The Modern Language Journal

Feedback-Seeking Behavior in Language Learning: Basic Components and Motivational Antecedents

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This study investigated the concept of corrective feedback in second language learning as a learning resource, recasting it as *feedback-seeking behavior*. Dweck's (1999) mindsets, Korn and Elliot's (2016) achievement goals, and Ashford's (1986) model of feedback-seeking behavior were re-operationalized in the context of language learning. Questionnaire data from 287 college students studying foreign languages in the United States confirmed that learners make calculated decisions regarding whether to seek feedback, by what method, and from what source, based on their own perceptions of the costs and values associated with different feedback-seeking strategies, which are, in turn, largely predicted by the learners' language mindsets and achievement goals. Learners with a growth language mindset and development-approach goals sought feedback using both monitoring and inquiry methods and from teachers and others. Learners with a fixed language mindset and demonstration goals sought feedback only by method of inquiry but from different sources depending on the valence (approach vs. avoidance) of their goals.

Keywords: corrective feedback; feedback-seeking behavior; motivation; mindsets; achievement goals

CORRECTIVE FEEDBACK (CF) HAS BEEN THE subject of theoretical and empirical interest in the field of second language acquisition (SLA) over the last few decades. Researchers have extensively investigated various dimensions of the phenomenon such as the frequency of different types of CF (e.g., Lyster & Ranta, 1997), the timing of feedback (e.g., Fu & Nassaji, 2016), peer feedback (e.g., Fujii & Mackey, 2009), and the effects of different types of CF on learners' uptake (e.g., Lyster & Ranta, 1997) and learning outcomes such as grammar (e.g., Ellis, 2007), vocabulary (e.g., Ellis & He, 1999), phonology (Saito & Lyster, 2012), and pragmatics (e.g., Takimoto, 2006). These studies, which generally support the facilitative role of CF in second language (L2) learning (see Li, 2010; Lyster, Saito, & Sato, 2013; Nassaji, 2016), have shaped our current understanding of this multifaceted phenomenon and made valuable contributions to second language instruction. However, CF remains a controversial topic and far from being completely understood. One of the general and fundamental drawbacks in past and current research on CF has been the lack of sufficient attention to the role of individuals in the learning process. A closer look at the research conducted on CF suggests that these studies typically cast L2 learners as passive recipients of

The Modern Language Journal, 103, 1, (2019)
DOI: 10.1111/modl.12538
0026-7902/19/205–226 $1.50/0

different types of CF rather than as human agents who consciously, proactively, and selectively seek, attend to, and learn from such information.

SLA researchers who have taken a socially grounded approach toward the study of CF consider a more active role for the learner during the feedback exchange. Using experimental or conversation analytic methods, these researchers have highlighted the effectiveness of scaffolded and dialogically negotiated feedback (e.g., Aljaafreh & Lantolf, 1994; Nassaji & Swain, 2000), and the importance of looking at CF as a collaborative, sequentially unfolding, and embodied practice (e.g., Majlesi, 2018; Theodórsdóttir, 2018). These perspectives, however, have ignored the motivational, goal, and belief systems that might lead a learner to take part in such correction practices, and consciously pay attention to, selectively process, and try to learn from such feedback to begin with. In other words, the socially oriented approach seems to assume that regardless of their motivational states and dispositions, all learners orient to the feedback process in a similar fashion as long as the feedback is collaboratively negotiated, scaffolded, or given using multimodal resources. Such a view is in stark contrast with decades of psychological research revealing the motivational foundations of learning and behavior (see A. Elliot & Dweck, 2013).

Individual differences in how learners approach or respond to CF have received some attention within the cognitive–interactionist research tradition. These studies have highlighted the importance of factors such as age (Mackey & Oliver, 2002), proficiency (Nassaji, 2010), anxiety (Sheen, 2008), attention control, and analytic ability (Trofimovich, Ammar, & Gatbonton, 2007), aptitude (DeKeyser, 1993), working memory (Mackey et al., 2002), and learner beliefs and attitudes (e.g., Loewen et al., 2009). However, these studies have also reinforced the undergoer perception of learners in the learning process, as they have mainly focused on the reasons for learners' *receptiveness* to CF, or lack thereof, rather than their proactive involvement in the learning pursuit. In other words, CF has been viewed largely as a *teaching resource* and hardly as a *learning resource.* This is because one side of the equation which concerns the type of CF, and how, when, and where to give CF, has been extensively studied, while the learner's conscious and motivated involvement in the feedback process has remained an unexplored dimension.

To bridge this important gap and highlight the important issue of learner motivation and proactivity in the feedback process, the present study draws on social and organization psychology to introduce the notion of *feedback-seeking behavior* (FSB; Ashford & Cummings, 1983) to the field of SLA, and examine its motivational antecedents in relation to language learning. FSB refers to the actions and strategies that an individual employs to gather information and reduce uncertainty about his or her performance in the context of a goal pursuit. Ashford (1983) defined FSB as "the conscious devotion of effort toward determining the correctness and adequacy of behaviors for attaining valued end states" (p. 466). Not unlike the present study, Ashford and Cummings (1983) proposed the theoretical model of FSB in organizational settings to move beyond the concept of feedback as an organizational resource and reconceptualize it as "a valuable resource for individuals throughout their tenure in organizations" (p. 371). FSB has attracted many researchers in different branches of psychology (for a meta-analysis, see Anseel et al., 2015) but has not been investigated in the field of SLA. This is surprising considering CF has long been a central area of theoretical and empirical interest to SLA researchers. Examining FSB, which is generally viewed as "an effective self-regulation strategy to improve performance" (Anseel et al., 2015, p. 318), in the context of language learning can highlight the role of learner in the feedback process and help paint a more wholistic picture of how CF works in language learning and instruction.

Shifting the focus of research on CF to language learners' conscious and intentional FSB, on the other hand, would naturally require serious attention to the motivational attributes of the learners. As FSB scholars argue, "the key avenue to understanding how individual differences and contextual factors affect feedback-seeking strategies is uncovering the underlying motivational dynamics" (Anseel et al., 2015, p. 228). SLA research, nonetheless, has also been silent on the link between motivation and CF, which is rather surprising considering the long history of scholarly interest in these topics. In fact, the two recent state-of-the-art reviews written by leading CF experts (i.e., Lyster et al., 2013; Nassaji, 2016) make almost no mention of any motivational influence on the effectiveness of CF (cf. Bitchener, 2017). Nor have L2 motivation researchers shown any interest in this connection (e.g., see Dörnyei & Ushioda, 2011). This is an important gap in research in this area because regardless of the type of CF provided, the context in which it is provided, its scaffolded or multimodal mode of delivery, its interactional or pedagogical purpose,

its implicitness or explicitness, or learners' working memory capacity, analytic ability, and anxiety level, it is highly unlikely that students would pay attention and learn from CF if they lack the motivation to do so.

Drawing on Ashford's (1986) model of FSB from organization psychology, and Dweck's (1999) theory of mindsets and Korn and Elliot's (2016) model of achievement goals from social and educational psychology, the present study aims to bridge this gap by examining L2 learners' FSB and some of its motivational antecedents. Mindsets and achievement goals have previously been shown to be instrumental in understanding learners' quality of attention to and processing of feedback (e.g., Mangels et al., 2006), and their FSB (e.g., VandeWalle & Cummings, 1997; Tuckey, Brewer, & Williamson, 2002). In the following sections, FSB studies related to the present work are reviewed first; the theoretical frameworks used are presented next; and finally, the results of a survey study in the foreign language context of the United States are reported.

FEEDBACK-SEEKING BEHAVIOR

In a seminal publication, Ashford and Cummings (1983) proposed a model of feedback-seeking behavior in which "the individual is portrayed as existing within an information environment" (p. 382) where he or she can determine the efficacy of his or her goal-directed behavior and how this behavior is being perceived and evaluated by others by seeking feedback from them. The individual depicted in this model has feedback-seeking *motivations* such as increasing competence, self-evaluation, reducing uncertainty about the efficacy of behaviors, and error reduction, which determine the amount of effort the individual is willing to exert in his or her feedback-seeking pursuits. The individual also has an *organizing function*; a feedback seeker regulates and directs his or her efforts based on the goals he or she pursues. Finally, the individual has a *thinking function* regarding feedback information, in the sense that it is the feedback seeker who generates meaning from the feedback using the cues present in the environment, and his or her own goal and self-related schemas. The authors suggested two distinct feedback-seeking strategies, *feedback monitoring* and *feedback inquiry*. Feedback monitoring was defined as attending to and taking in personally relevant information from the environment through observing the situations and the behaviors of other actors present in the environment. Feedback inquiry, on the other hand, involves accomplishing the same goal by "directly asking actors in that environment for their perception of and/or evaluation of the behavior in question" (Ashford & Cummings, 1983, p. 385).

