and... through a process of critique, strives to know how it should be" (Ewert, 1991, p. 346). The three human interests of Habermas are often used in educational research to analyze such issues as the orientations of curriculum and its components including assessment (Cornbleth, 1990; Grundy, 1987; Kemmis & Fitzclarence, 1986; Murhy, 2013; Terry, 1997). Terry (1997) argued that Habermas's three human interests represent three areas of knowledge: natural sciences and mathematics as represented in the technical interest, social sciences and humanities in the realm of practical interest, while the emancipatory interest is a way to conceptualize knowledge in political theory and psychoanalysis (cf. see Barwell, 2009 for a less bounded view of these areas of knowledge). These types of knowledge are useful, in Terry's words, to "[provide] us with a key to examining education structures, in which analytical knowledge comprises the content of education (the curriculum), hermeneutics inform educational methodologies (praxi) and critical modes of thought are brought to bear upon questions of policy" (p. 271). This discussion also draws on the ideas in Serafini's (2001) article as they relate to "the nature of knowledge, the level of teacher and student involvement, the criteria for evaluating

student achievement, and the effects of these assessment frameworks on classroom instruction” (ibid, p. 384). It is still the case that in the current literature on classroom assessment in language education tends to focus on the different methods and technologies rather than the theoretical underpinnings of the assessment paradigms (cf. see James, 2006, 2008 for a discussion on the epistemological and practical aspects of assessment). For example, in writing assessment, much discussion on formative assessment is related to portfolio assessment (Lam, 2015), computer-generated feedback (Ware, 2011), and peer feedback (Chong, 2017a).

## A conceptual framework of assessment

### *Assessment of Learning (AoL)*

AoL refers to “the predominant kind of assessment in schools... [that is] summative, intended to certify learning and report to parents and students about their progress in school, usually by signaling students’ relative position” (Earl, 2013, Loc 572). AoL provides reliable and valid ways to measure, summarize, and evaluate students’ acquired skills and knowledge instead of how assessment can be implemented in a way to improve learning and instruction. The certifying and benchmarking purpose of AoL is most evidently seen in examination-oriented education milieus, where the design of the assessment is at the discretion of government bodies and school administrators instead of teachers to achieve control and consistency in terms of difficulty and format (Huot, 2002). Regarding the role of teachers, they are merely administrators and markers of the assessment (Lee *et al.*, 2013). Teachers seldom have the autonomy to set the test and examination papers and develop their own marking guidelines. In some examination-oriented areas (e.g., Hong Kong), even though schoolteachers have to shoulder the responsibility to set test and examination papers, the content to be tested and format of those assessments are predetermined by the central government bodies and the management of the school. In higher education, instructors are also expected to set their final examination in alignment with the intended learning outcomes in the course outline. The quality of these summative assessments is gauged not on how accurately they reflect students’ learning in a given period of time but on how faithfully they adhere to the established examination system, social expectations, and expectations of the school administrators. For the students, they are merely hapless test takers who go through examinations on a predetermined scope. In addition to familiarizing the content of the assessments through drills and other repeated exercises, students have to develop a clear understanding of the requirements of these assessments, often high-stakes, usually through analyzing and practicing past exam questions and tasks. The reward for this kind of learning is measured by their performance in the form of grades or scores; to many of them, learning is equivalent to getting higher grades.

AoL bears resemblance to the first paradigm put forward by Serafini (2001), *assessment as measurement*. Serafini contended that AoL holds a positivist or modernist perspective of knowledge. In AoL, “knowledge is believed to exist separately from the learner, and students work to acquire it, not construct it” (ibid, p. 385). The process of learning is regarded as teachers-ed, that is, teachers as the knowledge transmitters and upholders of positive values; AoL advocates do not allow multiple interpretations or judgments and believe in absolute rights and wrongs.

The idea of technical interest proposed by Habermas (1971), which capitalizes prediction, effectiveness, and control, provides a philosophical underpinning of AoL. Under the technical human interest, the world is perceived as objective and it is “the sum total of what is the case and clarifies the conditions of rational behavior on this basis” (Habermas, 1984, p. 11). This positivist view of the “objective world” or external reality is governed by “law-like regularities” (Ewert, 1991, p. 349) that direct individual human actions. When these regularities or rules are observed and followed, effectiveness is achieved and efficiency is improved. To understand these observable regularities, data have to be reliable and should be collected empirically to solve societal difficulties (Fisher, 1980). When applied to curriculum, its function is to “define and control student learning” and the curriculum outcomes are perceived as “tangible products” (Fraser & Bosanquet, 2006, p. 279). This tangible product is realized in the students’

performance in the large-scale standardized tests and examinations. With this rational premise, the learning experience and environment are meticulously constructed by the one who holds power (e.g. school administrators, government bodies). Because curriculum matters (including the format of assessment) are thoroughly planned in advance, the interests of teachers and students are not at the foreground of the assessments that stem from this orientation.

