

Measuring EFL Teachers' Phronesis: Development and Validation of a New Inventory

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Abstract

Research has already established the significance of phronesis in promoting the educational system. However, more needs to be done to ascertain how the construct can be measured reliably. To this end, an in-depth review of the related literature was conducted, and semi-structured interviews were performed with 21 teachers to explore and extract the underlying components. A 57-item Likert scale inventory was developed through content analysis of the interviews and thematic network analysis of the literature. The instrument is among the first of its kind to operationalize phronesis specifically within the pedagogical demands of language teaching. The inventory was then administered to 257 in-service teachers selected through convenience sampling. The statistical analyses reduced the items to 32 and revealed adequate reliability. Moreover, structural equation modeling further confirmed the validity of the instrument. The first-order model with four factors, including moral agency, commitment, practical reasoning, and professional support, together with the second-order model, which was built upon the first, both indicated acceptable psychometric properties. The results, thus, demonstrated that phronesis is a unified, yet multidimensional construct. The findings provide teacher educators and teaching practitioners with a practical tool for assessing and reflecting on teachers' phronesis and identifying areas for further professional development.

1. INTRODUCTION

The constructive effects of positive emotions, such as joy, zest, kindness, and gratitude, in the educational context have consistently contributed to individuals' success. Being a good practitioner is what many teachers strive to accomplish in their professional lives, and this cannot be achieved merely through theoretical knowledge; rather, it is imperative to know how to be good and do right in their actions inside and outside the boundaries of their classrooms. Achieving a positive impact on students may be tough unless teachers promote positive skills and possess the capacity to not only discern the essential aspects of various situations they encounter in their

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classrooms but also decide to respond appropriately and effectively to them. Such decisions gain more prominence when their consequences influence other people's lives, and this is what happens in educational settings. There have been many situations in which teachers could do better and could respond more appropriately. This is the case when teachers' phronesis (also known as practical wisdom) comes to the forefront.

Phronesis determines not only the ends, but also the means of attaining the ends (Allen et al., 2022) and goes beyond the theoretical concepts provided in textbooks. It is the knowledge that appears not in words, but in actions that fit in a particular situation (Schei, 2021). It involves judging and understanding the complexity of a situation, setting proper goals, and making sound decisions when things are disorganized and tangled. As Kristjánsson et al. (2021) asserted, phronesis is "an intellectual meta-virtue of holistic, integrative, contextual, practical reflection and adjudication about moral issues, leading to moral action" (pp. 240–241). It is the wisdom used to determine what virtues are proper in a particular situation, in a way that the ultimate action would lead to a good life (Kristjánsson et al., 2021). As an intricate trait that has its base in human experience, personality, and values, it enables individuals to make contextually appropriate and ethical decisions that affect others' well-being (Pipitone et al., 2025).

Much has recently been discussed on the eminence of phronesis as a context-sensitive judgment in professional ethics and expertise (e.g., Allouani & Berrada, 2023; Kristjánsson et al., 2021). These discussions, however, have encountered some tensions, uncertainties, paradoxes, and gaps (Kristjánsson et al., 2021). In English as a foreign language (EFL) settings, for example, teachers are regularly required to make phronetic judgments and decisions for the procedures they use in their classrooms, as such unique multilingual and multicultural contexts necessitate EFL teachers to make precise decisions about classroom tasks, interactions, and assessment techniques. Considering the significance of EFL teachers' decisions and judgment, though, it is important to note that, to date, no valid and reliable instrument has ever been designed and developed to gauge teachers' phronesis in EFL contexts. Although the development of such an instrument has lately been the concern of some researchers in other disciplines (e.g., Darnell et al., 2019; Kristjánsson et al., 2023; Rego et al., 2025; Serenko, 2024), the field of EFL teacher education suffers from the absence of an objective tool for assessing EFL teachers' phronesis. To address this lacuna, the researchers conducted the current study to develop and validate an inventory for assessing EFL teachers' phronesis. Such an instrument may facilitate the systematic assessment of EFL teachers' phronesis in teacher education programs and professional development, wherein teachers, as star players, constantly encounter ethical dilemmas requiring them to make judicious context-sensitive decisions and perform based on equity and fairness.