Ashford and Cummings (1983) proposed that the quality and quantity of FSB depends on the individual's cognitions about the anticipated cost and value of feedback seeking (see also Anseel et al., 2015). It is generally assumed that individuals consciously assess the costs and values associated with FSB before deciding whether, how, when, and from whom to seek feedback. The costs associated with feedback seeking include *ego cost*, "the cost suffered from hearing negative feedback about the self" (VandeWalle & Cummings, 1997, p. 392), *self-presentations cost*, which concerns "the cost of exposing one's uncertainty and need for help" (VandeWalle & Cummings, 1997, p. 392), and *effort cost*, "the level of effort required to obtain feedback information" (Ashford & Cummings, 1983, p. 387). However, the value of feedback seeking concerns "the belief that feedback sought will be useful for improving performance and developing ability" (VandeWalle & Cummings, 1997, p. 392). The value of feedback, which is considered the primary determinant of FSB, depends on numerous factors such as the individual's motivation in the goal pursuit; the quality of the corrective, directive, and incentive effects of feedback; and the context in which feedback is provided.

Numerous studies have examined different dimensions of FSB based on this model including the effects of various contextual and individual factors as well as the consequences of FSB. The studies have shown that feedback is sought more frequently when the perceived diagnostic value of feedback increases (e.g., Ashford, 1986; Tuckey et al., 2002), and the ego and self-presentation costs decrease (e.g., Ashford & Cummings, 1983; Ashford & Northcraft, 1992). Higher perceived value of feedback has also been found to motivate individuals to seek diagnostic feedback (e.g., Ashford & Tsui, 1991). The diagnostic value of feedback has been found to be higher when the individual is uncertain about his or her performance (e.g., Ashford & Cummings, 1985), little feedback is provided (e.g., Fedor, Rensvold, & Adams, 1992), and performance expectations are high (e.g., Wanberg & Kammeyer–Mueller, 2000). The value of feedback also depends on the source of feedback. The more credible the individual perceives the source to be, and the closer the emotional relationship between the individual and the source, the more frequently he or she seeks feedback from that source (e.g., Choi, Moon, &

Nae, 2014). Individuals distort feedback information (e.g., Morrison & Cummings, 1992) and seek less feedback in public (e.g., Northcraft & Ashford, 1990) to avoid making negative impressions on others (e.g., Tuckey et al., 2002), or protect their own egos (e.g., Ashford & Cummings, 1983). Such perceived image costs have been found to decrease feedback inquiry but increase feedback monitoring (e.g., Morrison, 1993; Northcraft & Ashford, 1990). Factors related to the individual such as propensity for external feedback (e.g., Fedor et al., 1992; London & Smither, 2002) and goal orientations (e.g., Tuckey et al., 2002; VandeWalle, 2003; VandeWalle & Cummings, 1997) have also been found to result in quantitative and qualitative differences in FSB. In terms of outcomes, FSB has been revealed to improve individuals' adaptation (e.g., Morrison, 1993), job performance (e.g., Ashford & Tsui, 1991), learning (e.g., Yanagizawa, 2008), and creativity (e.g., De Stobbeleir, Ashford, & Buyens, 2011).

ACHIEVEMENT GOALS AND MINDSETS

Achievement goals are considered important motivational constructs underlying the quality and quantity of individuals' FSB (see VandeWalle, 2003). Traditionally, achievement goals include performance and learning goals, which are related to differences in learners' cognitive, affective, and behavioral response patterns in various learning situations (e.g., Dweck & Leggett, 1988; E. Elliott & Dweck, 1988). According to Dweck and Leggett (1988), learners who pursue learning goals are concerned with increasing competence, and show mastery-oriented response patterns involving "the seeking of challenging tasks and the maintenance of effective striving under failure" (p. 256), whereas those with performance goals are concerned with judgments of their competence, and display helpless patterns "characterized by an avoidance of challenge and deterioration of performance in the face of obstacles" (p. 256). Achievement goals have been examined in relation to FSB in a few studies. In two of these studies involving 189 university students, Butler (1993) showed that learners in a task-focus condition (a temporary learning goal) requested significantly more task-related feedback and performed better than those in an ego-focus condition (a temporary performance goal), who preferred to compare their performance and ability against others. Performance goals have traditionally been viewed from the perspective of an approach–avoidance dichotomy. Performance-approach (or "-prove") goals concern proving competence whereas performance-avoidance (or "-avoid") goals concern disproving lack of competence. In a survey of 44 accounting students, VandeWalle and Cummings (1997) showed that a learning goal orientation positively correlated with FSB frequency whereas the correlations between the performance goals (both approach and avoidance) and FSB frequency were negative. In Study 2, they found that the perceived value of FSB correlated positively with learning goals and negatively with performance-avoid, whereas perceived costs correlated negatively with learning goals but positively with both performance-approach and performance-avoid goals. Similarly, VandeWalle et al. (2000) showed that learning goals predicted the perceived value of feedback positively and the perceived costs of feedback negatively. In a study of tutor–student relationships, Tuckey et al. (2002) showed that the desire for useful information was positively predicted by a learning goal orientation, which, in turn, positively predicted FSB, whereas performance-prove positively and strongly predicted the desire to protect one's ego and defensive impression management, and negatively predicted FSB frequency.

Whereas these studies have employed earlier formulations of achievement goals, the present study adopts Korn and Elliot's (2016) recent model of achievement goals. This model bifurcates each of the learning and performance goals (relabeled as development and demonstration goals, respectively) into two goals based on their valence (approach vs. avoidance). *Development-approach* and *development-avoidance* relate to improving competence and maintaining competence, respectively. *Demonstration-approach* concerns demonstrating competence and *demonstration-avoidance* concerns avoiding the demonstration of incompetence.

Dweck and Leggett (1988) proposed that learners' adoption of performance versus learning goals could have roots in their mindsets, that is, their beliefs about the malleability of their intelligence. More specifically, "conceiving of one's intelligence as a fixed entity was associated with adopting the performance goal of documenting that entity, whereas conceiving of intelligence as a malleable quality was associated with the learning goal of developing that quality" (p. 256). According to Dweck (1999), individuals with a *growth mindset* (also called an *incremental theory of intelligence*) believe that they can grow their intelligence by practice and effort whereas those with a *fixed mindset* (also called an *entity theory of intelligence*) believe that they cannot change

their intelligence. Mindsets have been widely applied in various domains of educational and social psychology. Studies have found that whereas a growth mindset is associated with a mastery goal orientation (e.g., Good, Aronson, & Inzlicht, 2003; Thompson & Musket, 2005), classroom motivation (e.g., Blackwell, Trzesniewski, & Dweck, 2007), and achievement (e.g., Thompson & Musket, 2005; Yeager et al., 2016), a fixed mindset results in social comparison goals and poor performance (e.g., Thompson & Musket, 2005). In one FSB study, Devloo, Anseel, and De Beuckelaer (2011) showed that when there was a perceived mismatch between the demands of a job and the individuals' abilities, those with a growth mindset sought more feedback while those with a fixed mindset did not. Mindsets have also been shown to significantly impact the processing of corrective feedback. Mangels et al. (2006) used electroencephalography to examine how students with different mindsets react to performance-oriented versus learning-oriented feedback. Event-related potentials (ERPs) showed that performance feedback (success vs. failure) increased brain activity for all the participants regardless of their mindsets whereas only participants with a growth mindset showed increased brain activity when learning-oriented feedback (i.e., corrective information) was presented. In fact, not much brain activity was detected for the participants with a fixed mindset during the presentation of the corrective information.