### **Assessment for Learning (AfL)**

AfL is assessment designed to provide diagnostic information for teachers to modify and adjust their instruction in response to students' needs (Earl, 2013). The modification and adjustment of instruction can include slowing down or accelerating the pace of instruction, revisiting and consolidating past knowledge, providing additional support in the forms of materials, and sometimes fine-tuning (addition or deletion) of learning goals. Black *et al.* (2004) defined AfL as "any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning" (p. 2). In this kind of formative assessment the role of feedback is brought to the foreground because assessment information (e.g., strengths and weaknesses of students) should be communicated to the students, and teachers have to devise strategies to help students clarify their learning goals and understand the assessment criteria they are judged against. Ultimately, with the facilitations provided by teachers, students are empowered to gradually work toward their goals individually (Jones, 2010). Although students play an important role in AfL in reflecting on their own learning, Carless (2007) argued that teacher actions are of paramount importance in bringing about the effective implementation of AfL because teachers are the mediators "in enhancing student learning; improvements in the implementation of formative assessment depend largely on teachers' understandings of principles and practice in formative assessment" (p. 172).

Serafini's (2001) second paradigm, *assessment as procedure*, is helpful for elaborating on the principles of AfL. While this procedural or methodological paradigm of assessment was perceived by Serafini as being very similar to assessment as measurement, that is AoL, the emphasis on the use of an array of methods to collect information that reports students' learning in the classroom closely resembles the cornerstone of AfL.

Habermas's idea of practical interest throws important light on the very nature of the process of how teachers make use of assessment information to adjust instruction in communication and dialogue. As suggested by Habermas, practical knowledge aims at promoting mutual understanding in intention and actions through the use of language (Hoffman, 1987). In stark contrast with the technical interest that adopts an empirical-analytical approach of information collection, practical interest prefers to use hermeneutic or interpretive methods to inquire into meaning and action (Ewert, 1991). Being essentially interpretive, the practical interest shifts away from the observation of an objective world to the interpretation of actions. As Carr and Kemmis (1986) contended, actions can only be understood through the actor's intentions, meaning that actions are subjectively interpreted in relation to the actor instead of objectively understood. To convey assessment information to students and help students take ownership of their own learning, teachers have to interact constantly with students to make meaning of assessment. Carless (2006) described this process as "assessment dialogue" in which teachers clarify to students assessment criteria known to lecturers but less clearly to students. This assessment dialogue can be formal and informal. Formally, teachers can write down their expectations, the strengths and weaknesses of the students in written form (e.g., written feedback); alternatively, less formal channels, such as sharing in class and face-to-face consultation sessions, are also conducive to developing students' understanding of teachers' expectations. Moreover, the notion of interpretation stresses the importance for teachers to interpret the information collected about students' learning and make sense of this information in relation to the teachers' knowledge of learners and their characteristics (Shulman, 1987). Lastly, on the basis of their interpretation, teachers take appropriate actions to modify instruction and help students adjust their own pace of learning. In short, to facilitate this student-teacher dialogue about assessment expectations that leads to informed instructional decision making, a heavy emphasis is put on the

reflective ability of the teacher to synthesize and interpret the assessment information. Schwab (1969) claimed that teachers who possess this practical side of educational knowledge must “weigh alternatives and their costs and consequences against one another, and choose, not the right alternative, for there is no such thing, but the best one” (p. 36).

### **Assessment as Learning (AaL)**

Further extending the role of formative assessment and putting students at the center of assessment, Earl (2013) proposed the notion of *assessment as learning* (AaL) and gave her definition as follows:

It is a subset of AfL but it emphasizes the important role of students as active agents in the assessment process. Students not only contribute but also connect assessment with their previous learning to set up individualized goals for progress (Loc 553).

As a subset of AfL, AaL continues to highlight the formative nature of assessment in which assessment information is used to promote student learning. Nevertheless, unlike AfL, which emphasizes the active role of teachers in improving learning and teaching by designing appropriate assessment tasks, AaL puts students at the center of assessment. Students are empowered to be reflective learners who can critically evaluate their own strengths and weaknesses in learning, set up personal goals, regulate, and monitor their learning progress through using a variety of self-regulated strategies (Ontario Ministry of Education, 2010). In AaL, students not only contribute to the process of learning and assessment under the guidance of teachers as in AfL, students are “active agents” who connect their current performance in assessments with their own learning. The key to effectively realize this form of student-centered assessment lies in the development of students’ metacognition. The construct of metacognition is elaborated in this section because it is the catalyst for AaL to be effectively implemented.

A commonly adopted definition of metacognition is “how one monitors or thinks about one’s own cognition” (Dinsmore, Alexander, & Loughlin, 2008, p. 393) or simply, “thinking about thinking”. In his framework of metacognition, Flavell (1979) proposed that the monitoring system of cognition comprises four interactive variables: metacognitive knowledge, metacognitive experiences, goals/tasks, and actions/strategies. Among the four components, Flavell contended that metacognitive knowledge (MK) plays the most significant role in the whole cognitive monitoring process because it deals with “knowledge or beliefs about what factors or variables act and interact in what ways to affect the course and outcome of cognitive enterprises” (Flavell, 1979, p. 907).