Scrutinizing various aspects of teachers' phronesis is extremely vital in educational research, as the optimum functioning of the whole educational system mostly lies in the hands of teachers. In addition, introducing a new line of inquiry on EFL teachers' phronesis may further contribute to the maturity of the discipline, as utilizing a well-designed, valid, and reliable inventory would lead to the advancement of the field in new directions, provide new perspectives, and open up new research avenues. Casting light on various features and characteristics of phronesis helps professional educators make sound judgments in their classes as Odumayak (2023) believed making a decision is affected by many factors and in case of encountering an ethical dilemma, the decisions professional teachers with virtue make are based on the rule of phronesis, that is, the moral insight they have allows them to take appropriate courses of action in any circumstances.

2. LITERATURE REVIEW

A comprehensive literature review done by the researchers on phronesis has revealed the complex and multidimensional nature of the construct. As stated by [Bachmann \(2019\)](#), contemporary studies done on phronesis can be categorized into two primary lines of research. First, there are studies that concentrate on specific virtue traditions ranging from the ones suggested by Aristotle and Confucius, who find phronesis as a detriment for human flourishing, to the adaptations implemented more recently, like Neo Aristotelian-Thomistic action theory and Confucian re-interpretations that anticipate factors constituting phronesis. Some scholars (e.g., [Hacker-Wright, 2023](#)) put an emphasis on the unity and distinctness of phronesis, but some others (e.g., [Kaldjian et al., 2023](#); [Serenko, 2024](#)) draw attention to the multidimensionality of the construct.

Scrutinizing various dimensions of phronesis would enable individuals to better recognize its nature and complexity. According to [Russell \(2009\)](#), phronesis is a collection of various virtues of practical intelligence, incorporating comprehension (i.e., the ability to appropriately reflect about a situation or an individual's words or actions), sense (i.e., the ability to make a distinction between what is appropriate and reasonable from what is not by observing things from another person's view point), intelligence (i.e., problem-solving abilities that appear both in theoretical reasoning and practical one over the passage of time through experience), deliberative excellence (i.e., the ability to determine appropriate end and to take appropriate steps towards those specific goods), and cleverness (i.e., good reasoning regarding means and ends). Considering phronesis as a multidimensional construct, [Serenko \(2024\)](#) also proposed different dimensions, including moral purpose, procedural, conceptual, and factual knowledge, workplace pragmatism, emotional intelligence, self-reflection, external reflection, moving beyond rationality, and integrative thinking. Similarly, [Bachmann \(2019\)](#) described it as an individual's ability to integrate various features (e.g., holistic thinking, moral grounding, social awareness, personal identity, etc.) into their decision-making and ability. All taken together, these features enable individuals to understand complexities, balance their personal and social needs, respect diversity, and finally, take appropriate and effective action.

Scholars and academics have held different perspectives on the nature of phronesis and accordingly have proposed various models in this regard. For example, the standard model claims that phronesis is a character trait that individuals voluntarily control. It is an intellectual virtue that is essential, but not by itself adequate for the development of moral virtues ([Miller, 2021a](#)). Aristotle believed that phronesis is a vital component of virtue. In order for a person to act virtuously, they should find the mean between two opposite sides. It is thus not easy to be good as discerning this means and finding the middle is a task difficult to perform ([Evans, 2023](#)). In the last few years, studies on phronesis have presented a more comprehensive model that explains individuals' moral motivation and behavior ([Darnell et al., 2019](#); [Kristjánsson et al., 2021](#)). The four-function neo-Aristotelian model of phronesis defines wisdom as a construct made up of four integrating components of moral reasoning, affect, aims, and actions, being responsible for four functions called moral sensitivity, emotional regulative, blueprint, and integrative functions ([Darnell et al., 2019](#)). According to the Socratic model, phronesis is not psychologically separate from moral virtues, rather "when one is virtuous, what one really possesses is the single virtue of phronesis understood as ethical expertise – the other virtues are descriptive of such virtues in each different moral field" ([De Caro et al., 2018, p. 294](#)). The model subsumes all the other virtues under one single virtue of phronesis, and it assigns all the functions to phronesis. Next is the Fragmentation model that observes that, as a set of abilities, phronesis is distributed among various virtues. Each and every moral virtue has a specific capability, serving the functions to be performed by phronesis for that particular virtue ([Miller, 2021b](#)).