Whereas Dweck's theory has recently been employed in a few studies in the field of language learning (e.g., Lou & Noels, 2016, 2017; Mercer & Ryan, 2009), the relationship between L2 learners' mindsets, beliefs, or attitudes toward CF, and by extension, their FSB has remained unexplored. One notable exception is a study by Waller and Papi (2017), which found that a fixed L2 writing mindset positively predicted a feedback-avoiding orientation whereas a growth mindset predicted a feedback-seeking orientation and 50% of variance in L2 writing motivation, suggesting the importance of this theory in understanding the interface between motivation and FSB.

The findings of the studies reviewed above have laid the foundation for our understanding of FSB and its antecedents. In the current study, we aim to build on the past work in a few ways. First, the previous FSB studies have been conducted in the field of social and organization psychology. This study is the first investigating FSB in the context of second language learning. Second, the past studies have only focused on achievement goals as predictors of FSB with the assumption that measuring the goals entails implicating mindsets; in this study, the latter are directly examined. Third, the studies reviewed above used FSB as a unitary construct even though Ashford (1986) associated feedback inquiry and monitoring with different costs and values; in the present study feedback inquiry and monitoring are measured separately to reveal potential qualitative differences resulting from different achievement goals. Last but not least, Korn and Elliot's (2016) recent model of achievement goals is employed for the first time in relation to FSB to present a more precise understanding of the relationships between achievement goals and FSB.

RESEARCH QUESTIONS AND HYPOTHESES

RQ1. What are the relationships between L2 learners' achievement goals and FSB?
RQ2. What are the relationships between L2 learners' mindsets and FSB?
RQ3. Are the relationships between mindsets and FSB mediated by achievement goals?

Based on the literature reviewed above, a growth mindset and development goals are expected to predict both feedback inquiry and monitoring. A fixed mindset and demonstration goals are expected to positively predict feedback monitoring but not inquiry. Development goals are anticipated to mediate the relationships between the growth mindset and FSB. Demonstration goals are anticipated to mediate the relationships between the fixed mindset and FSB.

METHODS

Participants

Two-hundred-eighty-seven university students (89 males, 193 females, 3 others, and 2 missing gender) studying foreign languages at Florida State University were recruited to participate in the current study. The student sample consisted of 273 undergraduate and 10 graduate students (4 responses missing). Participants had a wide variety of majors, were in different years of study, and were learning different languages including Arabic (67), French (113), and Spanish (107). Most of the participants spoke English (261) as their native language while 23 participants chose other languages as their mother tongue (3 responses missing). Other than two participants, who were 35 and 65 years old, the rest of the students' ages ranged from 18 to 30 years old (total mean = 20.4, mode = 20). Only 11% of the participants

had experienced residence in a target language community for a length of time ranging from 1 month to 19 years (mode = 12 months) whereas 89% of them had no such experience.

Procedures

The data were collected in the spring of 2017 using a questionnaire survey. After receiving the Institutional Review Board's approval, we contacted the heads of the Arabic, Spanish, and French programs, and explained the purpose and procedures of the study. Instructors of the foreign language classes were then contacted and asked for cooperation. The researchers administered the questionnaire during scheduled visits to the classes. Students were informed of the purpose and procedures of the survey, and their rights to voluntary participation and confidentiality. All students were provided a paper copy of the survey in English with questions adapted to their respective L2. The questionnaires took about 15–20 minutes to complete.

Instruments and Measurement

Data were collected using a questionnaire developed for this study. The first part of the questionnaire included items measuring different variables including learners' language mindsets (Appendix B), achievement goals (Appendix D), and FSB (Appendix F). The items were responded to using a 6-point Likert scale with 1 showing *Strongly Disagree* and 6 indicating *Strongly Agree*. The second part included demographic questions.

Language Mindsets

Dweck's (1999) scales were adapted to reflect participants' language mindsets. These included statements targeting learners' beliefs regarding the malleability of their language intelligence. Waller and Papi (2017) developed similar scales to measure L2 writing mindsets, which correlated with but were independent from Dweck's general scales; they also predicted L2 writing motivation and feedback orientations more strongly than the general scales. Similarly, Lou and Noels (2017) found that language mindsets correlated with but were distinct from other mindsets including math, sports, and general mindsets. Therefore, in this study, L2-specific versions of eight items from Dweck's questionnaire were used to measure language mindsets. The general items (e.g., *You have a certain amount of intelligence, and you can't really do much to change it*) were simply changed to items specific to the language learning domain (e.g., *You have a certain amount of intelligence for learning other languages, and you can't really do much to change it*).

Using SPSS 21 (IBM), three Exploratory Factor Analyses (EFA) were performed on the items related to L2 mindsets, achievement goals, and FSB. Maximum Likelihood was used as method of extraction, direct oblimin with Kaiser Normalization as method of rotation, and the number of factors determined using eigenvalues larger than 1 (Kaiser's criterion) and the scree plots. The detailed results of the analyses along with respective scree plots, descriptive statistics, and Cronbach's alpha coefficients are presented in Appendix A through F. The initial analysis on items related to L2 mindsets yielded one factor with an eigenvalue above 1 explaining 66.6% of the variance. The scree plot (Appendix A), however, showed two factors from the point of inflection. The second analysis was run with two factors predetermined to be extracted. The results showed that the two factors (Appendix B), representing a *Growth L2 Mindset* and a *Fixed L2 Mindset*, explained 75.7% of the variance, confirming the two-factor solution emerged in the studies by Lou and Noels (2017) and Waller and Papi (2017). In addition, Kaiser–Meyer–Olkin measure of sampling adequacy (.91) was excellent (i.e., >.05), and Bartlett's test of sphericity was statistically significant ($\chi 2(29) = 1975.29$, $p < .001$), indicating a good fit for the dataset. The scales were highly reliable as shown by Cronbach's alpha coefficients of .92 and .93.

Twelve items measuring four L2 achievement goals corresponding to Korn and Elliot's (2016) scales were developed. The wording of the items was simply changed from general (e.g., *My focus is to increase competence*) to L2-specific (e.g., *My focus in this L2 program is to develop my L2 competence*). The initial EFA results showed a three-factor solution with eigenvalues larger than 1, explaining 74.7% of the variance. The scree plot, however, suggested four factors (Appendix C), which matched the original model. Results of the analysis with four factors determined to be extracted (Appendix D) explained 82% of the variance. The Kaiser–Meyer–Olkin value (.89) was large, and Bartlett's test of sphericity was significant ($\chi 2(66) = 3120.68$, $p < .001$), indicating good model fitness. The scales showed excellent internal consistency (i.e., Cronbach's alpha ≥ .90).

Finally, based on Ashford's (1986) questionnaire, 18 items were developed for measuring L2-specific feedback-monitoring and feedback-inquiry strategies. Ashford's questionnaire included scales asking how frequently individuals

TABLE 1
Results of Three Regression Analyses

Outcome Variable	Predictor Variable	*B*	Std. Error	*Beta*	*T*	Sig.
Feedback Monitoring	(Constant)	2.84	.16		17.70	<.001
	Development–Approach	.36	.04	.59	10.15	<.001
	Development–Avoidance	−.01	.03	−.02	−.22	.82
$R^2 = .37$	Demonstration–Approach	.01	.03	.03	.42	.68
	Demonstration–Avoidance	.02	.03	.04	.62	.54
Feedback Inquiry Teacher	(Constant)	1.54	.33		4.73	<.001
	Development–Approach	.24	.07	.22	3.29	.001
	Development–Avoidance	−.04	.06	−.04	−.59	.56
$R^2 = .17$	Demonstration–Approach	.25	.07	.28	3.53	<.001
	Demonstration–Avoidance	−.01	.07	−.01	−.14	.89
Feedback Inquiry Others	(Constant)	1.15	.35		3.30	<.001
	Development–Approach	.47	.08	.40	6.08	<.001
	Development–Avoidance	−.06	.07	−.06	−.80	.42
$R^2 = .19$	Demonstration–Approach	.02	.07	.02	.21	.83
	Demonstration–Avoidance	.12	.07	.14	1.78	.077

seek feedback at the workplace using monitoring (e.g., *Pay attention to how your boss acts toward you in order to understand how he/she perceives and evaluates your work performance*) and inquiry (e.g., *Seek information from your coworkers about your work performance*). The initial EFA on items related to feedback seeking in the language learning context showed three factors accounting for 61.68% of the variance, but the scree plot suggested the existence of four factors (Appendix E). After dropping three negatively worded items related to feedback monitoring, which had formed a separate factor, the analysis yielded a three-factor solution (Appendix F), which also matched the scree plot. The three factors explained 66.2% of the variance and the scales showed very high Cronbach's alpha coefficients (i.e., ≥.86). Additionally, the Kaiser–Meyer–Olkin figure (.92) was excellent, and Bartlett's test of sphericity was significant ($\chi 2(105) = 3005.92$, $p < .001$), confirming model fitness. Following Ashford (1986), the first factor, which included seven items concerning learners' conscious employment of attentional resources to monitor the feedback present in the environment, was labeled *Feedback Monitoring*. The second factor, labeled *Feedback Inquiry/Teacher*, included four items related to the learners' behavioral tendency to directly ask for feedback from their teachers. The third factor included four items also concerning feedback seeking by method of inquiry but from *other* sources, which was labeled *Feedback Inquiry/Others*. The mean scores for the factors identified in the three EFAs reported above were used in the following analyses.