In Figure 1, I conceptualize metacognition into two domains: knowledge and experience. While the *experience domain* refers to what Flavell called “metacognitive experiences,” the *knowledge domain* is equivalent to “metacognitive knowledge” (MK) mentioned in work by Flavell (1979), Wenden (1998), Brown (1987), and Schraw (2009), which includes person knowledge (PK) (knowledge about one’s self-concept, confidence, and belief in a learning task and activity), task knowledge (TK) (knowledge related to perceiving the purpose, requirements, and relevance of a learning task to one’s learning), and strategic knowledge (STK) (knowledge about learning and cognitive strategies to monitor and regulate learning). STK is further conceptualized into three specific knowledge types of knowledge, namely, declarative knowledge (DK) (the knowledge about what strategies to use), procedural knowledge (PRK) (the knowledge about how the strategies are to be used), and conditional knowledge (CK) (the knowledge about when the strategies are to be used). Following Flavell’s definition of metacognitive experiences, the experience domain is defined as:

...situations that stimulate a lot of careful, highly conscious thinking: in a job or school task that expressly demands that kind of thinking; in novel roles or situations, where every major step requires planning beforehand and evaluation afterwards; where decisions and actions are at once weighty and risky; where high affective arousal or other inhibitors or reflective thinking are absent. Such situations provide many opportunities for thoughts and feelings about your own thinking to arise and, in many cases, call for the kind of quality control that metacognitive experiences can help apply (pp. 908).



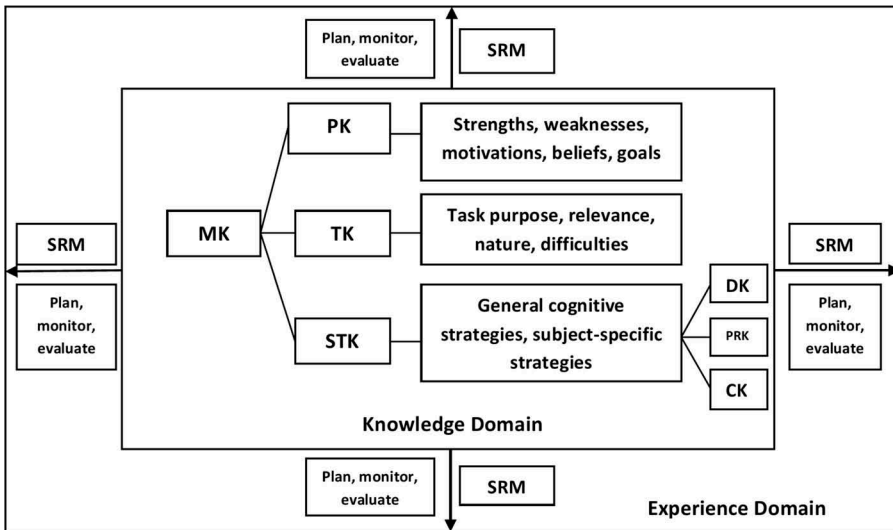


Figure 1. A conceptualization of metacognition.

While MK primarily concerns a person's understanding and awareness of one's cognition, which is essentially endogenous (Dinsmore *et al.*, 2008; Ruan, 2014), *self-regulatory mechanism* (SRM) entails a person's actual use of learning and thinking strategies to plan, monitor, and evaluate cognitive tasks such as learning and highlights the behavioral and emotional responses of learners in the experience domain (Bandura, 1977), which is exogenous in nature. These strategies are particularly useful in metacognitive experiences that require learners to be active and reflective thinkers, namely, AaL. In addition to the cognitive strategies used by students to complete a learning task, SRM also includes students' regulation of one's emotions. For example, upon receiving teachers' feedback, whether students take the comments as personal criticisms or constructive advice will affect students' motivation to revise and improve their work (Pekrun, Goetz, Titz, & Perry, 2002).

This understanding of metacognition also involves the role of teachers in AaL. Instead of only giving students the summative information about how they perform in an assessment task (AoL) or adjust their instructions to cater for the learning needs of students (AfL), teachers who adopt AaL are advised to help develop students' metacognition by providing opportunities for students to develop their self-regulated skills that can be used by students to monitor their own learning. Specifically, teachers should provide ample metacognitive experiences for students by engaging them in reflective assessment tasks such as self and peer evaluation to enrich their MK. For instance, teachers are advised to allocate lesson time to guide students to set appropriate and individual goals (Morisano, Hirsh, Peterson, Pihl, & Shore, 2010) and to promote cognitive strategies to monitor their learning (Zimmerman, 2002). Apart from giving support to students to develop their cognitive strategies to monitor and evaluate their learning, Voerman, Korthagen, Meijer, and Simons (2014) suggested that teachers should pay attention to the ways students regulate their emotions when attempting a learning task. For example, feedback that focuses on the student's character strengths is important to students' learning progress, especially when the learning task is challenging to the student. Students' regulation of their emotions is interrelated to their learning because emotions are an indispensable part of learning (Meriam, 2008; Voerman *et al.*, 2014) and they are "integral to one's sense of self" (Dirkx, 2008, p. 13).

Sharing the same student-centered and constructivist orientation as AaL, Serafini's (2001) third paradigm, *assessment as inquiry*, advocates the process of inquiry to "promote reflection concerning students' understandings, attitudes, and literate abilities" (p. 387). In this paradigm, assessment is

related to individual students and bound to a particular educational context. As opposed to the other two paradigms, the view of knowledge and knowledge construction is viewed in the assessment as inquiry paradigm as a social and highly contextualized activity. Similar to the assessment as procedure paradigm, assessment as inquiry relies on the use of appropriate methods or procedures to collect information about students' learning; however, assessment as inquiry refers to how teachers and students interpret the information to improve learning and teaching. Despite bearing resemblance to AfL because of the formative use of assessment information, assessment as inquiry highlights the central role of students. For example, when discussing how portfolios can be used to implement this assessment paradigm, Serafini (*ibid*) stressed that these portfolios should be learner-referenced (Johnston, 1997, as cited in Serafini, 2001, p. 388) to incorporate elements of ongoing self-evaluation and document students' interests, characters, abilities, values, and needs. Ultimately, the students should make use of the information documented in their own portfolios to reflect on their academic progress and growth. Taken as a whole, assessment as inquiry attempts to record the voice of students in the assessment process and the meaning ascribed to assessment by students to further their learning.