More recently, of special interest to [Miller \(2023\)](#) is what he called the Eliminativist model, based on which “there is no virtue of phronesis at all” (p. 189). [Miller’s](#) model suggests that rather than a single entity being responsible for all functions required for a person to act virtuously, there may be a collection of capabilities. The model approves that there are certain functions that need to be taken into consideration of a virtuous person, but, unlike the Standard and the Socratic models that maintain that there is a character trait (i.e., phronesis), the Eliminativist model rejects the idea that all of the functions mentioned before are entirely performed by a single trait of phronesis. For each function, one may appeal a specific trait that is consistent with that function, rather than appealing to a single intellectual virtue (i.e., phronesis) to conduct all the functions pertaining to phronesis.

The other models available in the literature can be named as context-specific models. Focusing on how wisdom manifests in specific domains and fields, such models consider it not as a universal trait but as a combination of personal virtues, experiences, and situational awareness that individuals apply effectively in real-world contexts when making decisions and taking actions. Two of these models and frameworks are the 3-w framework ([Allouani & Berrada, 2023](#)), and the spiral model ([Hatchimonji et al., 2020](#)). According to these models, phronesis is no longer considered a static trait; rather, it is a multidimensional capacity shaped by individuals’ cognitive, affective, and moral dimensions, as well as contextual factors.

Accordingly, the present study made use of [Jakubik’s \(2020\)](#) framework of phronesis in education as a conceptual point to start developing and validating an inventory for assessing EFL teachers’ phronesis. The conceptual clarity of the framework and its practical relevance made the researchers integrate it into an inventory to ensure that the real-world needs and challenges are satisfied in this respect. As a conceptual foundation, in her article entitled Educating for the future – cultivating phronesis in education, [Jakubik](#) presented a framework of phronesis in education, highlighting some key elements as “action ..., why this action is taking place (goal), who is acting, with what skills and tools, with what rules and values, when (at what time), where (in what place and space), and with what results and outcomes” (p. 51). Maintaining that phronesis has not received due consideration in education, [Jakubik](#) made use of the practice ecosystem of knowledge creation, a framework that is based on human activity theory, practice theory, the theory of organizational knowledge, and the theory of ecosystem, and presented a framework comprising features of phronesis in the educational context. The conceptual clarity of the framework and its practical relevance made the researchers integrate it into an inventory to determine whether the real-world needs and challenges are satisfied in this respect.

Taking these issues into account and reaching the objectives of the study, the researchers endeavored to address the subsequent research questions:

1. What are the underlying components of the EFL teachers’ phronesis?
2. What are the psychometric properties of the EFL teachers’ phronesis?
3. To what extent does the structural model of the EFL teachers’ phronesis fit the hypothetical model generated by the relevant literature review?

3. METHODOLOGY AND DESIGN

To construct and validate a measurement inventory for Iranian EFL teachers’ phronesis, the researchers took several steps. In this respect, more details about the participants, instruments, procedures, and design are provided in the sections below to let the readers obtain the overall image of the study.

Participants

Two independent groups of participants were employed to collect the data required to achieve the research objectives. Initially, a total number of 21 male (14.3%) and female (85.7%) EFL educators teaching English at various universities and language centers were selected. The participants were all native speakers of Farsi with different cultures and social statuses. Though Farsi is the dominant language in Iran, some participants may speak other local languages as well. They ranged in age from 25 to 46 and were selected through convenience sampling. According to the inclusion criteria, the participants were required to be in-service EFL teachers with sufficient experience of teaching to meaningfully reflect on their decisions and actions, and to hold a Ph.D. degree or be Ph.D. candidates in an English-related field. Before beginning the interviews, the participants provided informed consent. They were assured that the information they shared would be kept confidential and would be used only for research purposes. Then, they were kindly requested to take part in a semi-structured interview to provide an in-depth discussion of themes. The participants' experience of teaching ranged from 4 to 25 years, with an average of approximately 14 years of teaching. Four of them were Ph.D. holders, and 17 were Ph.D. candidates majoring in English-related fields, including linguistics, English literature, and teaching English as a foreign language (TEFL).

