

# Developmental L2 Learning Epistemology: The Construct and Its Relationship with General Epistemological Beliefs

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## Abstract

There is ample research evidence for the significance of language learners' beliefs for the process and outcome of L2 learning; however, the construct of developmental L2 learning epistemological beliefs (EBs), constituting beliefs about the certainty, simplicity, source, and justification of L2 knowledge, is extremely under-researched. The present study involved (a) the construction and validation of an L2 learning-specific developmental epistemology inventory (LDEI), and (b) the investigation of the relationship between language learners' L2 learning-specific and general EBs. Capitalizing on 17 interview-housed themes and their developmental patterns across maximally variant samples in an earlier qualitative study, 68 belief statements (four on each theme, representing the four EBs' developmental stages of absolute knowing (AK), transitional knowing (TK), independent knowing (IK), and contextual knowing (CK)) were worded and piloted. A higher-order factor analysis and the Schmid-Leiman solution (SLS) on data obtained from a widely variant sample of 571 L2

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learners showed LDEI's construct validity. Analyses unearthed (a) eight primary factors designating AK TK, IK, and CK's items related to the nature of L2 knowledge and the nature of L2 knowing, and (b) four second-order components each representing one of the four developmental stages. Finally, LDEI scores of 123 of the 571 participants in the piloting phase were shown to be significantly, but only moderately, correlated with their scores on a general EBs questionnaire, showing the two constructs' relative distinctiveness. Implications are discussed in light of existing models of epistemology and second language acquisition theories.

**Keywords:** absolute knowing, contextual knowing, developmental epistemology inventory (LDEI), independent knowing, L2 learning transitional knowing

## Introduction

Language learners' beliefs, defined as cognitive and metacognitive theories about what learning entails (Horwitz, 1987), have been widely addressed as significant contributors to proficiency development and learning outcome (see Bernat & Gvozdenko, 2005). Existing conceptualizations have sketched beliefs in relation to language learning aptitude, difficulty, motivation, strategies (Horwitz, 1987), language learning experiences, confidence in study ability, study approach, teachers' role, learners' role, feedback effectiveness (Cotterall, 1995), risk taking, ambiguity avoidance, and analytic language learning (Mori, 1999); moreover, despite the presupposed stability of beliefs in dimensional frameworks and their associated measures (e.g., Horwitz' (1987) Beliefs About Language Learning Inventory (BALLI)), beliefs have been ascribed an inherently dynamic and developmental nature in recent research (e.g., Fazilatfar et al., 2014).

Despite the significance of beliefs about language learning, "language learners' epistemological beliefs" (LLEBs), viz. beliefs about the nature of L2 knowledge and L2 knowing, have not been delineated in a coherent dimensional and developmental framework to date. Dimensionality implies beliefs about L2 knowledge certainty, simplicity, source, and justification, and development implies the move from absolutism to relativism and evaluatism. The need for such a framework can be justified in three respects. Firstly, there is extensive research evidence on the significance of EBs for learning. Domain-general EBs have been shown to mediate text comprehension and academic performance (Ryan, 1984), learning strategy choice and use frequency (Schraw & Olafson, 2003), writing

evaluation criteria development (Moon, 2008), task persistence (Schommer, 1994), and learning effort (Chan & Elliot, 2004). They have also been found to correlate with critical thinking (Kember, 2001) and intra- and interpersonal development potential (Baxter Magolda, 2001). Secondly, research has substantiated the discipline-specificity of EBs, and the differential potential of various disciplines to facilitate epistemological development (e.g., Palmer & Marra, 2004). In this regard, Mori (1999) found L2 learners' domain-general EBs to be distinct from their beliefs about language learning measured through BALLI. Thirdly, the field of second language acquisition (SLA) has undergone an epistemological remolding, wherein the nature of L2 knowledge and knowing has been reconceptualized in accord with the mid 1990s' social turn of the field. This epistemic absolutism-avoidant change is epitomized in Larsen-Freeman's (2015) suggestion for substituting the term SLA with "second language development" (SLD) and in the resetting of the target of L2 learning as "English as a Lingua Franca" (ELF) and "English as an International Language" (EIL) (Sifakis, 2019).

LLEBs have been addressed in a handful of studies (Bagherkazemi, in press; Nikitina & Furuoka, 2018; Rahmani et al., in press; Ziegler, 2015). The only existing study aimed at developing a measure of LLEBs is Nikitina and Furuoka's (2018), involving the development of a 13-item dimensional LLEBs questionnaire. Development, however, was not sketched in this study. Against this background, the present study was designed to (a) capture the dimensional and developmental nature of LLEBs in a quantitative measure, based on an earlier qualitative study (Rahmani et al., in press), and (b) investigate its construct distinctiveness/association with domain-general EBs.

## **Literature Review**

Research has secured EBs a position among individual learner variables implicating in the process and outcome of learning (e.g., Hofer, 2001; Labbas, 2013). Existing frameworks have unitedly charted the core dimensions of EBs as beliefs about (a) the nature of knowledge (i.e., what knowledge is) in terms of its simplicity/integratedness and stability/dynamism, and (b) the nature of knowing, i.e. how one comes to know in terms of the singularity/multiplicity of knowledge source and authority/criticality-based knowledge justification (Hofer & Pintrich, 1997). On

top of these core dimensions, exploratory attempts at conceptualizing EBs have ascribed more specific components to the construct. In her often-cited and used questionnaire, Schommer (1990, 1994) defined EBs in terms of the five categories of certainty, authority, and organization of knowledge, as well as control over and speed of learning. Likewise, Chan and Elliot's (2004) questionnaire targets beliefs about innate ability, learning effort and process, authority to knowledge, as well as certainty of knowledge. Adopting a social constructivist perspective on developmental epistemology, Baxter Magolda (2004) posited beliefs about self and learning to be constituent aspects of one's personal epistemology. She assigned to personal epistemology cognitive, intrapersonal and interpersonal dimensions.