The emancipatory interest of Habermas resonates with the central notion of self-reflection and metacognition in AaL. To Habermas, self-reflection is a means through which humans are empowered to be freed from distorted communication and imbalanced social relationships to transcend and grow (Bullough & Goldstein & Holt, 1984; Kemmis & Fitzclarence, 1986). In essence, self-reflection entails a renewed interest in one's self; this self-knowledge includes knowledge of the past and the critical connection between the past and the present. Self-reflection is the gateway through which humans rediscover themselves to achieve a state of relational autonomy freed from social and institutional constraints (Ewert, 1991). Through self-reflection, humans are enlightened and empowered to act freely and make sense of the world in relation to themselves. Applying the emancipatory interest to education, students are perceived as active agents who create new knowledge and learning as dialogic rather than didactic. In the words of Fraser *et al.* (2006), "the students are the final authorities on what is 'authentic knowledge', as they judge it by whether it is generally true and whether it is also true for them" (p. 281). Consistent with this understanding of the emancipatory human interest, AaL can help identify the authentic knowledge students gained in assessment through critical reflective practice—the knowledge about their learning and academic progress (enlightenment), the knowledge that helps students plan their next stage of learning (action).

In this section the three paradigms of assessment, AoL, AfL, and AaL, are conceptualized in light of the three human interests by Habermas (1971) and the three assessment paradigms put forward by Serafini (2001). Figure 2 summarizes the discussion diagrammatically.

## Written feedback (WF) research

This section focuses on one particular form of assessment method, WF, and summarizes current research through the lens of the conceptual framework of assessment paradigms in the first section. Written feedback (WF), which is defined "as information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie & Timperley, 2007 p. 81), has been regarded as one of the most effective formative assessment tools to improve students' learning (Hattie, 2008), and thus, one of the most researched areas in formative assessment in the writing classroom in secondary and higher education (Lee, 2014; McGarrell & Verbeem, 2007). Research on WF has tended to focus on the *effectiveness* of different feedback types on students' uptake and transferability of information conveyed in teacher comments to the next piece of writing by students (Bitchener & Knoch, 2009; Sheen, 2007; Shintani, Ellis, & Suzuki, 2014). Another line of WF research has its focus on students' perception of teachers' WF to inform how teachers should go about giving WF. The underlying purpose is to establish an *assessment dialogue* between teachers and students to make WF conducive to students' learning (Carless, 2006). There is also research that views students as assessors/feedback givers for peers (Lundstrom & Baker, 2009; Min, 2006; Porto, 2001) and self (Lam, 2013; Ross, Rolheiser, &



|  | Assessment of learning (AoL)   | Assessment for learning (AFL)   | Assessment as learning (AaL)  |
|--|--|---|---|
| Earl's three forms of assessment         | <b>Purpose of assessment:</b><br>Certification of student achievement, sorting, teacher appraisal<br><br><b>Roles of teacher and student:</b><br>Test administrator/ marker and test taker<br><br><b>Intended audience for assessment outcomes:</b><br>Government bodies, school administrators, parents | <b>Purpose of assessment:</b><br>Modification of instruction and learning<br><br><b>Roles of teacher and student:</b><br>Teachers guide students to make use of the assessment task to improve their learning<br><br><b>Intended audience for assessment outcomes:</b><br>Teachers (and students) | <b>Purpose of assessment:</b><br>Promote students' self-reflection and metacognition about their learning<br><br><b>Roles of teacher and student:</b><br>Students as active agents while teachers provide explicit instruction on self-regulated strategies<br><br><b>Intended audience for assessment outcomes:</b><br>Students (and teachers) |
| Serafini's three paradigms of assessment | <b>Methods used to gather information:</b><br>Test scores (marks or letter grades)<br><br><b>Knowledge view:</b><br>Objective, observable, measurable, and is separated from humans  | <b>Methods used to gather information:</b><br>An array of qualitative and quantitative assessment methods to inform instruction<br><br><b>Knowledge view:</b><br>Objective, observable but is subject to interpretation   | <b>Methods used to gather information:</b><br>An array of qualitative and quantitative assessment methods to promote reflection<br><br><b>Knowledge view:</b><br>Knowledge as social construction   |
| Habermas' human interests                | <b>Philosophical underpinning:</b><br>Emphasize control of student learning and effectiveness of educational programs  | <b>Philosophical underpinning:</b><br>Emphasize communication and interpretation as a means to achieve mutuality  | <b>Philosophical underpinning:</b><br>Emphasize self-knowledge and self-reflection to attain relational autonomy  |

**Figure 2.** Conceptualization of AoL, AFL, and AaL.

Hogaboam-Gray, 1999). Students in these studies were viewed as *active agents* who took ownership in their learning through exercising self-reflection and autonomy in learning.