In the next phase of estimating the reliability and validity of the inventory, the researchers were supposed to request as many EFL teachers as possible to complete the inventory. This stage involved 257 native speakers of Farsi of both genders from different ages who were engaged in TEFL. To have a sample that is a true representation of the population, employing a probability sampling procedure is a necessity. However, due to administrative constraints, including limitations of time, place, and accessibility, the researchers were obliged to employ non-probability convenience sampling, which may limit the generalizability of the findings. The participants were undergraduate, graduate, and postgraduate individuals majoring in TEFL, translation studies, English literature, linguistics, and so forth (e.g., Biotechnology, Electrical Engineering, Microbiology, Software Engineering, etc.). Among them, 24.1% were full-time teachers, while others were part-time, and 13.2% were employed in state institutes, though a large number (i.e., 86.8%) were hired in private language institutes.

Instruments

To compile the items of the inventory, semi-structured interviews were conducted with 21 male and female EFL teachers. Making use of the framework, which was discussed earlier, the researchers formulated the subsequent eight questions based on the eight components of phronesis in education:

1. What actions should a practically wise teacher take in favor of the whole education system?
2. What goals should a practically wise teacher have in mind to make effective and ethical decisions?
3. Who are the ones supporting a practically wise teacher in their professional life?
4. What tools and skills should a practically wise teacher have?
5. What rules and values should a practically wise teacher have?
6. What time should a practically wise teacher be cautious about their actions and decisions?
7. What places should a practically wise teacher act morally right?
8. What outcomes should a practically wise teacher expect to obtain?

As observed, the questions primarily take into account the eight domains in which one would expect an educator to practically decide and act in an academically-appropriate manner.

The time allocated for the conduction of each interview was planned to be about 15 to 20 minutes. The interviews were concurrently recorded employing a voice recorder and were then transcribed and put to content analysis. Employing NVivo 10, one of the researchers encoded the qualitative data and extracted themes and codes to construct the items of the inventory that were later cross-checked by another colleague to make sure that the items were consistent and accurate. Where inconsistencies emerged, the issues were resolved through negotiation to reach a unified decision. Regarding data saturation, no additional codes appeared after Interview 17. As the four subsequent interviews also produced previously identified codes, it was confirmed that thematic saturation had been achieved.

Then, the initial version of the EFL teachers' phronesis inventory, designed and developed by the researchers on the basis of the framework, was employed to assess the extent to which the participants of the study made sound context-sensitive decisions and acted wisely in their careers. The preliminary pool of items was generated by integrating the findings obtained from the literature review and those of the semi-structured interviews. As some of the statements obtained from these two sources overlapped, the researchers were required to merge similar statements, remove redundant ones, and ultimately refine the wording. This process led to the development of a five-point Likert-scale inventory consisting of 57 items, for which individuals were required to elucidate how much each item applies to them by selecting from five alternatives, including (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. The content and face validity of the instrument were ensured by consulting with four Ph.D. holders having expertise in English language teaching and the relevant content areas under investigation. The experts were requested to check the accuracy and relevance of the instrument. The final draft of the inventory with 57 items was administered to 257 teachers who were selected through convenience sampling from different states and private institutes. Yet, exploratory factor analysis (EFA) and structural equation modeling (SEM) were employed to establish the construct validity of the instrument, the underlying components of the multifaceted construct of phronesis, together with their factor loadings.

Procedure

As asserted by [Kalkbrenner \(2021\)](#), to develop an instrument, the researchers in this study aimed to design and develop a five-point Likert scale addressing EFL teachers' phronesis. In doing so, the researchers went through a thorough review of relevant literature, determined a conceptual framework, and generated semi-structured interview questions. To enhance the credibility of the questions, a panel of three professionals, experts in the field, was consulted to confirm the accuracy of their content and clarity of the wording. Subsequently, a total of 21 EFL teachers were requested to take part in semi-structured interviews for approximately 15 to 20 minutes. The recorded interviews were, then, transcribed and analyzed using content analysis techniques by employing NVivo 10. The extracted themes and codes were later double-checked by another colleague to make sure that the items were consistent and accurate.