DATA ANALYSIS AND RESULTS

To answer the first research question regarding the relationships between L2 learners' achievement goals and their FSB, three multiple regression analyses were run with L2 achievement goals as predictors and the three feedback-seeking strategies as outcome variables. As shown in Table 1, the results showed that Development–Approach predicted Feedback Monitoring, Feedback Inquiry/Teacher, and Feedback Inquiry/Others; Demonstration–Approach predicted Feedback Inquiry/Teacher; and Demonstration–Avoidance predicted Feedback Inquiry/Others even though the relationship was near-significant (for intercorrelations, see Appendix G). The significant results remained significant even after applying the Bonferroni adjustment to account for the potential Type I error resulting from multiple significance testing.

To answer the second and third research questions concerning whether mindsets predicted feedback-seeking strategies, and if these relationships were mediated by achievement goals, mediation models were tested. According to Baron and Kenny (1986), a variable (here, an achievement goal) can function as a mediator if (a) it is significantly predicted by the independent variable (IV: mindsets), (b) it significantly predicts the dependent variable (DV: FSB), and (c) when its effect on the dependent variable is controlled, the independent variable is no longer a significant predictor of the dependent variable. In such an analysis, "a given variable may be said to function as a mediator to the extent that it accounts for the

TABLE 2
Regression Results With Achievement Goals as the Outcome Variables

Outcome Variable	Predictor Variable	*B*	Std. Error	*Beta*	*T*	Sig.
Development–Approach	(Constant)	3.89	.50		7.81	<.001
	Fixed Mindset	.05	.08	.05	.62	.536
$R^2 = .07$	Growth Mindset	.26	.08	.29	3.5	.001
Development–Avoidance	(Constant)	1.98	.63		3.15	.002
	Fixed Mindset	.19	.10	.16	1.90	.059
$R^2 = .08$	Growth Mindset	.43	.10	.38	4.55	<.001
Demonstration–Approach	(Constant)	1.51	.60		2.50	.013
	Fixed Mindset	.25	.10	.21	2.53	.012
$R^2 = .11$	Growth Mindset	.51	.09	.46	5.54	<.001
Demonstration–Avoidance	(Constant)	.85	.64		1.31	.190
	Fixed Mindset	.38	.11	.31	3.63	<.001
$R^2 = .07$	Growth Mindset	.46	.10	.40	4.76	<.001

TABLE 3
Stepwise Regression Results With Feedback Monitoring as the Outcome Variable

Outcome Variable	Predictor Variable	*B*	Std. Error	*Beta*	*T*	Sig.
Feedback Monitoring	(Constant)	3.91	.30		12.90	<.001
	Fixed Mindset	.05	.05	.08	.92	.361
$R^2 = .08$	Growth Mindset	.18	.05	.33	3.88	<.001
Feedback Monitoring	(Constant)	2.55	.27		9.31	<.001
	Fixed Mindset	.03	.04	.05	.68	.50
$R^2 = .38$, $p < .001$	Growth Mindset	.09	.04	.16	2.27	.024
	Development–Approach	.35	.03	.57	11.76	<.001

relation between the predictor and the criterion" (Baron & Kenny, 1986, p. 1176). If after controlling for the effect of the mediator, the IV→DV relationship is no longer significant, full mediation holds. In other cases, when the strength of the IV→DV relationship decreases but it remains significant, partial mediation has happened. To avoid subjective judgments of partial mediation, the Sobel test of mediation was also employed. This test shows whether or not a drop in the beta value (as a result of adding the potential mediator) is significant to support the hypothesized mediation.

For performing our mediation analyses, condition (b) had already been met (see Table 1). To meet condition (a), that is, to see if mindsets significantly predict the achievement goals, four regression analyses were run, each with one of the achievement goals as the outcome variable. The results (Table 2) showed that Growth Mindset predicted a significant amount of variance in all the achievement goals, but Fixed Mindset predicted demonstration goals only. These results remained the same with the Bonferroni adjustment. Therefore, whereas all the achievement goals could have mediated Growth Mindset→FSB relations, only demonstration goals could have mediated Fixed Mindset→FSB relations. To test these mediations, three stepwise regression analyses were conducted with feedback-seeking strategies regressed on mindsets as predictor variables in the first step (RQ2); then the achievement goals (potential mediators) that were predicted by those mindsets (see Table 1) were added to the model in the second step in each analysis (RQ3).

With Feedback Monitoring as the outcome variable (Table 3), Growth Mindset emerged as the only significant predictor in the first step. When Development–Approach was added to the model, the beta value for Growth Mindset remained significant (nonsignificant with Bonferroni adjustment) but its magnitude dropped significantly (Sobel statistic = 6.23, $p < .001$). These results suggest that the relationship between Growth L2 Mindset and Feedback Monitoring was, at least partially, mediated by Development–Approach. Growth Mindset and Development–Approach together explained 38% ($R^2 = .38$,

TABLE 4
Two Stepwise Regression Analyses With Feedback Inquiry/Teacher as the Outcome Variable

Outcome Variable	Predictor Variable	*B*	Std. Error	*Beta*	*t*	Sig.
Feedback Inquiry/Teacher	(Constant)	1.59	.53		2.99	<.01
	Fixed Mindset	.17	.09	.16	1.92	.056
$R^2 = .08$	Growth Mindset	.37	.08	.39	4.61	<.001
Feedback Inquiry/Teacher	(Constant)	1.20	.52		2.33	<.05
	Fixed Mindset	.10	.08	.10	1.22	.23
$R^2 = .16,\ p < .001$	Growth Mindset	.24	.08	.25	2.96	.003
	Demonstration–Approach	.26	.05	.30	5.15	<.001
Feedback Inquiry/Teacher	(Constant)	.38	.56		.68	.50
	Fixed Mindset	.15	.08	.15	1.82	.07
$R^2 = .16,\ p < .001$	Growth Mindset	.29	.08	.30	3.7	<.001
	Development–Approach	.31	.06	.29	5.11	<.001

TABLE 5
Two Stepwise Regression Analyses With Feedback Inquiry/Others as the Outcome Variable

Outcome Variable	Predictor Variable	*B*	Std. Error	Beta	*T*	Sig.
Feedback Inquiry/Others	(Constant)	1.61	.58		2.79	.006
	Fixed Mindset	.20	.09	.18	2.17	<.031
$R^2 = .08$	Growth Mindset	.40	.09	.38	4.54	<.001
Feedback Inquiry/Others	(Constant)	−.07	.59		−.13	.90
	Fixed Mindset	.18	.09	.16	2.09	<.038
$R^2 = .21,\ p < .001$	Growth Mindset	.29	.08	.28	3.44	.001
	Development–Approach	.43	.06	.37	6.75	<.001
Feedback Inquiry/Others	(Constant)	1.50	.58		2.61	.01
	Fixed Mindset	.16	.10	.14	1.62	.11
$R^2 = .10,\ p < .05$	Growth Mindset	.34	.09	.33	3.74	<.001
	Demonstration–Avoidance	.13	.05	.15	2.47	.014

$F^{(3,281)} = 57.63$, $p < .001$) of the variance in Feedback Monitoring.