The issues related to purposes, topic, and design in WF research will now be viewed through the lens of the three assessment paradigms (AoL, AFL, and AaL) discussed earlier. Among the studies reviewed, it is shown that most of the research focuses on the effectiveness of WF in improving linguistic accuracy of students, which is heavily influenced by the AoL paradigm, whereas WF research adopting AFL and AaL orientations has been modest. In the last section I suggest future directions for WF research; specifically, I highlight the importance of investigating the role of teachers in assisting students to become more reflective and self-regulated, and the inclusion of the notion of metacognition in WF research. Different from other articles, which often describe feedback in practical terms, this discussion foregrounds the theoretical underpinnings of the three

assessment paradigms and the research designs of WF research and thus contributes to the research base on language assessment and WF.

### **Research with an AoL orientation**

WF research with an AoL orientation focuses on the effectiveness of different types of WF through analyzing whether students' writing performance improved in the revised draft or a new piece of writing. From these insights, researchers attempted to reach a conclusion regarding the most effect form of WF. This line of WF research has focused predominately on grammatical error corrections through the use of a particular form of WF called written corrective feedback (WCF) (Bitchener, Young, & Cameron, 2005; Bitchener & Knoch, 2009, 2010; Ellis, Farrokhi & Sattarpour, 2012; Ellis, Sheen, Murakai, & Takashima, 2008; Sheen, 2007; Sheen, Wright, & Moldawa, 2009; Shintani & Ellis, 2013; Shintani *et al.*, 2014; Stefanou & Révész, 2015).

The majority of these studies looked into the effects of focused and direct WCF on L2 university students' acquisition of word-level grammatical items, such as definite and indefinite articles, prepositions, the past simple tense. In particular, the quasi-experimental research design of these studies (which included a pre-test, treatment, post-test, and sometimes delayed post-test with one control group and at least one treatment group) and the predetermined grammatical items to be studied by the researchers strongly resonate with the AoL paradigm and Habermas's technical interest. In Table 1, I summarize 10 studies on focused WCF conducted in the last decade. The research design of these studies is highlighted to suggest their research orientation value control and effectiveness of WCF.

Findings from these studies showed that students who receive WCF in any form (especially direct WCF) achieve a higher standard of linguistic accuracy than those who do not receive any feedback from teachers. For instance, in the study conducted by Shintani *et al.* (2014) on 214 Japanese university students, four treatment groups who received WCF in different forms (two groups with metalinguistic explanation and two groups with direct WCF) were compared with the control group who did not receive any feedback from the teacher. The results indicated that while all treatment groups performed much better in the post-writing test and delayed post-writing test in the use of target language features (indefinite article "a/an" and hypothetical conditional sentence), those groups who received direct WCF outperformed those who received teachers' WCF in the form of metalinguistic explanation.

### **Research with an AfL orientation**

The AfL paradigm accentuates communication between teachers and students to achieve mutual understanding. With this practical-communicative interest in mind, WF researchers were interested in investigating teachers' and students' perceptions about WF—the interpretive meaning of WF to teachers and students (Carless, 2006; Hamp-Lyons & Chen, 1999; Hyland & Hyland, 2001; Lea & Street, 2000; Orsmond & Merry, 2011; Straub, 1997). Among this body of WF research, the majority has focused on students' perspective. For instance, it has been found that students do not respond to teachers' written comments because they misread and misunderstand teachers' WF (Lea *et al.*, 2000; Hamp-Lyons *et al.*, 1999; Straub, 1997). One area of teachers' WF that has been positively received by students is teachers' WCF. Although some scholars dismissed the effectiveness of correcting students' errors on students' acquisition of linguistic knowledge (e.g., Truscott, 1996), others found that, from the students' perspective, WCF was useful to them (e.g., Lee, 2008). Some other studies, such as the one conducted by Hyland *et al.* (2001), focused on the teachers' perception of WF. In their study Hyland *et al.* analyzed three types of teacher WF (praise, criticism, and suggestions) given to six ESL writers with various language backgrounds on a 14-week full-time English proficiency course at a university in New Zealand. In the study qualitative and interpretive research instruments, such as lesson observation (to obtain contextual information), teacher interviews, and think-aloud protocol with teachers when they were giving feedback to a piece of writing (to understand teachers' perception), were used. Results showed that praise was often



Table 1. Summary of studies on focused WCF.