Research has also substantiated the developmental nature of EBs (e.g., Baxter Magolda, 1992, 2004; Perry, 1970). Epistemological development has been essentially envisaged as a movement from absolutist to evaluatist conceptions of knowledge. Absolutism entails viewing knowledge as simple, certain, obtainable from a single authoritative source, and justified on accounts of innateness, inherent difficulty, and direct observation. Evaluatism, on the other hand, implies a belief in knowledge as integrated, context-contingent, obtainable from multiple sources, and justified on accounts of inquiry and criticality (Labbas, 2013). Kember (2001) articulated these two opposing conceptions in educational terms, pointing to absolutism as the foundation of didactic and reproductive education, and evaluatism as the conceptual understructure of facilitative and transformative education. Developmental stages between absolutism and evaluatism have been differentially mapped. Perry (1970) contrived a four-point data-based developmental continuum, encompassing (a) absolute thinking, (b) recognition of multiple perspectives and others' right to dissidence, (c) relativistic thinking, and (d) contextual thinking. These are analogous to Baxter Magolda's (1992, 2004) four-point continuum from absolute knowing at one end to contextual knowing at the other, with transitional and independent knowing as intermediary stages. Along the same lines, Kuhn (1999) posited a single stage (i.e., multiplism) between the two extremes of absolutism and evaluatism. Development-gear research, mainly qualitative, has shown that learners might simultaneously hold differentially developed beliefs for EBs' different dimensions. There is also evidence that learners' move is not always forward-directed (Bendixen & Rule, 2004). The nonlinear development position

involving recourse to earlier beliefs is assumed by Baxter Magolda (2004), Hofer (2001), and King and Kitchener (2004). In addition, different disciplines have been shown to facilitate learners' epistemological development to different extents. For one, in Palmer and Marra's (2004) study, the humanities were shown to induce development on the knowledge source dimension, while science subjects exerted influence on beliefs about knowledge stability. This observation justifies the independent investigation of LLEBs.

Despite the well-evidenced significance of EBs for learning and their discipline-specificity, LLEBs are extremely under-researched. Mori (1999) showed L2 learners' beliefs about language learning measured through BALLI and their domain-general EBs to only moderately correlate. Akbari and Karimi (2013), on the other hand, showed domain-general EBs to predict L2 proficiency levels. Contrary to this positive relationship, Shirzad et al. (2021) found Iranian EFL learners' EBs to negatively correlate with their learning strategy use. This is while more advanced EBs are on a par with more independent learning (Baxter Magolda, 2004). Replicating the study with LLEBs, rather than domain-general EBs, might lead to a more reliable finding. Nevertheless, there is no comprehensive measure of LLEBs that captures both their dimensionality and development. This is not to mention Nikitina and Furuoka's (2018) 13-item inventory of beliefs about the nature of language and language knowledge, knowledge authority (teacher, native speaker, dictionary), and the process of gaining knowledge. Besides other limitations, the theoretical underpinning of the three-factor model is unclear. For one, Schommer-Aikins (2004) subsumed beliefs about authority under beliefs about the nature of knowledge. Accordingly, their distinctiveness as posited by Nikitina and Furuoka (2018) is questionable. There are also two qualitative studies on LLEBs, which can inform this burgeoning strand of research. Bagherkazemi (in press) investigated the epistemic climate of a high school language classroom in Iran. She extracted nine themes related to the four core EBs' dimensions from interviews with the teacher and learners (including beliefs about communicative tasks and nativespeakerist provenance, among others), and found the learners to hold mostly absolutist beliefs in relation to them. In a similar more comprehensive study, Rahmani et al. (in press) extracted 17 themes associated with core EBs' dimensions (i.e., knowledge simplicity (n=4), certainty (n=4), source (n=5), and justification (n=4) from

interviews with a widely varying sample of English Language Teaching (ELT)-major university students (see Table 1 for the themes). Furthermore, focus group interviews with three six-member ELT-major samples (sampled through “critical case sampling,” and differing in terms of proficiency level, language learning experience, degree program and study year) were conducted to chart LLEBs’ possible developmental patterns. Each group’s “groupthinks” on the 17 themes were analyzed in view of existing developmental continua of EBs (i.e., Baxter Magolda, 1992; Perry, 1970; Kuhn, 1999). The results showed a close match with Baxter Magolda’s (1992, 2004) four-point development continuum: AK, TK, IK, and CK; however, the construct distinctiveness of the 17 themes and the developmental nature of the groupthinks were not shown. Based on the results, groupthinks belonging to the first group characterized with the lowest proficiency level and least language learning experience reflected absolutist beliefs (absolute knowing). On the contrary, the group with the highest proficiency level and longest language learning experience showed context-awareness and evaluatist beliefs (contextual knowing). On the other hand, the group with an intermediary proficiency level and experience expressed beliefs indicating either more-moderate-than-absolutist beliefs (TK) or extreme relativism and epistemic doubt (IK).

The present study built on Rahmani et al.’s (in press) study to construct and validate a questionnaire on LLEBs. It was conducted to (a) capture LLEBs’ dimensional and developmental nature, and (b) facilitate the normative (i.e. questionnaire-based) assessment of EFL learners’ epistemological development. It also investigated the relationship between LLEBs as conceptualized in the study and domain-general EBs. This second aim was set to study the two constructs’ relationship, and to provide evidence (or counterevidence) for the necessity of studying LLEBs as a distinct discipline-specific construct.

## **Methods**

### ***Participants***

In order to show the factorial structure of “Language Learners’ Developmental Epistemology Inventory” (LDEI), a higher-order factor analysis was conducted. Data were collected from 571 conveniently sampled male (n=369) and female (n=202) Iranian BA (n=434) and MA (n=137) ELT (n=390) and English

Translation Studies (n=181) students at two branches of Islamic Azad University in Iran. They ranged in age from 18 to 37, with a mean of 26. 391 of the 571 participants had studied English at private institutions for various time lengths, in addition to school. Proficiency level was intentionally not controlled in order to ensure variance. 332 of these were further asked to fill out LDEI's final version (comprising 17 four-option items) for the purpose of cross-validating the developmental nature of the options (see Results for details). Finally, upon LDEI's validation, 127 (78 male and 49 female) of the 332-member sample also completed Chan and Elliot's (2004) Epistemological Beliefs Scale (EBS) to find out if LLEBs and domain-general EBs were related. They were all at the intermediate proficiency level as shown in Oxford Placement Test (OPT) results (see Instruments) and had studied English at private institutions in addition to school.

### ***Instruments***

For the purpose of the present study, LDEI, and Chan and Elliot's (2004) questionnaire on domain-general EBs, namely EBS and OPT were used. Details are provided in this section.

#### **Language Learners' Developmental Epistemology Inventory (LDEI).**

LDEI comprises 17 items on 17 themes related to the four core dimensions of EBs (certainty, simplicity, source, and justification). Each is made up of four developmental belief statements (as a four-point Likert scale) reflecting AK, TK, IK, and CK. The 17 themes, adopted from Rahmani et al. (in press), are presented in Table 1 (For detailed information on themes' extraction and description, see Rahmani et al. (in press)). Respondents are required to select the statement matching their belief from among the four provided on each theme. In LDEI, development is charted as a gradual abstraction away from AK to CK. AK encompasses a belief in L2 as a system of simple and certain knowledge, held by L2 native speakers to be sought from omniscient sources and justified on accounts of innateness and pre-ordained difficulty. On the other hand, CK comprises a belief in L2 as a context-dependent system of integrated and dynamic knowledge underlying communicative, rather than native speaker, competence, to be sought from a variety of sources, and justified on accounts of learners' effort and learning context variables. In between the two ends of the continuum, learners first develop TK, wherein they begin to

question their belief in L2 knowledge certainty and simplicity in a few language areas and doubt the unidimensionality of the L2 knowledge source (e.g., the teacher or the book). Subsequently, epistemic doubt and relativism, devoid of context evaluation, overtakes in the IK phase (see Appendix).