With Feedback Inquiry/Teacher as the outcome variable (Table 4), both Growth and Fixed Mindset emerged as predictors, even though the latter was near-significant. When Demonstration–Approach was added to the initial model, Growth Mindset remained significant (even with the Bonferroni adjustment), but its beta value dropped significantly (Sobel statistic = 3.15, $p < .01$), suggesting that Demonstration–Approach partially mediated the relationship between Growth Mindset and Feedback Inquiry/Teacher. There was also a significant drop in the beta value of Fixed Mindset, whose p value lost its near-significant status, supporting a similar mediation (Sobel statistic = 1.86, $p = .06$). These results suggest that Demonstration–Approach partially mediated the relationships between the mindsets and Feedback Inquiry/Teacher. When Development–Approach was added to the model, the beta value for Fixed Mindset remained almost unchanged, and Growth Mindset remained a significant predictor with a significant drop in its beta value (Sobel statistic = 3.51, $p < .001$), suggesting that Development–Approach partially mediated the relationship between Growth Mindset and Feedback Inquiry/Teacher as well. Growth and Fixed Mindset, Development–Approach and Demonstration–Approach together accounted for 19% of variance in Feedback Inquiry/Teacher ($R^2 = .19$, $F^{(4,280)} = 16.49$, $p < .001$).

With Feedback Inquiry/Others as the outcome variable (see Table 5), both Growth Mindset and Fixed Mindset emerged as significant predictors in the first step, the latter being a near-significant predictor after the Bonferroni adjustment (i.e., $p = .062$). When Development–Approach was added to the model, Fixed Mindset remained almost unaffected and Growth Mindset remained significant (even with the Bonferroni adjustment) but its beta weight decreased significantly (Sobel statistic = 3.94, $p < .001$), suggesting that Development–Approach partially

mediated the relationship between Growth Mindset and Feedback Inquiry/Others as well. When Demonstration–Avoidance was added to the model, both Fixed Mindset (Sobel statistic = 2.05, $p < .05$) and Growth Mindset (Sobel statistic = 2.40, $p < .05$) underwent a significant change in their beta magnitude, suggesting partial mediation. Growth Mindset, Fixed Mindset, Development–Approach, and Demonstration–Avoidance together predicted 21% of variance in Feedback Inquiry/Others ($R^2 = .21$, $F^{(4,280)} = 18.71$, $p < .001$).

DISCUSSION

The results of the present study showed that Growth L2 Mindset and Development–Approach were strong predictors of Feedback Monitoring, together explaining 38% of its variance. In addition, the relationship between Growth L2 Mindset and Feedback Monitoring was partially mediated by Development–Approach. These results confirm that learners with a growth mindset and development–approach goals tend to perceive setbacks such as being corrected as opportunities for growth, attribute gaps in their competence to their efforts and strategies rather than their abilities, and take action to improve their competence through the use of extra effort and better strategies (e.g., Dweck, 1999; Hong et al., 1999; Lou & Noels, 2017; Mangels et al., 2006). Therefore, these learners are not typically concerned with the ego and self-presentation costs of feedback monitoring due to their tendency to focus on developing rather than validating their L2 abilities. In other words, they do not see being corrected as an attack on their self-esteem or their image because they endorse the belief that their abilities can always change as a result of effort, and corrective feedback is a resource they can use to improve their language learning competence. The higher perceived learning and performance values of Feedback Monitoring compared to its perceived lower costs seem to have motivated these learners to monitor the corrective feedback addressed to them or their classmates. The other development goal, Development–Avoidance, however, did not predict Feedback Monitoring. Nor did it predict the feedback-inquiry strategies. These results might be due to the fact that CF is a resource for *improving* L2 competence; therefore, it does not interest learners with development-avoidance goals, who are focused on competence *maintenance*. In other words, because these learners are motivated to maintain rather than develop their L2 competence, they do not perceive corrective feedback to be of high value; nor do they associate any impression value to feedback seeking because learners with development goals are generally not concerned with impression management either (Ashford & Northcraft, 1992).

Surprisingly, Fixed L2 Mindset, Demonstration–Approach and Demonstration–Avoidance did not predict Feedback Monitoring, which is considered a high-value and low-cost strategy in employment settings (e.g., Morrison, 1993; Northcraft & Ashford, 1990; VandeWalle, 2003). Learners with a fixed mindset do not see learning value in feedback monitoring simply because they do not believe feedback can help them develop their L2 learning competence (e.g., Butler, 1993; Janssen & Prins, 2007; Tuckey et al., 2002; VandeWalle & Cummings, 1997; VandeWalle et al., 2000). On the other hand, they believe they can use feedback monitoring to improve their class performance and show that they are competent (Demonstration–Approach) or not incompetent (Demonstration–Avoidance). However, since they attribute setbacks to their abilities rather than efforts, these learners tend to avoid being corrected in class and see CF as an attack on their self-esteem and image (e.g., Dweck, 1999; Hong et al., 1999; Lou & Noels, 2017; Mangels et al., 2006). These results contradict VandeWalle's (2003) prediction that "[b]ecause performance-goal-oriented individuals are more sensitive to the self-presentation cost of feedback seeking, they should prefer the monitoring method of seeking" (p. 590). The discrepant results, however, could be due to the different nature of feedback monitoring in work versus instructional settings. Unlike employment settings, the L2 classroom context is a public stage where the target learner is usually singled out and corrected in front of their peers. Feedback Monitoring in such a context, therefore, could have serious ego and self-presentation costs for learners with a fixed mindset, making it their less-preferred strategy (Janssen & Prins, 2007; VandeWalle, 2003). Being corrected in class can be perceived by learners with a fixed mindset as a reflection of their weakness and lack of competence. According to Ashford and Northcraft (1992), when seeking feedback "could be interpreted as a sign of weakness, uncertainty or lack of confidence" (p. 311), individuals are less likely to do so. When presented with CF, these students likely feel embarrassed, anxious, and preoccupied with how they are being perceived by others rather than focused on learning from the content of the feedback available (Mangels et al., 2006). The performance value these students associate with feedback monitoring, therefore, seems to

get dwarfed by the ego and self-presentation costs of being corrected in front of other students. These cost-value perceptions seem to have led these learners to avoid monitoring feedback in the language classroom.

Growth L2 Mindset, Development–Approach, and Demonstration–Approach strongly predicted Feedback Inquiry/Teacher. In addition, the two goals mediated the relationship between Growth Mindset and Feedback Inquiry/Teacher. These results show that learners with a growth mindset can have both development and demonstration goals, which could be an advantage as long as the demonstration goals do not become the main preoccupation of the learners (Dweck, 1999). In other words, these learners seek feedback from their teachers by method of inquiry because they consider CF to be useful for both developing their competence and achieving higher performance levels (e.g., Butler, 1993) rather than a sign of their inherent weakness. Therefore, they perceive this strategy to be having high learning and performance values, and low ego and self-presentation costs. In addition, the potential effort costs associated with asking their teachers for feedback (e.g., scheduling a meeting, going to office hours, raising one's hand) are also most likely dwarfed by the high learning and performance values of feedback. A calculation of these costs and values seems to have led these students to seek feedback from their teachers by method of inquiry.

Fixed L2 Mindset also predicted Feedback Inquiry/Teacher, and this relationship was mediated by Demonstration-Approach. For the students who predominantly endorse a fixed mindset and pursue demonstration-approach goals, there is a different set of costs and values associated with Feedback Inquiry/Teacher. These learners tend to perceive this feedback-seeking strategy to be of low learning value because they do not believe it can help them grow their abilities. In addition, they may consider asking teachers for feedback to be a display of lack of competence. Despite the low learning value and high costs, however, these learners use this strategy possibly because it can help them improve their performance. In other words, they use this method feedback seeking because they view it "as a viable strategy for improving their performance notwithstanding its potential costs to their image" (Anseel et al., 2015, p. 336). Alternatively, these learners may see this feedback-seeking strategy as a tool to make a good impression on their teachers even though they may have no intention of using the feedback. Tuckey et al. (2002) found that individuals with performance-prove goals did not show any interest in useful feedback information but tended to use feedback inquiry to make a positive impression on others (see also Ashford & Northcraft, 1992; Janssen & Prins, 2007; Newton & Duda, 1993). Given the approach valence of their orientations, learners with a fixed mindset and demonstration-approach goals may perceive the performance and impression-management values of this strategy to be higher than its ego, image, and effort costs. A calculation of these costs and values seems to have led these learners to use this strategy.