| Study  | Focused WCF on...                                | Direct/ Indirect WCF | Participants                         | Treatment and Control Groups  | Effectiveness   | Effectiveness Measured by...  |
|--|--|----------------------|--------------------------------------|---|---|---|
| Bitchener <i>et al.</i> (2005)               | Prepositions, The past simple, Definite articles | Direct               | Post-intermediate adult ESL learners | <ul style="list-style-type: none"><li>Two treatment groups (direct WCF on target features and direct WCF with 5-minute student-researcher conference)</li><li>One control group</li></ul>                           | <ul style="list-style-type: none"><li>Students in the WCF and conference group achieved a better performance of simple past tense and definite articles but not prepositions.</li></ul>   | Four different pieces of writing within 12 weeks  |
| Sheen (2007)                                 | Definite and indefinite articles                 | Direct               | Adult intermediate ESL learners      | <ul style="list-style-type: none"><li>Two treatment groups (direct-only correction group and direct metalinguistic correction group)</li><li>One control group</li></ul>  | <ul style="list-style-type: none"><li>Both treatment groups outperformed the control group on the immediate post-test.</li><li>The group with direct metalinguistic correction performed better than the group with direct-only correction.</li></ul> | Immediate and delayed post-tests (a speeded dictation test, a writing test, and an error correction test in each testing session) |
| Ellis, Sheen, Murakami, and Takashima (2008) | Definite and indefinite articles                 | Direct               | Japanese university students (ESL)   | <ul style="list-style-type: none"><li>Two treatment groups (focused WCF and unfocused WCF)</li><li>One control group</li></ul>  | <ul style="list-style-type: none"><li>CF was equally effective for the focused and unfocused groups.</li><li>Both treatment groups outperformed the control group.</li></ul>  | Narrative writing tests (3 different picture compositions)  |
| Sheen <i>et al.</i> (2009)                   | Definite and indefinite articles                 | Direct               | Adult ESL intermediate students      | <ul style="list-style-type: none"><li>Three treatment groups (focused WCF, unfocused WCF, written practice)</li><li>One control group</li></ul>   | <ul style="list-style-type: none"><li>The group which received focused WCF achieved higher accuracy gain scores on all the grammatical items than the two other groups (one which received unfocused WCF and a control group)</li></ul>               | Pre-test, treatment, post-test, delayed post-test (all tests were written narrative tasks)  |
| Bitchener and Knoch (2009)                   | Definite and indefinite articles                 | Direct               | Low intermediate ESL students        | <ul style="list-style-type: none"><li>One treatment group (focused WCF)</li><li>One control group</li></ul>   | <ul style="list-style-type: none"><li>The treatment group outperformed the control group in all post-tests</li></ul>  | Five pieces of writing (pre-test, immediate post-test, and three delayed post-tests)  |
| Bitchener and Knoch (2010)                   | Definite and indefinite articles                 | Direct and indirect  | Advanced L2 learners in a university | <ul style="list-style-type: none"><li>Three treatment groups (written metalinguistic explanation, indirect circling, and written metalinguistic feedback with oral instruction)</li><li>One control group</li></ul> | <ul style="list-style-type: none"><li>The three treatment groups outperformed the control group in the immediate post-test.</li><li>There was no difference between the three treatment groups on the immediate post-test.</li></ul>                  | Three picture description tasks (Pre-test, immediate post-test, and delayed post-test)  |

(Continued)

Table 1. (Continued).

| Study                          | Focused WCF on...                                   | Direct/Indirect WCF | Participants                                  | Treatment and Control Groups  | Effectiveness   | Effectiveness Measured by...   |
|--------------------------------|---|---------------------|---|---|---|--|
| Farrokhi and Sattarpour (2012) | Definite and indefinite articles                    | Direct              | Advanced L2 learners in a university          | <ul style="list-style-type: none"> <li>Two treatment groups (focused corrective feedback and unfocused corrective feedback)</li> <li>One control group</li> </ul>   | <ul style="list-style-type: none"> <li>The two treatment groups outperformed the control group in the accurate use of articles</li> <li>Focused corrective feedback had a more positive impact on target structure accuracy than its unfocused counterpart.</li> </ul>  | Pre-test and post-test (picture compositions)  |
| Shintani and Ellis (2013)      | Indefinite article                                  | Direct              | Low-intermediate ESL students                 | <ul style="list-style-type: none"> <li>Two treatment groups (directive corrective feedback and metalinguistic explanation)</li> <li>One control group</li> </ul>  | <ul style="list-style-type: none"> <li>Direct corrective feedback had no effect on accuracy.</li> <li>Students who received metalinguistic explanation improved in accuracy.</li> </ul>   | <ul style="list-style-type: none"> <li>Time 1: Completed the Error Correction Test and the first writing task</li> <li>Time 2: Revision on the first writing task and completed the second writing task</li> <li>Time 3: Completed the same Error Correction Test and the third writing task</li> </ul>  |
| Shintani <i>et al.</i> (2014)  | Indefinite article and the hypothetical conditional | Direct              | Pre-intermediate Japanese university students | <ul style="list-style-type: none"> <li>Four treatment groups (metalinguistic explanation, direct corrective feedback, metalinguistic explanation with revision, direct corrective feedback with revision)</li> <li>One control group</li> </ul> | <ul style="list-style-type: none"> <li>All treatment groups showed an improved accuracy in using the hypothetical condition while there was no change in the control group.</li> <li>No differences between the treatment groups were noted for the indefinite article</li> <li>Direct corrective feedback had a more long-term effectiveness than metalinguistic explanation.</li> </ul> | <ul style="list-style-type: none"> <li>Time 1: All groups completed the first writing task</li> <li>Time 2: Groups without revision read teacher's feedback and completed a new writing task</li> <li>Time 2: Groups with revision were asked to revise the first writing task based on teacher's feedback</li> <li>Time 3: All groups completed the third writing task (delayed post-test)</li> </ul> |
| Stefanou and Révész (2015)     | Article with specific and generic plural referents  | Direct              | Intermediate ESL students                     | <ul style="list-style-type: none"> <li>Two treatment groups (direct feedback, direct feedback with metalinguistic comments)</li> <li>One control group (only spelling errors were corrected)</li> </ul>   | <ul style="list-style-type: none"> <li>Direct feedback had a positive effect on students' accuracy</li> <li>No conclusive evidence on the benefit of including metalinguistic explanation</li> </ul>  | Pre-test, post-test (a text summary test), and delayed post-test (a truth value judgment test)   |

used to soften criticism while most of the criticisms and suggestions were mitigated by hedging devices (“you *may* consider...”), questions (“Is this statement clear enough?”), and personal attribution (“If I were you, I would. . .”). Hyland *et al.* concluded that while mitigation strategies were useful in improving student-teacher relationships, these strategies made the WF more indirect and might result in misunderstanding on the part of the students.