**Table 1***LDEI's 17 dimensional themes*

Core Dimensions	Themes
L2 knowledge certainty	<i>beliefs about general language areas' certainty</i>
	<i>beliefs about L2 dynamicity</i>
	<i>beliefs about building block/cyclic knowledge presentation in syllabi</i>
	<i>beliefs about tasks' clarity and outcome</i>
L2 knowledge simplicity	<i>beliefs about L2 skills/components' distinctiveness/interrelatedness</i>
	<i>beliefs about multiple-choice/open-ended L2 test items and assessment forms</i>
	<i>beliefs about language learning through memorization/knowledge construction</i>
L2 knowledge source	<i>beliefs about L2 skill/component-specific or inclusive materials</i>
	<i>beliefs about L2 teachers' authority to knowledge</i>
	<i>beliefs about language learning strategy source</i>
	<i>beliefs about peers' authority to knowledge</i>
	<i>beliefs about the book's authority to knowledge</i>
L2 knowledge justification	<i>beliefs about native speakers' authority to L2 knowledge</i>
	<i>beliefs about nativespeakerist provenance</i>
	<i>beliefs about innateness/efforts</i>
	<i>beliefs about language learning difficulty</i>
	<i>beliefs about language instruction vitality</i>

LDEI can be completed within a time limit of 60 minutes. For the 127 participants in the second study phase (see Participants), a Cronbach's alpha coefficient of .76 showed acceptable reliability.

**Epistemological Beliefs Scale (EBS).** Developed by Chan and Elliott (2004), EBS was used to obtain an indication of the 127 participants' domain-



general EBs. Its 30 five-point Likert-scaled items target innate/fixed ability (n=13), learning effort/process (n=6), authority/expert knowledge (n=6), and certainty of knowledge (n=5). EBS took an average of 22 minutes to complete online (through Google Forms), and an Alpha coefficient of .80 indicated its reliability.

**Oxford Placement Test (OPT).** OPT was used to select intermediate proficiency learners for the study's second purpose. OPT comprises 60 receptive-response reading comprehension, vocabulary, and grammar items, and its results can be reported along Association of Language Testers in Europe (ALTE) levels from "beginner" to "very advanced." The test took 40 minutes to complete online.

### ***Procedure***

LDEI development and validation involved an initial qualitative study (Rahmani et al., in press) aimed at extracting themes related to the nature of L2 knowledge and knowing. Sampling, semi-structured interviews, and manual open coding were iteratively conducted to the point of saturation. Themes were subsequently coded for knowledge certainty, simplicity, source, and justification by both researchers in an axial coding stage. In this study, extracted themes were worded into items such that they would reflect the underpinnings of Baxter Magolda's (1992, 2004) four developmental epistemology stages.

Prior to factor analysis, the items were reviewed by four experts:

- two Applied Linguistics assistant professors for their formal felicity and content compatibility with epistemic beliefs in the field of language education; and
- two Philosophy (Epistemology) assistant professors for their content relevance with reference to the nature of knowledge and knowing.

At this stage, statements marked as either vague, theoretically unjustified, or irrelevant to epistemic beliefs were revised, and double checked with the experts. Subsequently, readability of the 68 belief statements was commented on by three freshman ELT students. In the piloting phase, the 68 belief statements were scrambled and devised into a five-point Likert scale questionnaire. This pilot-phase questionnaire, used only to unearth relationships among belief statements, was then subjected to a higher-order factor analysis and the Schmidt-Leiman Solution (SLS) with data obtained from a 571-member sample. Analyses led to the finalized 17-item

LDEI, with each item comprising four belief statements on AK, TK, IK, and CK. Cross-validation of LDEI's finalized version was subsequently conducted with 332 members of the initial sample. Finally, to meet the study's second aim, 127 intermediate proficiency participants were given EBS to complete, and Pearson correlation was conducted on their LDEI and EBS scores.

## Results

To substantiate LDEI's hierarchical and factorial structure, a higher-order factor analysis (principal component analysis with Promax rotation) was conducted. LDEI's 68 belief statements were subjected to three factor analyses prior to the one reported in this paper with 276-member, 243-member, and 198-member samples (with similar characteristics to the 571-member sample described in the "Participants" section). Owing to the necessity of keeping the four statements on each of the 17 themes, several rounds of revision addressing the statements' wording, comprehensibility, content, and distinctiveness from adjacent statements were applied. The revised version was subjected to an oblique (Direct Oblimin, in this study) factor analysis on data obtained from 571 EFL learners (see Participants) in SPSS. Prior to analysis, (a) the distributional normality of the respondents' scores on LDEI and all its items and (b) the factorability of the items were checked. Ratios of item scores' skewness and kurtosis to their associated standard error values fell within the range of +/-1.96 in all the 68 cases, indicating normality (George & Mallery, 2010). Moreover, no extreme mean scores (near either end of the 5-point Likert scale) were detected, nor did any item show an unusually high degree of variability. The data were also checked for factorability. An inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. Most items possessed cross-loadings (though small) on two factors, which was expected owing to the relatedness of "nature of knowledge" and "nature of knowing" items. The Kaiser-Meyer-Olkin (KMO) value was .73, exceeding the criterion value of .6, and the Bartlett's Test of Sphericity reached statistical significance ( $p < .05$ ), supporting the factorability of the correlation matrix (Field, 2009).

The initial oblique (Direct Oblimin, in this study) analysis led to an eight-factor solution with eigenvalues greater than one. The factors (68\*8) corresponded to (a) nature of knowledge (certainty + simplicity) and (b) nature of knowing (source

+ justification) for each of the developmental points: AK, TK, IK, and CK. Principal component analysis (PCA) with Promax rotation produced the same 8 factors. The alpha coefficient for the 68-item LDEI was .85. The eight extracted components explained 63.45% of the total variance, and possessed high reliability indices (see Table 2 for item loadings' range in PCA and factors' reliability).