The outcomes obtained from the semi-structured interviews were then triangulated with the results attained from the literature review to develop a five-point Likert scale inventory comprising 57 items, each with five alternatives ranging from 1 to 5 (1 = strongly disagree and 5 = strongly agree). To establish the content validity, the researchers formed a theoretical blueprint that served as a foundation for determining the domain areas and creating potential items. Studying relevant literature, covering similar questionnaires, and interviewing individuals similar to the target population, all in all, guided the researchers to generate the potential items of the inventory.

Once the initial pool of items was developed, it was presented to a panel of four experts in the field, who provided feedback on deletions, modifications, or refinements necessary to improve clarity and appropriateness. Incorporating the feedback, the researchers employed non-probability convenience sampling to pilot the initial draft with 57 individuals. As the next step to ensure the construct validity and reliability of the final draft, the same procedure was utilized to administer the finalized inventory to 257 EFL instructors teaching at various language centers and universities in Iran in 2024. The participants were, once more, selected through non-probability convenience sampling, which enabled the researchers to make use of individuals with the intended features at hand. Employing the Statistical Package for Social Science (SPSS) version 26, the researchers ran both Cronbach's Alpha and exploratory factor analysis (EFA) to determine the reliability and the underlying constructs. They also used AMOS to run structural equation modeling (SEM) to display the graphical interface of the underlying factor structure and to determine the relationships among the latent constructs.

Design

Considering the fact that the study made use of qualitative and quantitative methods, this research had an exploratory sequential mixed methods design, based on which the researchers first collected qualitative data and, then, applied the results obtained to go through the next phase that deals with gathering and analyzing quantitative data. As suggested by [Creswell and Clark \(2017\)](#), the researchers examined qualitative data, then developed a measurement inventory, and finally, administered the newly developed instrument to a suitably sized sample.

4. RESULTS

This study was performed to develop and validate an inventory for measuring EFL teachers' phronesis. The statistical analyses conducted to determine the reliability and validity of the instrument are presented below, together with the corresponding findings.

Reliability Measure

Before doing any analysis, the reliability of the data was estimated. The questionnaire enjoyed a high Cronbach's alpha reliability coefficient of 0.96 and an even slightly greater value of 0.96 when standardized items were taken into account. These values substantially exceeded the conventional threshold of 0.70, which indicates high internal consistency among the 57 items.

Exploratory Factor Analysis

Next, to verify the appropriateness of the data for factor analysis, the researchers made use of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) together with Bartlett's Test of Sphericity. The KMO index of sampling adequacy presented a value of 0.93, which indicated that the size of the present sample is considered marvelous for running factor analysis ([Field, 2018](#)). In addition, a large chi-square value from Bartlett's Test of Sphericity showed a statistically significant result, $\chi^2 (1596) = 7622.12, p < .05$.

Table 1: KMO and Bartlett's Test (Final EFA)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
	Approx. Chi-Square	7622.127
Bartlett's Test of Sphericity	df	1596
	Sig.	.000

Having measured the reliability indexes and the suitability of data, the researchers investigated the total variance explained. Utilizing the Total Variance Explained, the researchers intended to indicate the number of extracted factors together with the total number of variances explained by these factors in Table 2. Making use of principal component analysis with an unrotated factor solution, the 57 items were analyzed, resulting in the extraction of 13 factors as underlying constructs of the EFL teachers' phronesis inventory.