To establish the mutual teacher-student understanding in the AfL paradigm, a few of these studies investigated students’ perception alongside teachers’ (Carless, 2006; Orsmond *et al.*, 2011; Straub, 1997). In his large-scale study examining how tutors and students in eight Hong Kong universities perceived the usefulness of feedback, Carless (2006) contended that WF was more useful from the tutors’ perspective than from that of the students. In a more recent study by Orsmond *et al.* (2011), their findings suggested that biological science students preferred teachers’ WF to include guidance that facilitates learning, while teachers were more concerned about giving praises and “correcting misunderstandings in the present assignment” (p. 125). In these two studies it was concluded that there were discrepancies between the conception of WF by teachers and students.

Adopting a different research design from the WF research with an AoL orientation, AfL-oriented WF researchers used a phenomenological approach that included such research instruments as interviews (Carless, 2006; Orsmond *et al.*, 2011), open-ended questionnaires (Carless, 2006; Straub, 1997), stimulated recall (Hyland *et al.*, 2001), and lesson observations (Hyland *et al.*, 2001). This phenomenological and qualitative approach of research puts people’s feelings, thoughts, and experiences to the foreground. Researchers who adopted this approach did not aim at drawing a solid conclusion about the “correct” way to give WF; instead, they were interested in teachers’ and students’ experience in the feedback process, and they perceived WF as a practice that is highly contextualized and the understanding of WF as subjective, personal, and interpretive. To this end, researchers contended that WF practice can only serve AfL purpose when a mutual understanding is reached through teacher-student dialogues regarding the types, quantity, specificity, tone, and focuses of WF (Carless, 2016). Nevertheless, to date, there has been a paucity of research looking into how such dialogue is made possible in the classroom setting and the process of negotiation of meaning in these dialogues.

### **Research with an AaL orientation**

The AaL paradigm puts students at the center of assessment, and students are perceived as the critical connectors between assessment and learning (Lee, 2016). Central to AaL is students’ self-reflection and self-regulatory skills; it is only through critical reflective practice can students make meaningful connection between the assessment information (WF provided by teachers and peers) and their own learning progress (how they respond to the WF). Contextualized in WF research, AaL-oriented studies focused on how students responded to teachers’ WF (Ferris, Liu, Sinha, & Senna, 2013; Hyland, 1998), the impact of peer assessment on students’ writing performance (Lundstrom *et al.*, 2009; Min, 2006; Porto, 2001), and impact of self assessment on students’ writing performance and self-regulation (Lam, 2013, 2015; McDonlad & Boud, 2010; Nicol & Macfarlane-Dick, 2006). In these studies, in common with many of the AfL studies, a phenomenological and qualitative approach was adopted with the use of interviews, classroom observations, and text analysis of students’ revision; nevertheless, AaL-oriented WF studies were much more focused on achieving a thick description of how students internalize and act on WF and what kinds of WF facilitated this internalization. Most of these studies adopted a case-study approach. For example, in Lam’s investigation (2015) of how WF was given in a portfolio assessment setting focused on two classrooms: a Grade 10 classroom and a university writing course. Lam analyzed how WF was given in these two classrooms in terms of focus, form, and process in the various stages of the “iterative portfolio development process” (p. 405) to promote students’ self-regulation and agency in their revised written assignments. In another of his study on portfolio assessment, Lam (2013) focused on one academic writing course and investigated how the two portfolio approaches, namely, working portfolio and showcase portfolio

influenced two groups of students' perception and response to the effectiveness of portfolio assessment in promoting self-regulation. In his investigation, Lam used multiple data sources, including semistructured interviews, students' reflective journals, classroom observations, and text analysis of students' revisions, to provide a thick and rich description of how students made use of assessment to improve their learning. In his study about how ESL students responded to teachers' WF, Hyland (1998) focused on only two students and how they used teachers' WF to do revision. To provide a rich description of the context and highlight the voice of the participants, Hyland collected and analyzed both the WF given by the teacher and contextual data, such as students' learning routines, their attitude toward writing, and their experience with writing. Results suggested that how the teacher's WF was used was highly dependent on individual students and their attitudes to and experience with writing.

Other studies with an AaL orientation adopted a longitudinal approach to investigate the changes and cumulative effects of teachers' WF on students' revision because how students make use of teachers' WF through self-reflection often takes time to develop, become mature and noticeable. Ferris *et al.* (2013) examined how 40 student participants reflected on their own self-monitoring processes when revising their essays based on teachers' WF in a 16-week semester. Throughout the semester, students were given three revision tasks, and semistructured interviews were conducted with students after each revision task to understand how they make use of teachers' WF to improve their own writing. Findings indicated that while students were positive about teachers' WF, the use of technical linguistic terms in the feedback hindered their self-editing and composing process. The study by Lundstrom *et al.* (2009) on peer assessment spanned across a semester. The researchers were interested in understanding how the 91 students made use of the experience of "giving" and "receiving" feedback to improve their own learning. Adopting an intervention study design with a pre-test and post-test, it was found that students who were feedback givers outperformed those students who only received peer feedback. Results also suggested that feedback givers who had a low writing proficiency benefited more significantly than those with a higher proficiency. In the areas of improvement, Lundstrom *et al.* (2009) concluded that students gained more in global aspects (content, organization) than local aspects of writing (grammar).