**Table 2**

*Factor loadings' range: First-order factors*

Factor	Number of belief statements	Loadings' range	Coefficient $\alpha$
Factor 5: Absolute Knowing (certainty, simplicity)	8	.49-.64	.78
Factor 6: Absolute Knowing (source, justification)	9	.53-.63	.73
Factor 8: Transitional Knowing (certainty, simplicity)	8	.46-.58	.76
Factor 7: Transitional Knowing (source, justification)	9	.49-.60	.79
Factor 1: Independent Knowing (certainty, simplicity)	8	.49-.84	.82
Factor 2: Independent Knowing (source, justification)	9	.50-.79	.78
Factor 4: Contextual Knowing (certainty, simplicity)	8	.49-.68	.76
Factor 3: Contextual Knowing (source, justification)	9	.59-.70	.82

Subsequent to the substantiation of the eight first-order factors, the inter-factor correlation matrix was probed. Multiple instances of cross-loadings were observed. There were instances of low and moderate negative inter-factor correlations ranging between -.21 and -.53, which both shows and is explicable with an eye to the developmental nature of statements. Negative correlations were higher for distant points on the developmental epistemology continuum; however, there were also cases of positive correlation between distant points, which indicates the

complex and nonlinear nature of epistemological development and the typical progress-regress on route to CK. Positive correlations ranged between .12 and .56. The four conspicuously stronger positive inter-factor correlations between pairs of factors ( $r_{F1-F2}=.45$ ;  $r_{F3-F4}=.50$ ;  $r_{F5-F6}=.49$ ;  $r_{F7-F8}=.56$ ) legitimized the progression of factoring to extract second-order factors. Accordingly, a further PCA with Promax rotation was run on the inter-factor correlation matrix. This led to the extraction of four second-order factors closely matching the four developmental points of AK, TK, IK, and CK (8\*4) (see Table 3). The four second-order factors explained 71.14% of the total variance.

**Table 3**

*LDEI's second-order factors (G1-G4): Correlation matrix*

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G4: Absolute Knowing; Eigenvalue>1	
Factor	Loading
F5: Absolute Knowing (certainty, simplicity)	.68
F6: Absolute Knowing (source, justification)	.63
G2: Transitional Knowing; Eigenvalue>1	
Factor	Loading
F8: Transitional Knowing (certainty, simplicity)	.73
F7: Transitional Knowing (source, justification)	.72
G3: Independent Knowing; Eigenvalue>1	
Factor	Loading
F1: Independent Knowing (certainty, simplicity)	.69
F2: Independent Knowing (source, justification)	.68
G1: Contextual Knowing; Eigenvalue>1	
Factor	Loading
F4: Contextual Knowing (certainty, simplicity)	.75
F3: Contextual Knowing (source, justification)	.72

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In order to obtain a sketch of the direct relations between second-order

factors and LDEI's 68 belief statements, SLS was run (Wolff & Preising, 2005). In SLS, first-order factor loadings are reduced to part correlations. All the 68 statements had a first-order factor loading above .3. Accordingly, these statements could be taken as a reliable measure of their first-order factors. Moreover, all items had higher loadings on second-order factors than on first-order factors. This indicates that all the statements were better measures of their second-order factor, and thus could be taken as purer measures of their second-order factor than their first-order factor. Finally, an inspection of LDEI's second-order factor correlations (see Table 4) showed negative correlations, which obviated the progression of factoring to extract third-order factors. Regarding development, (a) the strongest negative correlation between G1 and G4 ( $r=-.77$ ) and (b) progressively increasing correlations' strength, though too weak, from G1-G2 ( $r=.14$ ) to G2-G3 ( $r=.23$ ) could indicate the beliefs' developmental nature.

**Table 4**

*LDEI's second-order factor correlations*

	G1	G2	G3	G4
G1	1			
G2	.14	1		
G3	-.43	.23	1	
G4	-.77*	-.41	-.34*	1

\* Correlation is significant at .05 level.

To cross-validate the developmental nature of the four second-order factors against the 17-item LDEI, 332 of the 571 respondents filled out the final version of LDEI. They were divided into four groups based on their mean scores ( $M_{Group 1}= 1-1.4$  ( $n=94$ );  $M_{Group 2}=1.5-2.4$  ( $n=101$ );  $M_{Group 3}=2.5-3.4$  ( $n=81$ );  $M_{Group 4}=3.4-4$  ( $n=56$ )). An inspection of their pilot-phase mean scores on the four second-order factors (G1-G4) indicated:

- Group 1's highest mean score on G1, comprising AK statements ( $M_{G1}=3.3$ ;  $M_{G2}=1.1$ ;  $M_{G3}=1.3$ ;  $M_{G4}=1.2$ );
- Group 2's highest means core on G2, comprising TK statements ( $M_{G1}=1.6$ ;  $M_{G2}=3.1$ ;  $M_{G3}=2.4$ ;  $M_{G4}=1.1$ );
- Group 3's highest mean score on G3, comprising IK statements ( $M_{G1}=1.5$ ;  $M_{G2}=2.2$ ;  $M_{G3}=3.7$ ;  $M_{G4}=2.9$ ); and

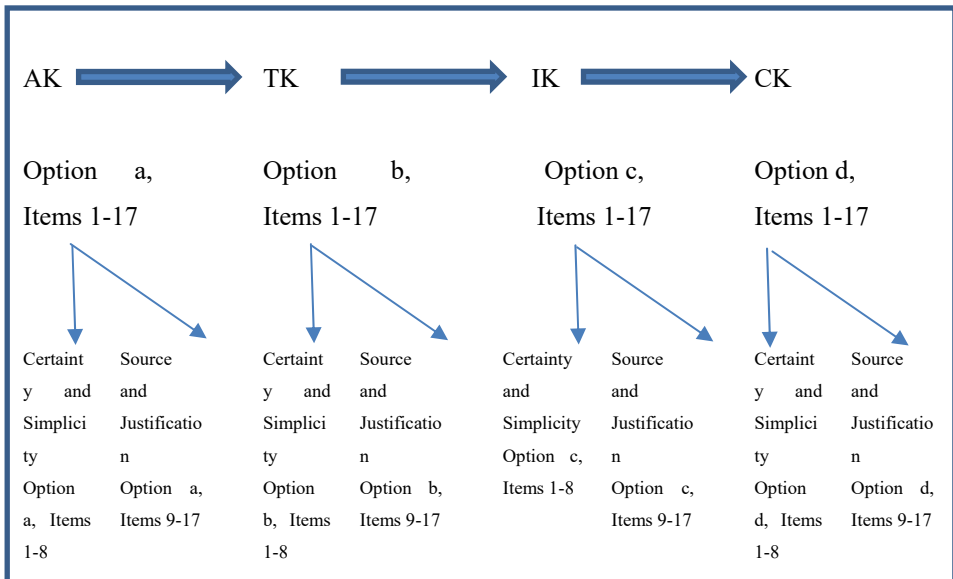
- Group 4’s highest mean score on G4, comprising CK statements ( $M_{G1}=1.3$ ;  $M_{G2}=1.6$ ;  $M_{G3}=2.1$ ;  $M_{G4}=3.9$ ).