Table 2: Total Variance Explained

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	19.59	34.369	34.369	7.040	12.351	12.351
2	2.432	4.267	38.636	5.648	9.908	22.259
3	1.854	3.253	41.888	4.471	7.844	30.102
4	1.657	2.906	44.795	2.681	4.704	34.807
5	1.535	2.692	47.487	2.398	4.207	39.013
6	1.376	2.415	49.902	2.292	4.021	43.034
7	1.296	2.274	52.176	2.183	3.830	46.865
8	1.233	2.164	54.339	1.997	3.503	50.368
9	1.135	1.991	56.331	1.956	3.431	53.799
10	1.104	1.937	58.267	1.549	2.718	56.517
11	1.055	1.850	60.118	1.449	2.543	59.060
12	1.019	1.788	61.906	1.328	2.330	61.390
13	1.012	1.775	63.681	1.306	2.291	63.681
14	.994	1.743	65.424			
15	.925	1.623	67.047			
16	.888	1.558	68.605			
17	.866	1.520	70.125			
18	.807	1.415	71.540			
19	.784	1.376	72.916			
20	.777	1.363	74.279			
21	.756	1.326	75.605			
22	.694	1.217	76.822			
23	.668	1.171	77.994			
24	.644	1.130	79.124			
25	.635	1.113	80.237			
26	.604	1.060	81.297			
27	.595	1.044	82.341			
28	.550	.966	83.307			
29	.545	.956	84.263			
30	.509	.892	85.156			
31	.489	.858	86.014			
32	.476	.834	86.848			
33	.465	.815	87.663			

34	.450	.789	88.452
35	.428	.751	89.203
36	.427	.750	89.953
37	.408	.716	90.670
38	.396	.696	91.365
39	.364	.638	92.003
40	.354	.621	92.624
41	.344	.604	93.229
42	.332	.583	93.811
43	.323	.566	94.378
44	.312	.548	94.925
45	.299	.525	95.451
46	.280	.492	95.943
47	.259	.454	96.397
48	.253	.444	96.841
49	.244	.428	97.269
50	.242	.424	97.693
51	.223	.392	98.085
52	.217	.380	98.465
53	.206	.361	98.827
54	.193	.339	99.165
55	.183	.320	99.486
56	.152	.266	99.752
57	.142	.248	100.000

The outcomes of the principal component analysis yielded 13 components with eigenvalues greater than 1.0. After rotation, the first component explained 12.35% of the total variance, and together the 13 extracted components accounted for approximately 63.68% of the cumulative variance. Given the complexity and multidimensionality of the construct, this cumulative explained variance is assumed to be above the acceptable threshold, showing a robust underlying structure within the inventory developed. As another approach to identifying the number of extracted factors, scree plots graphically represent the eigenvalues related to each extracted component.