## Suggestions for future research

In this section I outline two research directions for WF researchers to consider in their future studies to encompass the notion of AaL and put students at the center of writing assessment. These directions include a dialogic approach to feedback and feedback practice from a sociocultural perspective.

The notion of dialogic feedback has been put forward by WF researchers as a conceptual framework or implications from feedback studies but is never thoroughly researched (Boud & Molloy, 2013; Carless, 2006; Carless, Salter, Young, & Lam, 2011, 2016; Nicol, 2010; Chong, 2017b). "Dialogic feedback" is defined by Mulliner and Tucker (2017) as "an ongoing dialogic approach that engages students more meaningfully in the assessment and feedback process, and facilitates the development of student self-regulation" (p. 267). In the dialogic approach to feedback, a closer relationship between the teacher and students needs to be forged, and students have to take ownership of the feedback they receive and transfer it into learning resources that benefit their learning. In current research much emphasis has been put on investigating how teachers and students perceive WF separately; even though some of the studies I mentioned earlier examined teachers' and students' perception in tandem, not much constructive insight was garnered because what findings repeatedly suggested was the different beliefs held by teachers and students about WF. Future research can consider focusing on the communicative process between teachers and students in resolving conflicting areas in WF and agreeing on common grounds for WF practice. In particular, the ways teachers give WF, which include the *feedback* (what the student did in this task?), *feedback up* (what the student can do better in the same task?), and *feedback forward* (what the student can do better in the next task?), elements that help clarify the teacher's expectations and guidance



that directs students' learning are worth exploring. Regarding students' ownership and uptake of WF, while some studies reviewed in this article focused on students' uptake of WF (e.g., how WF developed students' self-regulation), there is a paucity of research that investigates the process in which students engage with and understand the WF they receive. To report how students reflect on their own writing performance through engaging with WF, future studies should be longitudinal and focus on changes in how students make use of WF from teachers and peers, the cumulative effect of WF on students' self-reflection, and the effectiveness of dialogic feedback for teachers in gathering information related to students' emotional response to a learning task (Voerman *et al.*, 2014).

Another research direction that takes into consideration the AaL orientation is the investigation on teachers' Wf practice, students' response and engagement with WF from a sociocultural and socio-historical perspective (Lee, 2014; Vygotsky, 1978). Under the AaL paradigm, past knowledge and experience of students are perceived to carry significant impact on how students understand and engage with WF. WF research can adopt an activity theory perspective, which emphasizes the socio-cultural influences of human actions and practices, to unveil the contextual factors that facilitate or hinder students' engagement with WF from teachers and peers. Specifically, perceiving giving WF as actions in an activity system that comprises rules (conventions), community (participants), and division of labor (roles) can offer richer insights into students' diverse responses (Ferris *et al.*, 2013; Lee, 2014).

## Conclusion

This article conceptualized summative and formative assessments into three assessment paradigms: AoL, AfL, and AaL. With AaL being a relatively new notion, the first section provided a framework to conceptualize AaL and its difference with the more traditional paradigms of assessment: AoL and AfL. Drawing on Serafini's three assessment paradigms and Habermas's three human interests, our understanding of these three paradigms is consolidated and enriched to encompass not only the pedagogical implications (what teachers can do to promote AoL, AfL, and AaL) but also philosophical and theoretical underpinnings (why teachers need to assess students in this way). In the second section I focused on one particular kind of assessment method commonly found in language classroom, which is WF, and summarized and categorized recent research with reference to the three assessment paradigms. Lastly, suggestions for future WF research were made in light of the conceptual framework that WF should not only have an emphasis on effectiveness but in a more sustainable manner it should consider how students engage with WF through self-reflection and the factors that affect such critical and reflective practice.

The discussion on the three assessment paradigms is not intended to suggest that there is an "advancement" of classroom assessment from AoL to AaL; in other words, it is not my intention to argue that AoL is to be discarded and AaL should be fully embraced. Relating to the practice of giving feedback, it is not suggested that correcting errors in a student's work is an "ineffective" form of assessment because it only provides summative information while feedback which cultivates students' self-regulated skills in reflecting on their writing from teachers' feedback is the "ideal" type of assessment because students are taking ownership of their own learning (Lee, 2014). In fact, there are values in all three orientations to assessment (AoL, AfL, and AaL) in the language classroom, and teachers should develop their "assessment literacy" to identify the type(s) assessment that is the most appropriate to the readiness and maturity of students, the nature of the knowledge being assessed, and the ways assessment information is utilized (see Inbar-Lourie, 2012; Kahl, Hofman, & Bryant, 2013; Leung, 2013 for a further discussion on this point). Language teachers should feel professionally empowered to be flexible and eclectic in the form(s) of assessment to adopt in their classroom. This "eclectic" approach of assessment was elaborated by Lam and Lee (2009) in their article about assessing students' writing. They contended that the most effective model of assessment should serve both summative and formative functions:

While summative grades can provide students with an idea about where they are in their writing development, the formative aspects of classroom [assessment] can render summative grades more

meaningful by making students understand their strengths and weaknesses and what they need to do to improve their writing (pp. 62–63).

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