Development could also be traced in Baxter Magolda’s (1992) experimental study, and in Rahmani et al.’s (in press) qualitative study with three maximally variant groups. Logically, G3 can be viewed as a step ahead of G2 with an eye to epistemic doubt’s gradual overtake toward relativism. In sum, higher order factor analysis and SLS showed (a) the dimensionality of LLEBs with an eye to the nature of knowledge (rather than its certainty and simplicity, separately) and the nature of knowing (rather than source and justification, separately), and (b) the distinctiveness and developmental nature of AK, TK, IK, and CK (see Figure 1 and Appendix).

Following the validation of LDEI, the second aim of the study was in order. 127 intermediate proficiency learners’ scores on the 17 themes constituting LDEI were correlated with their scores on EBS. Table 5 shows the descriptive statistics of these two score sets. A Pearson correlation coefficient between the two score sets indicated they were significantly, but only moderately, correlated ( $r_{LDEI-EBS}=.36$ ,  $p<.05$ ). Accordingly, the two constructs of LLEBs and domain-general EBs can be said to be distinct, but also moderately related.

**Figure 1**

*Schematic representation of LDEI’s factorial structure*



**Table 5***Descriptive Statistics of LDEI and EBS Scores*

Scale	N	Mean	SD	Skewness		Kurtosis	
				Statistic	SE	Statistic	SE
LDEI	127	2.73	.56	.87	.63	.90	.79
EBS	127	3.43	.71	1.01	.63	1.28	.79

**Discussion**

This study was conducted to construct and validate a language learning specific developmental epistemology inventory, namely LDEI. Principal component analysis along with SLS substantiated LDEI's dimensional and developmental properties. First-order factors indicated the aggregate nature of (a) L2 knowledge structure and stability belief items, representing L2 knowledge nature, and (b) L2 knowledge source and justification belief items, representing L2 knowing nature.

Interwoven L2 knowledge certainty and simplicity beliefs are reflective of the underpinnings of language teaching methods and approaches, partly forming language learners' beliefs (Bernat & Gvozdenko, 2005). In language teaching and SLA research, conceptions of the L2 system imported into the field from linguistics or inspired by cognitive and social theories have always been imbued with beliefs about the significance of context. Traditional instruction (e.g., the audio-lingual method and the cognitive approach (Richards & Rogers, 2001)) represented L2 as an amalgam of pieces, placed a premium on sentence-level instruction, and left no room for the evaluation of its contextual variability. In line with the field's development, however, the integratedness of L2 knowledge and the context-dependent variability of the L2 system were appreciated in the communicative movement of the 1970s and 1980s (Waters, 2012), and Lantolf's (1994) application of "sociocultural theory" to L2 development. In parallel, language teaching approaches (e.g., communicative language teaching and task-based language teaching) placed a premium on both in their incorporation of situations and tasks, and their related context variables as the building blocks of L2 teaching syllabi. Along the same lines, Kumaravadivelu's "postmethod condition" (cited in Kumaravadivelu, 2006) disentangled the field from a preoccupation with methodic conceptions of the L2 system, and recognized context in its delineation of

“principled pragmatism.”

As far as the nature of L2 knowing is concerned, beliefs about L2 knowledge source and justification are separable from, but also related to, beliefs about knowledge certainty and simplicity (as shown in second order factors). That beliefs about L2 knowledge source and justification are more related to one another than to certainty and simplicity beliefs also reflects the extent to which the *modus operandi* of instruction allows for criticality. Waters (2012) refers to the recent “critical theory-based reevaluation of ELT methodology,” which has called into question “nativespeakerist provenance” (p. 442). While omniscient authority was promoted in methodic language teaching, critical language education and such concepts as “English as an International Language” (EIL) have called it into question (Sifakis, 2019). Overall, beliefs about the nature of L2 knowledge and L2 knowing seem to be to a considerable extent inspired by the epistemic undertone of language teaching practices and syllabi.

The dimensionality of applied linguistics-specific epistemological beliefs was also investigated by Nikitina and Furuoka (2018) in their questionnaire, targeting “nature of knowledge,” “authority to knowledge,” and “gaining knowledge;” however, the theoretical underpinning of the three-factor model is unclear. For example, “gaining knowledge” includes items on effort, concentration, and hard work, which together constitute a four-item set in LDEI’s knowledge justification sub-construct. In addition, the often-cited BALLI contains items which resonate with the factors undergirding the construct of EBs; however, they have been worded in first person voice, which runs the risk of yielding self-concept data, rather than beliefs, as pointed out by Schommer-Aikins (2004). To compound the issue, even these few items resonate with absolute thinking; for example, items related to the difficulty of learning language skills presuppose their separability, hence the absolute knowledge structure conception underlying them.

Second-order factors indicated the relatedness of L2 knowledge and knowing beliefs on all the four continual points. Moreover, an investigation of the second-order factor structure matrix showed LDEI’s developmental nature. In addition, SLS results indicated that the belief statements were more representative of development than dimensionality. LDEI’s stages of development can be mapped onto Baxter Magolda’s (1992, 2004) epistemological development continuum. The



neat loading of L2 knowledge and knowing beliefs on each of the developmental points can be partly attributed to the similar wording of dimensional items on the four developmental points. On the other hand, referring to Bendixen and Rule (2004), an early sign of epistemological development is the emergence of epistemic doubt, which features TK, and on a more advanced level IK, in LDEI. The move from emerging epistemic doubt to relativism constitutes the essence of Perry's (1970) and Kuhn's (1999) developmental schemes. CK, as the most advanced stage of EBs, involves an admission of relativistic thinking and a belief in the resolvability of L2 epistemic doubts with reference to context. Accordingly, it can be argued that LLEBs are related to, but distinct from, domain-general EBs in terms of dimensionality and development. This is confirmed by the moderate correlation between LLEBs and domain-general EBs uncovered in this study.