Growth L2 Mindset also predicted Feedback Inquiry/Others, a relationship which was partially mediated by Development–Approach. Learners with a growth mindset and development-approach goals tend to use different strategies to seek feedback that could be conducive to the development of their competence from any available sources without being concerned with the potential ego, image, and effort costs associated with feedback seeking. The high learning value and low costs that they associate with Feedback Inquiry/Others might have led these learners to seek feedback by method of inquiry from other people as well.

Feedback Inquiry/Others was also predicted by Fixed L2 Mindset and Demonstration–Avoidance; this achievement goal also mediated the relationship between the first two. The emergence of Demonstration–Avoidance as a predictor of Feedback Inquiry/Others was not surprising as some studies have shown that individuals with performance-avoid goals also seek feedback to improve their performance level and avoid appearing incompetent (e.g., Janssen & Prins, 2007; Tuckey et al., 2002). Learners who endorse a fixed mindset and pursue demonstration-avoidance goals are highly concerned with others' judgments of their abilities and try to avoid projecting a negative image of themselves. Therefore, they tend to avoid any kind of behavior that would threaten their ego and taint their image, including seeking feedback from their teachers. However, to avoid looking incompetent, these learners appear to have found a way of receiving feedback without suffering these costs. They might seek feedback beneficial to their performance from sources other than their teachers, including their peers, friends, and native speakers of their target languages, without fearing that the judgments of these individuals would adversely affect their performance evaluation. Learners with a fixed mindset and/or demonstration-avoidance goals might seek feedback from sources with whom they have

a closer emotional relationship (e.g., Choi et al., 2014; McAllister, 1995) because such sources may only provide them with the type of feedback that would validate their abilities (e.g., Klich & Feldman, 1992; Park et al., 2007). By doing so, these students avoid the ego and image costs of feedback seeking at the expense of receiving expert and accurate feedback. In sum, the perceived low ego and self-presentation costs, and high performance value of Feedback Inquiry/Other seem to have led learners with fixed L2 mindsets and demonstration-avoidance goals to seek feedback from others.

Demonstration–Approach, on the other hand, did not predict Feedback Inquiry/Others. Learners with a fixed mindset and demonstration-approach goals do not believe they can develop their abilities but strive to validate their abilities and show that they are more competent than others (Dweck & Leggett, 1988). Seeking feedback from peers, therefore, does not interest these learners because they do not believe it would promote their learning or even performance, and also because they would like to see/present themselves as more competent than their peers. The strategy, therefore, would not help the positive image they try to project; nor would it satisfy their ego's need for a sense of superiority. Learners with a fixed mindset and demonstration-approach goals, therefore, tend to associate high ego and self-presentation costs, and low learning, performance, and impression-management values with Feedback Inquiry/Others, a calculation that seems to have led these learners to avoid asking others for feedback.

The findings of this study support the key but neglected assumption in the field of SLA that the decision to seek and pay attention to the linguistic input in the environment, and the quality and quantity of learners' cognitive engagement in this pursuit are highly dependent on learners' motivation, goals, and belief systems (Bitchener, 2017; Crookes & Schmidt, 1991; Schmidt, 2010; Tremblay & Gardner, 1995). In other words, this study confirmed that learners' attention to CF (Schmidt, 1990, 2001) is not an exclusively cognitive mechanism for the intake and processing of CF (Gass, 1997); rather, it is an "internally motivated" (Ellis, 2005) method of engagement that is strategically employed by motivated learners (e.g., MacIntyre & Noels, 1996; Schmidt, 2010; Schmidt, Boraie, & Kassabgy, 1996; Tremblay & Gardner, 1995).

Even though FSB is a new concept in the field, SLA researchers have commonly implicated learners' cost–value calculations in their explanations for differential effects of various types of CF. For example, peer CF has been argued to be less intimidating (lower ego and self-presentation costs) to students because it involves more favorable social dynamics (Sato, 2017) such as the absence of teacher's monitoring (Philp, Adams, & Iwashita, 2013). Sato (2013) explained that some learners have no aversion to peer CF because they "are afraid of making errors with teacher but (…) this filter is lowered when they interact with their peers" (p. 619). Along the same lines, Varonis and Gass (1985) argued that learners prefer receiving feedback from their peers because they recognize their "shared incompetence" and therefore "have little to lose by indicating a nonunderstanding" (p. 84), suggesting the low performance and self-presentation costs associated with peer CF. These positions show that SLA researchers, at least implicitly, accept learners' calculated involvement in such form-focused events. As evidenced in the current study, however, the picture is more complicated than what has been assumed. In this study, learners' estimations of the costs and values of CF, hence their feedback-seeking strategies, were found to vary in quality and quantity as a function of their chronic or situational motivational dispositions such as their language mindsets and achievement goals.

The differences uncovered in the learners' feedback-seeking goals, motives, and strategies also suggest that language learners' overwhelmingly positive beliefs and attitudes about teachers' provision of CF (e.g., Agudo, 2015; Loewen et al., 2009; Oladejo, 1993; Sheen, 2007) do not necessarily match their behavioral engagement with CF. In this study, only learners with a growth mindset and development goals were found to pay attention to (monitor) the CF teachers provide in class. In fact, learners with a fixed mindset and demonstration goals were found to see CF in the classroom as an attack on their ego and image, and detrimental to their class performance. These findings confirm that teachers' concerns regarding the uninhibited provision of CF (e.g., Davis, 2003; Lee, 2013; Schulz, 1996, 2001) are not unsubstantiated.

CONCLUSIONS

The present study provided evidence for qualitative differences in language learners' FSB originating from learners' different motivational dispositions (Papi, 2018; Papi et al., 2019). Learners make calculated decisions as to whether

to seek feedback, where, when, how, and from whom based on their perceptions of the values and costs associated with different feedback-seeking strategies (e.g., Ashford, 1986; VandeWalle, 2003; VandeWalle & Cummings, 1997). However, these calculations and decisions are not completely unbiased; rather, they are highly influenced by the students' internalized and implicit beliefs about the nature of their intelligence (Dweck, 1999), the kind of achievement goals they pursue (Korn & Elliot, 2016), and the learning context in which they are situated (e.g., Ashford & Northcraft, 1992). In other words, even though learners are proactive agents of their learning pursuits, their agency in decision making is limited by the motivational and belief systems they have subconsciously been socialized into since early childhood (Dweck, 1999).

These findings confirm the central argument in the present study that it is not possible to completely understand how CF works if the role of language learner in the feedback process is ignored. While it is still important to fully examine the effects of different types of CF and how, when, and where they are given, ignoring the learner's involvement in the feedback process only paints an incomplete picture of the phenomenon. Therefore, an exclusively cognitive and linguistic explanation for how CF works (e.g., Gass & Mackey, 2006; Long, 1996) without considering the role of the learner and the motivational underpinnings of his or her learning behavior seems to be inadequate. Likewise, an exclusively contextual perspective (e.g., Aljaafreh & Lantolf, 1994; Majlesi, 2018; Theodórsdóttir, 2018) which reduces the complexity of the learner's involvement in the feedback process to what happens during the conversational exchange between the learner and his or her interlocutor would be in denial of the key motivational, goal, and meaning systems that influence the learner's otherwise completely agentic engagement in the learning process, and is, therefore, equally inadequate. Whether in the classroom or "in the wild," understanding the motivational underpinning of learning and behavior needs to inform the social and cognitive perspectives in exploring issues such as corrective feedback. Such a motivational recasting of these perspectives can help present a view of the field of SLA as a "more theoretically and methodologically balanced enterprise that endeavors to attend to, explicate, and explore, in more equal measures, and where possible, in integrated ways, both the social and cognitive dimensions of S/FL [second/foreign language] use and acquisition" (Firth & Wagner, 1997, p. 286).