### **Conclusion and Implications**

LLEBs can influence the way learners approach L2 learning, and partly determine the outcome of such learning (Mori 1999). Such beliefs are influenced by the general epistemic climate of the educational setting, and shaped by the epistemological approach adopted by the teacher, students, and the teaching material (Bagherkazemi, in press; Ziegler 2015). There is a conspicuous underrepresentation of this construct in SLA and language learning research. To address this lacuna, this study involved the construction and validation of a normative measure of language learning-specific developmental epistemology, namely LDEI. Data analysis substantiated four stages of development from AK through TK and IK to CK, each comprising belief statements on the nature of L2 knowledge (its structure and stability) and L2 knowing (its source and justification). Owing to its representation of both the dimensions of L2 epistemic beliefs and on a higher scale their development, LDEI can be employed as a useful measure in the area of domain-specific EBs. As for dimensionality, LDEI contains items on what L2 learners believe regarding the simplicity and certainty of L2 knowledge as well as its source and justification. Learners at the AK stage believe in simple and certain L2 knowledge, to be obtained from an omniscient authority, and justified on accounts of innate ability, inherent difficulty of certain language areas, and native speaker proximity. Development to TK is marked by the emergence of a questioning attitude

towards these beliefs, and a movement toward relativism. Relativistic thinking is epitomized at the IK stage and can be resolved via context evaluation at the CK stage. Bendixen and Rule (2004) cogently view epistemological development as generally forward-directed, though marked with frequent progress and regress in an attempt to achieve epistemic equilibrium. Such crisis is resolved in line with a recognition of the context-dependency of all language use and a critical attitude towards L2 knowledge and knowing appropriateness in the face of linguistic and social context variables.

In line with Baxter Magolda (2004), it should be admitted that epistemology and its development can be better investigated through qualitative research, and questionnaires may not yield reliable data. In like manner, Louca et al. (2004) objected to the stage-like conceptualization of epistemic development, and suggest a resource-based approach to the delineation of the construct. Admitting the limitations of questionnaires, Schommer-Aikins (2004) stated that domain-specific epistemological beliefs questionnaires can be more reliable than their domain-general counterparts. He further referred to the benefits of questionnaires for furthering research on this construct and facilitating the study of its relationship with other variables such as academic achievement and strategy use.

Finally, LDEI can be used to unearth the relationship of language learners' L2-specific developmental epistemology (as an aggregate rank or specific ranks in relation to LDEI's "nature of knowledge" and "nature of knowing" sub-constructs) with their gender, language proficiency level, language learning strategy use, critical thinking, and academic assertiveness (see Moon, 2008). LDEI's factorial structure can also be validated in different cultural contexts. Influential factors on language learners' epistemological development, including task types, teachers' domain-specific EBs, and instructional approaches can also be investigated, using LDEI as a normative measure of language learning-specific developmental epistemology. More evidence is also needed to map language learners' development from AK to CK in experimental interventional studies; it remains to see if learners can skip one of the intermediary stages or experience both TK and IK on their developmental path.

## References

- Akbari, R., & Karimi, M. N. (2013). EFL students' proficiency outcomes: What do epistemological beliefs have to offer? *Asian EFL Journal*, 15(3), 10-37.  
Retrieved from: <https://www.asian-efl-journal.com/main-editions-new/efl-students-proficiency-outcomes-what-do-epistemological-beliefs-have-to-offer/index.htm>
- Bagherkazemi, M. (in press). Investigating the epistemic climate of a high school 10th-grade English language classroom in Iran: An ethnographic case study. *Language-Related Research*. <https://doi.org/dor/20.1001.1.232233081.1401.0.0.11.3>
- Baxter Magolda, M. B. (1992). *Knowing and reasoning in college: Gender-related patterns in students' intellectual development*. Jossey-Bass.
- Baxter Magolda, M. B. (2001). *Making their own way: Narratives for transforming higher education to promote self-development*. Stylus.
- Baxter Magolda, M. B. (2004). Evolution of a constructivist conceptualization of epistemological reflection, *Educational Psychologist*, 39(1), 31-42.  
[https://doi.org/10.1207/s15326985ep3901\\_4](https://doi.org/10.1207/s15326985ep3901_4)
- Bendixen, L. D., & Rule, D. C. (2004). An integrative approach to personal epistemology: A guiding model, *Educational Psychologist*, 39(1), 69-80.  
[https://doi.org/10.1207/s15326985ep3901\\_7](https://doi.org/10.1207/s15326985ep3901_7)
- Bernat, E., & Gvozdenko, I. (2005). Beliefs about language learning: Current knowledge, pedagogical implications, and new research directions. *TESL-EJ*, 9(1), 1-21.  
Retrieved from: <https://tesl-ej.org/ej33/a1.pdf>
- Chan, K. W., & Elliott, R. G. (2004). Relational analysis of personal epistemology and conceptions about teaching and learning. *Teaching and Teacher Education*, 20, 817-831. <https://doi.org/10.1016/j.tate.2004.09.002>
- Cotterall, S. (1995). Readiness for autonomy: Investigating learner beliefs. *System*, 23(2), 195-205. [https://doi.org/10.1016/0346-251X\(95\)00008-8](https://doi.org/10.1016/0346-251X(95)00008-8)
- Fazilatfar, A. M., Rayati Damavandi, R., Harsej, R., & Kia Heirati, J. (2014). Learners' belief changes about language learning. *International Journal of English Language Education*, 3(1), 1-19. <https://doi.org/10.5296/ijele.v3i1.6654>
- Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). SAGE.
- George, D., & Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference*. Pearson.
- Hofer, B. K. (2001). Personal epistemology research: Implications for learning and teaching. *Educational Psychology Review*, 13, 353-383.  
<http://doi.org/10.1023/A:1011965830686>
- Hofer, B. K., & Pintrich, P. R. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of Educational Research*, 67(1), 88-140. <http://doi.org/10.3102%2F00346543067001088>
- Horwitz, E. (1987). Surveying student beliefs about language learning. In A. Wenden and J.

- Rubin (Eds.), *Learner strategies in language learning* (pp. 119-132). Prentice Hall.
- Kember, D. (2001). Beliefs about knowledge and the process of teaching and learning as a factor in adjusting to study in higher education. *Studies in Higher Education, 26*(2), 205-221. <https://doi.org/10.1080/03075070120052116>
- King, P., & Kitchener, K. S. (2004). Reflective judgment: Theory and research on the development of epistemic assumptions through adulthood. *Educational Psychologist, 39*(1), 5-18. [https://doi.org/10.1207/s15326985ep3901\\_2](https://doi.org/10.1207/s15326985ep3901_2)
- Kuhn, D. (1999). Metacognitive development. In L. Balter & C. Tamis Le-Monda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 259-286). St. Francis.
- Kumaravadivelu, B. (2006). *Understanding language teaching: From method to postmethod*. Routledge.
- Labbas, R. (2013). Epistemology in education: Epistemological development trajectory. *Journal of International Education and Leadership, 3*(2), 1-10. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1136017.pdf>
- Lantolf (1994). Sociocultural theory and second language learning. *The Modern Language Journal, 78*(4), 418-420. <https://doi.org/10.1111/j.1540-4781.1994.tb02058.x>
- Larsen-Freeman, D. (2015). Saying what we mean: Making a case for 'language acquisition' to become 'language development'. *Language Learning, 48*(4), 1-15. <https://doi.org/10.1017/S0261444814000019>
- Louca, L., Elby, A., Hammer, D., & Kagey, T. (2004). Epistemological resources: Applying a new epistemological framework to science instruction. *Educational Psychologist, 39*(1), 57-68. [https://doi.org/10.1207/s15326985ep3901\\_6](https://doi.org/10.1207/s15326985ep3901_6)
- Moon (2008). *Critical thinking: An exploration of theory and practice*. Routledge.
- Mori, Y. (1999). Epistemological beliefs and language learning beliefs: What do language learners believe about their learning? *Language Learning, 49*(3), 377-415. <https://doi.org/10.1111/0023-8333.00094>
- Nikitina, L., & Furuoka, F. (2018). Dimensionality in language learners' personal epistemologies. *International Journal of Instruction, 11*(1), 269-282. <https://doi.org/10.12973/IJI.2018.11119A>
- Palmer, B., & Marra, R. M. (2004). College student epistemological perspectives across knowledge domains: A proposed grounded theory. *Higher Education, 47*, 311-335. <https://doi.org/10.1023/B:HIGH.0000016445.92289.f1>
- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years: A scheme*. Holt, Rinehart, & Winston.
- Rahmani, M., Bagherkazemi, M., & Ameri, A. (in press). A qualitative investigation of language learners' epistemological beliefs: Core dimensions and development in

- focus. *Issues in Language Teaching*. <https://doi.org/10.22054/ilt.2022.63944.642>
- Richards, J. C., & Rogers, T. (2001). *Approaches and methods in language teaching*. Cambridge University Press.
- Ryan, M. P. (1984). Monitoring text comprehension: Individual differences in epistemological standards. *Journal of Educational Psychology*, 76(2), 249-258. <https://psycnet.apa.org/doi/10.1037/0022-0663.76.2.248>
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82(3), 498-504. <https://doi.org/10.1037/0022-0663.82.3.498>
- Schommer, M. (1994). An emerging conceptualization of epistemological beliefs and their role in learning. In R. Garner & P. A. Alexander (Eds.), *Beliefs about text and instruction with text* (pp. 25-40). Lawrence Erlbaum.
- Schommer-Aikins, M. (2004). Explaining the epistemological belief system: Introducing the embedded systemic model and coordinated research approach. *Educational Psychologist*, 39(1), 19-29. [https://doi.org/10.1207/s15326985ep3901\\_3](https://doi.org/10.1207/s15326985ep3901_3)
- Schraw, G., & Olafson, L. (2003). Teachers' epistemological worldviews and educational practices. *Issues in Education*, 8(2), 99-148. <https://doi.org/10.1891/194589503787383109>
- Shirzad, Sh, Barjesteh, H., Dehqan, M., & Zare, M. (2021). The interplay among EFL students' epistemic beliefs, language learning strategies, and L2 motivational self-system: A structural equation modeling approach. *Journal of Modern Research in English Language Studies*, 8(1), 169-195. <https://doi.org/30479/jmrels.2020.12621.1562>
- Sifakis, N. C. (2019). ELF awareness in English language teaching: Principles and processes. *Applied Linguistics*, 40 (2), 288-306. <https://doi.org/10.1093/applin/amx034>
- Waters, A. (2012). Trends and issues in ELT methods and methodology. *ELT Journal*, 66(4), 440-449. <https://doi.org/10.1093/elt/ccs038>
- Wolff, H. G., & Preising, K. (2005). Exploring item and higher order factor structure with the Schmid–Leiman solution: Syntax codes for SPSS and SAS. *Behavior Research Methods*, 37(1), 48-58. <https://doi.org/10.3758/BF03206397>
- Ziegler, N. E. (2015). *English language learners' epistemic beliefs about vocabulary knowledge*. [Unpublished Ph.D. Dissertation]. University of Toledo.



## **Language Learners' Developmental Epistemology Inventory (LDEI)**

Dear respondent,

For each of the 17 items below, please select the statement that best reflects your belief in relation to the numbered theme:

1. *Your belief about general language areas' certainty:*
  - a. There are straightforward answers to questions I face in most English language areas, including vocabulary, grammar, etc. (Item 27)
  - b. While most language areas have straightforward answers, I face some uncertainties, too, in word meanings, grammar, text comprehension, etc. (Item 38)
  - c. English language learning involves a lot of uncertainties, which cannot be completely resolved. (Item 16)
  - d. Most uncertainties you face in language learning (e.g., about word meanings, text comprehension) can only be resolved in context. (Item 6)
  
2. *Your belief about L2 dynamicity:*
  - a. The L2 system comprises a fixed set of elements (e.g., words, grammar, etc.) which do not change over time. (Item 68)
  - b. While most parts of the L2 system are fixed, a few changes (e.g., new words) occur over time. (Item 19)
  - c. Many aspects of the L2 system undergo change over time, which makes it volatile and difficult to learn. (Item 3)
  - d. Change of the L2 system over time can be understood in relation to its users, social events, and other contextual factors. (Item 67)
  
3. *Your belief about building block/cyclic knowledge presentation in syllabi:*
  - a. It is best to learn all about the lesson's language focus (e.g., a word, grammar structure, etc.) to avoid potential ambiguity in later learning efforts. (Item 46)
  - b. While learning all about a language point in one sitting is most

desirable, some language elements cannot be fully covered or learnt that way. (Item 1)

- c. No language point/element can be learnt completely in one sitting due to L2 system's ultimate dynamicity. (Item 55)
- d. A language/point can be learnt most effectively if revisited several times in different contexts of use. (Item 31)

4. *Your belief about tasks' clarity and outcome:*

- a. Single-outcome and convergent tasks (e.g., jigsaws) are the most effective for language learning. (Item 23)
- b. While single-outcome language learning tasks and activities are the best, variable-outcome tasks can in some cases be effective (e.g., for speaking). (Item 59)
- c. Tasks and activities (e.g., writing and group discussion) with variable outcomes for different individuals and groups are most effective for language learning. (Item 36)
- d. Tasks which involve context-based critical evaluation of information and perspectives (e.g., group problem solving or) are most effective for language learning. (Item 52)