Limitations and Directions for Future Research

In the present study, self-report measures were employed in order to lay out the theoretical foundations of FSB. Measuring and manipulating the actual FSB through more direct documentation and experimental methods could be the next steps that can capture a more valid picture of the mechanisms governing the phenomenon. In our interpretation of the results, we employed a cost–value model with ego, self-presentation, and effort costs speculated to be competing with learning, performance, and impression–management values to affect learners' decision as to which feedback-seeking strategies to use. In future studies, directly measuring learners' perceptions of these costs and values could develop our understanding of the mechanisms mediating the relationship between belief/motive systems and FSB. This study examined only a few of the factors that influence FSB. There are also many other factors that could potentially influence the learner perception of FSB costs and values, which need to be directly investigated. Anseel et al. (2015) listed a multitude of such factors including how new the learner is to the environment, how frequently feedback is provided, the credibility of the source of feedback, the relationship between the feedback source and the feedback seeker, and the performance level of the seeker. It is not clear who are meant by "others" in the participants' answers to the questions measuring Feedback Inquiry/Others. Exploring more specific sources of feedback could shed more light on FSB complexity. FSB was used in this study as the dependent variable predicted by learner's mindsets and achievement goals. It would be interesting to see how FSB and its consequences could affect learners' goals and beliefs. Exploring FSB in relation to actual learning outcomes can better test its predictive validity.

Educational Implications

Changing L2 learners' fixed mindsets and promoting a growth mindset could be the most fundamental step toward enhancing learners' FSB. One of the most commonly used mindset interventions is a reading and writing activity that could be easily adopted for language classes (see Lou & Noels, 2016). This technique has been shown to be effective in promoting learners' adoption of a growth mindset, level of challenge-seeking, and achievement especially among low achievers (e.g., Blackwell et al., 2007; Good et al., 2003; Yeager et al., 2016). In addition, teachers

are recommended to promote learning goals in their classes. Learning goals can increase the perceived value and reduce the perceived costs of FSB, thereby making feedback seeking a more likely behavior to emerge. Using relevant, novel, diverse, and challenging tasks in class, creating an autonomy-supportive environment, emphasizing effort instead of ability, and using self-referenced rather than normative standards of evaluation can help foster adaptive and learning-oriented cognitive, affective, and behavioral patterns in class (Ames, 1992).

ACKNOWLEDGMENTS

We would like to thank the anonymous reviewers, Professor Heidi Byrnes, and Professor Marta Antón, whose constructive feedback significantly contributed to the quality of the present work. Special thanks to the language teachers and students at Florida State University, who kindly participated in this study.

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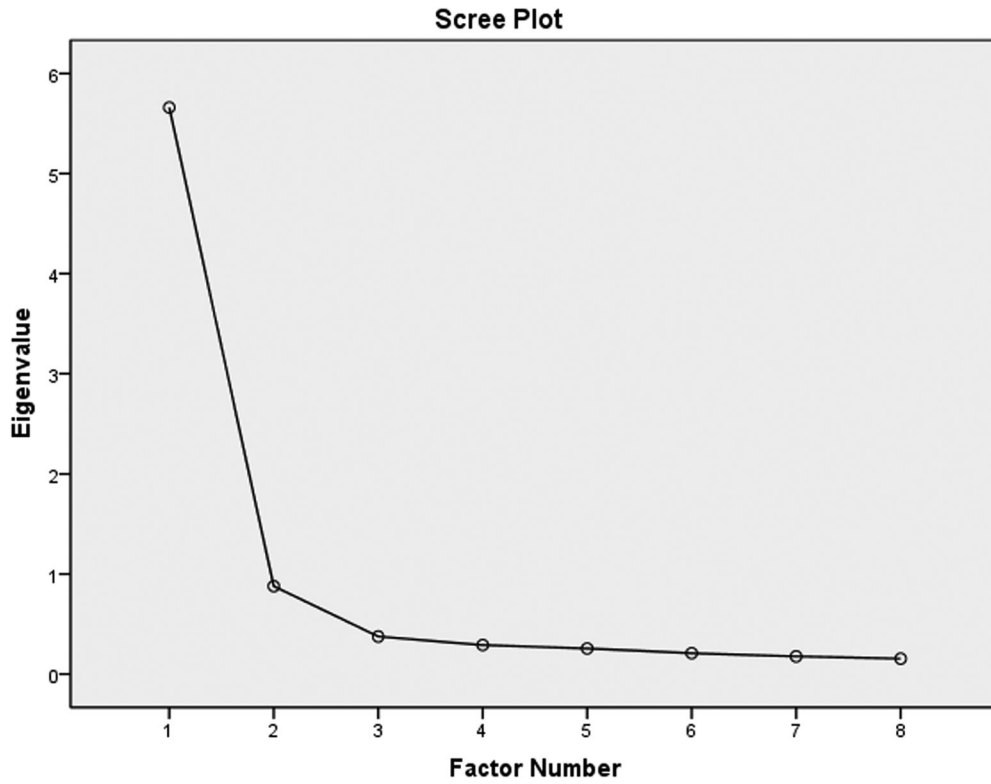
APPENDIX A

Scree Plot From the Initial Exploratory Factor Analysis on Items Related to L2 Mindsets



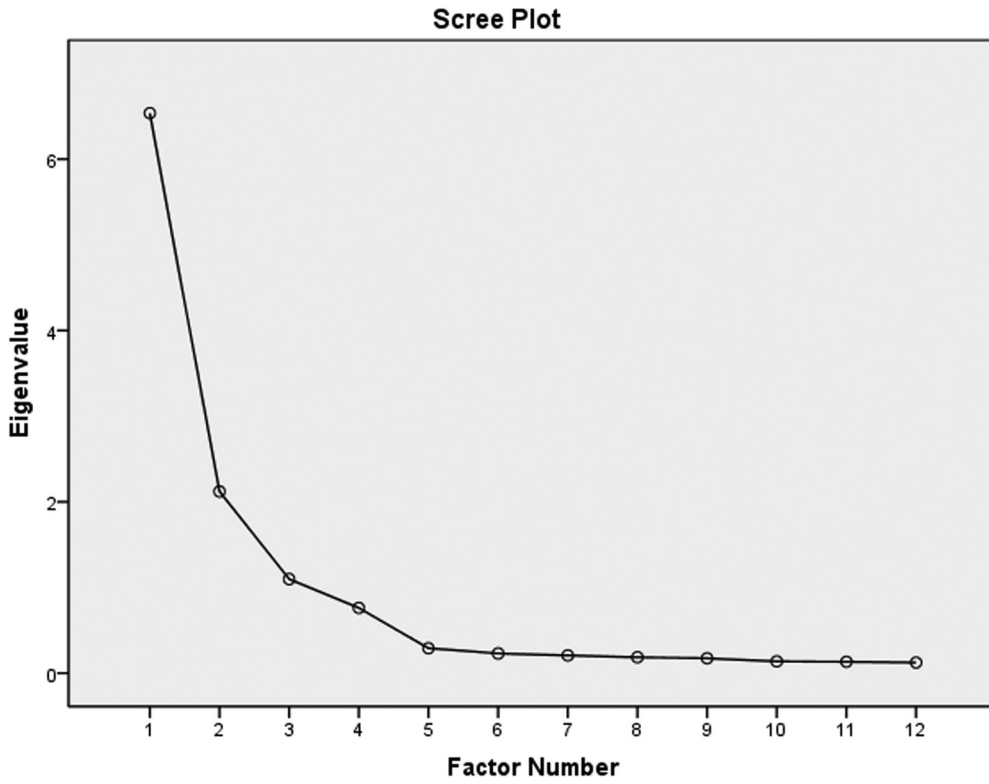
APPENDIX B

Exploratory Factor Analysis on L2 Mindsets With Factor Loadings ≥ .30 Displayed

		Pattern Matrix		
Item No.	*M* (*SD*)	Growth L2 Mindset	Fixed L2 Mindset	*h*
49. You can always improve your language learning intelligence.	4.48(1.29)	.79		.76
56. No matter how much intelligence you have for learning languages, you can always change it a lot.	4.10(1.37)	.89		.73
58. No matter who you are, you can significantly change your language learning intelligence.	4.23(1.34)	.87		.83
60. You can change even your basic language learning intelligence considerably.	4.16(1.36)	.88		.77
19. You have a certain amount of intelligence for learning other languages, and you can't really do much to change it.	2.57(1.25)		.86	.67
25. Your language learning intelligence is something that you can't change very much.	2.52(1.25)		.93	.80
33. You can improve your language skills, but you can't really change your basic language learning intelligence.	2.72(1.30)		.76	.69
41. To be honest, you can't really change your language learning intelligence.	2.50(1.27)		.80	.81
75.7% of Variance		67.8%	7.9%	
M (*SD*)		4.24 (1.21)	2.58 (1.14)	
Cronbach's alpha		.93	.92	