5. *Your belief about L2 skills/components' distinctiveness/interrelatedness:*

- a. Different language areas (e.g., listening, speaking, vocabulary, etc.) are distinct from one another. (Item 43)
- b. While most L2 skills and components are distinct, a few of them are in one way or another interrelated (e.g., listening and speaking). (Item 40)
- c. L2 skills and components are all interrelated in all sorts of contexts. (Item 29)
- d. The inherent interrelationship among different language areas depends of their use context (e.g., the relationship between listening and speaking in interviews, and reading and listening in TOEFL iBT). (Item 18)

6. *Your belief about multiple-choice/open-ended L2 test item and assessment forms:*
  - a. The best language test items are those with options (like multiple-choice, matching, and true/false) as they reflect the simplicity of L2 knowledge. (Item 62)
  - b. Although L2 knowledge can be best tested through multiple-choice items, open-ended items can be effective in only few language areas, like speaking or writing. (Item 11)
  - c. As L2 knowledge is integrated in all its skills and components, only individualized open-ended items and assessment forms, rather than multiple-choice items, can reflect its nature. (Item 48)
  - d. Open-ended items and assessment forms designed in relation to learners' needs and goals and target use contexts are the most effective. (Item 25)
  
7. *Your belief about language learning through memorization/knowledge construction:*
  - a. Language learning involves the memorization of vocabulary, grammar, and other language components. (Item 54)
  - b. While most language learning involves memorization and practice of language components, there are a few areas (e.g., speaking) in which knowledge and skill should gradually be constructed. (Item 2)
  - c. Language learning is primarily a process of knowledge construction and skill development, rather than memorization of bits and pieces of language. (Item 7)
  - d. Language learning is primarily a process of knowledge construction and skill development in relation to specific use contexts. (Item 34)
  
8. *Your belief about L2 skill/component-specific or inclusive materials:*
  - a. Language learning materials with a clear focus on a particular language skill or component (e.g., a grammar or a listening book) are the most effective. (Item 50)



- b. The most effective language learning materials are those which focus on a specific language skill or component, with occasional focus on related language areas. (Item 14)
  - c. Language learning materials which integrate all the language skills and components for all proficiency levels are the most effective. (Item 61)
  - d. Whether to use materials which focus on a specific language area or those which integrate several of them depends on learners' goals, needs, and other contextual factors. (Item 10)
9. *Your belief about L2 teachers' authority to knowledge:*
- a. A language teacher's knowledge about the target language should be taken for granted. (Item 58)
  - b. A language teacher's knowledge about the target language can only in few cases be doubted. (Item 33)
  - c. Language learners should always adopt a questioning attitude toward their teacher's knowledge about the target language. (Item 24)
  - d. Language teachers' knowledge about the target language should be evaluated by learners in relation to their needs and goals, as well as contexts of use. (Item 13)
10. *Your belief about language learning strategy source:*
- a. The teacher-introduced language learning strategies work equally well for all language learners. (Item 53)
  - b. The effectiveness of language learning strategies presented by the teacher can only in few cases be questioned. (Item 4)
  - c. Each language learner must develop his/her independent L2 learning strategies, rather than use those introduced by the teacher. (Item 37)
  - d. Whether or not to use one's own or teacher-introduced language learning strategies depends of the context and the subject of learning (Item 8)
11. *Your belief about peers' authority to knowledge:*

- a. Peers' knowledge about the target language (expressed in peer discussion and groupwork) is unreliable. (Item 66)
- b. Peers' knowledge about the target language (expressed in peer discussion and groupwork) can only in few cases be taken for granted (Item 12)
- c. Peers' knowledge about the target language (expressed in peer discussion and groupwork) is as reliable as one's own L2 knowledge and understanding. (Item 41)
- d. The value of peers' knowledge about the target language lies in its potential to lead to collaborative meaning making and L2 knowledge construction. (Item 49)

12. *Your belief about the book's authority to knowledge:*

- a. Knowledge about the target language presented in the book should be taken for granted. (Item 17)
- b. Knowledge about the target language presented in the book can only in few cases be doubted. (Item 21)
- c. Language learners should always adopt a questioning attitude toward knowledge about the target language presented in the book. (Item 47)
- d. Book-contained knowledge about the target language should be evaluated by learners in relation to their needs and goals, as well as contexts of use. (Item 28)

13. *Your belief about native speakers' authority to L2 knowledge:*

- a. A native speaker's knowledge about the target language should be taken for granted. (Item 65)
- b. A native speaker's knowledge about the target language can only in few cases (e.g., when he/she does not speak standard English) be called into question. (Item 44)
- c. A native speaker's knowledge about the target language should always be questioned as English is now mainly used as an international language in multicultural environments. (Item 56)

- d. Native speakers' knowledge about the target language should be evaluated by learners in relation to the language and culture of their interactants, and other use context variables. (Item 63)

14. *Your belief about nativespeakerist provenance:*

- a. Language learners should aim at reaching nativelike competence in different language areas. (Item 45)
- b. The main goal of language learning is to achieve nativelike competence, but successful (not necessarily nativelike) communication can also be set as the aim of a few use contexts (e.g., informal oral interaction with nonnative speakers). (Item 20)
- c. The main goal of language learning is achieving the ability to effectively communicate in the L2, rather than nativelike competence (e.g., native pronunciation). (Item 51)
- d. Whether to achieve nativelike competence or communicative ability depends on the target context where each learner will use the language (e.g., whether or not he will emigrate to an English-speaking country). (Item 35)

15. *Your belief about innateness/effort:*

- a. The ability to learn an additional language is innate. (Item 64)
- b. While the ability to learn a language is mainly innate, there are some areas (e.g., grammar and vocabulary) which can be best learnt through effort and perseverance. (Item 15)
- c. Language learning is mainly a matter of effort and perseverance, rather than intelligence or aptitude. (Item 32)
- d. Language learning rests on both innateness and effort, depending on the skill/area to be learnt and its learning and use contexts. (Item 39)

16. *Your belief about language learning difficulty:*

- a. Some language skills and components are by nature more difficult to learn than others. (Item 57)

- b. While some language skills/components are inherently more difficult to learn than others, there are few areas (e.g., some grammar points) whose difficulty differs across learners. (Item 26)
- c. The difficulty of learning different L2 skills and components differs across individuals, rather than across language areas. (Item 22)
- d. The difficulty of language learning lies in mapping language use onto its associated contexts. (Item 60)

17. *Your belief about language instruction vitality:*

- a. Languages are best learnt in the language classroom with a knowledgeable teacher. (Item 30)
- b. While language classroom is the best venue for language learning, learners can deepen their knowledge in a few areas through self-study. (Item 9)
- c. Languages are best learnt through self-study, rather than classroom learning, as each learner has a unique “most effective” approach to L2 learning. (Item 42)
- d. Languages are best learnt if classroom learning leads to L2 learners’ autonomy and context awareness. (Item 5)