APPENDIX C

Scree Plot From the Initial Exploratory Factor Analysis on Items Related to Achievement Goals



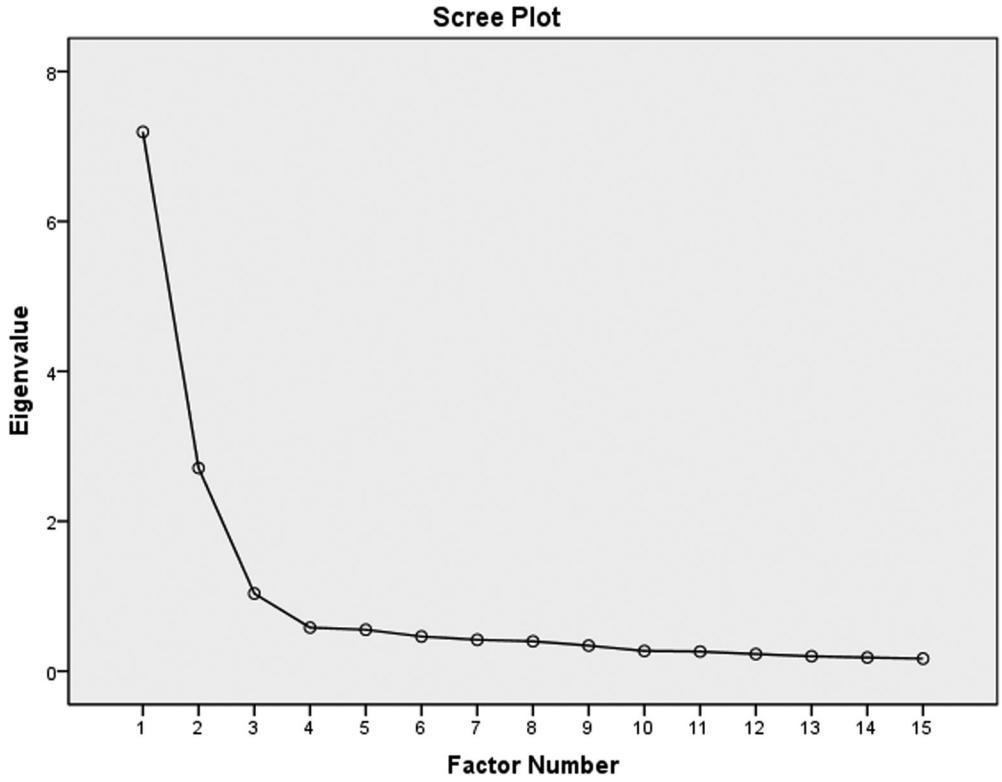
APPENDIX D

Exploratory Factor Analysis on Achievement Goals With Factor Loadings ≥ .30 Displayed.

		Pattern Matrix				
Items	*M* (*SD*)	Development Approach	Development Avoidance	Demonstration Approach	Demonstration Avoidance	*h*
59. My focus in this (L2) program is "To avoid demonstrating inability in my (L2)."	3.76 (1.48)	.95		.95		.89
61. My goal this in (L2) program is "To avoid demonstrating that I lack knowledge of (L2)."	3.73 (1.52)	.92				.83
57. My aim in this (L2) program is "To avoid showing incompetence in my (L2)."	3.89 (1.50)	.75				.74
27. My aim in this (L2) program is "To develop (L2) ability."	5.17 (1.13)		.95			.85
31. My goal in this (L2) program is "To increase (L2) competence."	5.20 (1.09)		.89			.87
23. My focus in this (L2) program is "To develop my (L2) knowledge."	4.99 (1.20)		.86			.82
51. My focus in this (L2) program is "To avoid becoming less competent in my (L2)."	4.29 (1.47)			.95		.87
47. My goal in this (L2) program is "To avoid a decrease in (L2) ability."	4.29 (1.49)			.84		.76
55. My aim in this (L2) program is "To avoid losing my (L2) knowledge."	4.32 (1.51)			.76		.74
43. My focus in this (L2) program is "To demonstrate that I am knowledgeable in my (L2)."	4.19 (1.49)				.91	.78
35. My goal in this (L2) program is "To demonstrate my (L2) ability."	4.34 (1.44)				.87	.83
39. My aim in this (L2) program is "To show my (L2) competence."	4.38 (1.41)				.79	.81
Percentage of variance		52.80	16.31	7.51	5.02	
M (*SD*)		5.12 (1.07)	4.30 (1.37)	4.30 (1.30)	3.79 (1.40)	
Cronbach's alpha		.94	.91	.92	.93	

APPENDIX E

Scree Plot From the Initial Exploratory Factor Analysis on Items Related to Feedback-Seeking Behavior



APPENDIX F

Exploratory Factor Analysis on Feedback-Seeking Behavior With Factor Loadings ≥ .30 Displayed

	Pattern Matrix			
Item (*M*/*SD*)	Feedback Monitoring	Inquiry Teacher	Inquiry Others	*h*
28. I listen carefully when my teachers correct my (L2) pronunciation, grammar, or vocabulary. (5.14/1.01)	.92			.81
24. When I get corrected on my use of (L2), I pay careful attention to the comments. (5.02/1.02)	.86			.78
36. When my teachers point out mistakes in my (L2) I try not to make them again. (5.08/.96)	.85			.70
20. I pay attention when my teachers correct my mistakes while speaking (L2). (5.16/.97)	.84			.68
32. I try to learn from my teachers' comments on my (L2). (5.22/.93)	.83			.71

(Continued)

Item (*M*/*SD*)	Pattern Matrix: Feedback Monitoring	Pattern Matrix: Inquiry Teacher	Pattern Matrix: Inquiry Others	*h*
40. I try to remember my teachers' comments on my mistakes when speaking (L2). (5.04/1.02)	.80			.67
52. When my teachers correct other students' (L2), I pay attention and try not to make the same mistakes. (4.94/1.01)	.70			.55
46. I ask my teachers to tell me how I can improve my (L2) speaking. (3.75/3.75)		.94		.86
38. I ask my (L2) teachers to show me strategies to improve my speaking. (3.64/1.45)		.71		.64
18. I ask my (L2) teachers to point out my speaking weaknesses. (3.12/1.01)		.68		.42
50. I ask my teachers to tell me what mistakes I make when I speak (L2). (3.90/1.33)		.63		.62
26. I ask others to give me feedback on my (L2). (3.67/1.50)			.88	.79
30. I ask others to correct me when I make a mistake speaking (L2). (3.88/1.44)			.87	.69
22. I ask others for suggestions on how I can improve my (L2) speaking. (3.76/1.46)			.67	.60
54. I ask native speakers of English to correct me when I make a mistake speaking (L2). (3.99/1.61)			.56	.41
Percentage of variance	45.79	15.89	4.52	
M(*SD*) 4.80(.66) 3.60(1.17) 3.83(1.26)				
Cronbach's alpha	.94	.86	.86	

APPENDIX G

Intercorrelations Among Predictor and Outcome Variables

	1	2	3	4	5	6	7	8
1. Fixed (L2) Mindset	—							
2. Growth (L2) Mindset	.74	—						
3. Development–Approach	−.16	.26	—					
4. Development–Avoidance	−.13	.27	.42	—				
5. Demonstration–Approach	−.13	.31	.52	.57	—			
6. Demonstration–Avoidance	.01*	.18	.24	.62	.62	—		
7. Feedback Monitoring	−.16	.27	.61	.28	.35	.19	—	
8. Feedback Inquiry/Teacher	−.12	.27	.34	.20	.36	.19	.36	—
9. Feedback Inquiry/Others	−.10*	.25	.41	.20	.27	.21	.41	.65

Note. Asterisk = nonsignificant.