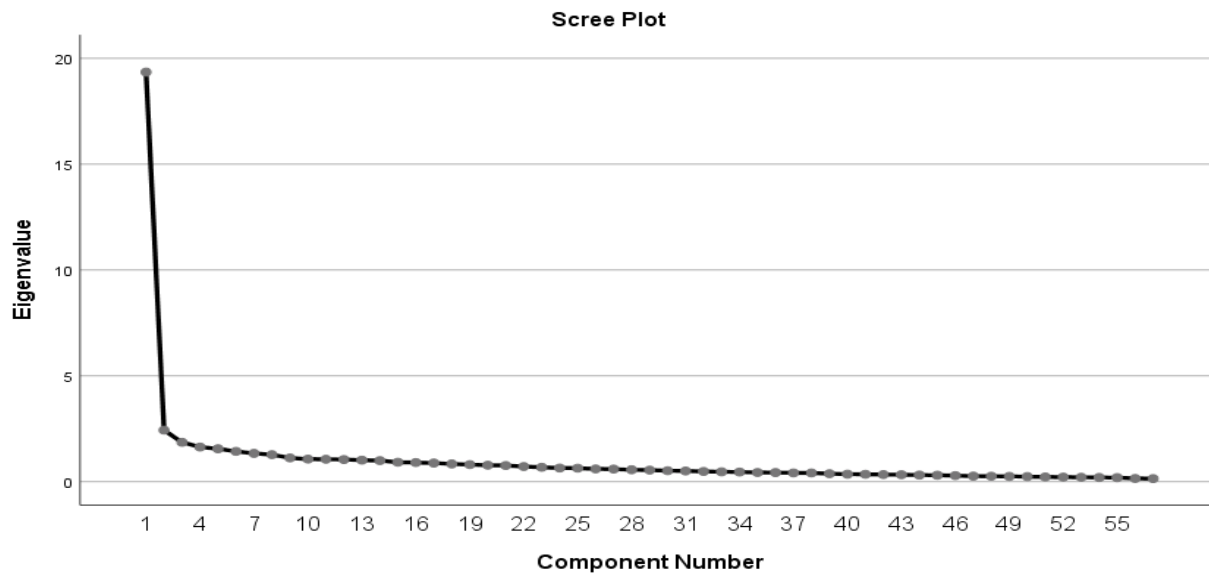


Figure 1: Scree Plot to Determine the Optimal Number of Factors to Retain

The scree plot graphically visualizes the eigenvalues related to each extracted component. Typically, as mentioned above, in a scree plot, a point at which the curve line flattens out and shapes an “elbow” reveals the optimum number of components to be extracted. Figure 1 presents the component variances. As observed, the elbow seems to appear around the 10th to 13th components. This supports the findings obtained in the Total Variance Explained analysis, based on which the researchers endeavored to retain 13 factors. The rotated component matrix indicates the loadings of each variable on the extracted factors. To improve the interpretation of factor loadings, the researchers, as the next statistical procedure, made use of the rotated component matrix.

Table 3: Rotated Component Matrix

	Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
I39	.726												
I47	.668												
I38	.658												
I46	.630												
I44	.625												
I37	.571							.446					
I41	.547												
I42	.504												
I51	.494	.459											
I36	.485												
I40	.446												
I29													
I43													
I8													
I34													
I52		.725											
I53		.702											
I54		.648											
I49		.633											
I57		.542	.431										
I55	.481	.507											
I56		.475											
I48		.451											
I20		.402											
I30			.738										
I21			.646										
I23			.550										
I28			.533										
I25			.464										
I32	.428		.456										
I27			.447										
I26			.428										
I14				.763									
I22				.719									
I15				.618									
I16				.451									
I1					.648								
I17					.549								
I2					.487								
I18													
I5						.611							
I19						.477							
I9						.459							
I12						.443							
I4						.428							
I10							.747						
I11							.737						
I24								.579					

I33	.402			.552				
I50								
I31				.652				
I35	.435			.482				
I45					.627			
I6						.779		
I7							.685	
I3								.607
I13		.422						-.436

The results of the rotated component matrix confirmed that the inventory takes a range of distinct, but related dimensions of phronesis, such as morality, commitment, reasoning, and support, into account, indicating the construct validity and practical interpretability of this multidimensional construct. It is, however, noteworthy to mention that factors represented by only one or two items and those with substantial cross-loadings were not retained as they were considered unstable and hard to interpret. Next, the remaining competing factor structures (i.e., four-, five-, and six-factor solutions) were all examined by employing SEM. The four-factor solution was retained as it indicated the most satisfactory statistical properties. Consequently, a parsimonious four-factor model with 32 items (see Appendix A for EFL teachers' phronesis inventory) was developed and further validated.

Structural Equation Modeling (SEM)

To validate the factorial structure of the instrument, the following indices were evaluated and interpreted. The Root Mean Square Residual (RMR) of the model was 0.04 and was acceptable as values below 0.08 are considered to be good. The Goodness-of-Fit Index (GFI) was 0.85, and the Adjusted Goodness-of-Fit Index (AGFI) was 0.83. While these values are slightly below the threshold of 0.90, they are still acceptable for complex multidimensional models (Hooper et al., 2008). The Parsimony Goodness-of-Fit Index (PGFI) was 0.73, which was acceptable as it exceeded the threshold of 0.50. The baseline comparison indices also confirmed the adequacy of the fit of the model. The Comparative Fit Index (CFI), the Incremental Fit Index (IFI), and the Tucker-Lewis Index (TLI) were 0.93, 0.93, and 0.92, respectively, which are all above 0.90 and therefore indicate a strong comparative fit. The Normed Fit Index (NFI) and Relative Fit Index (RFI) were 0.83 and 0.81. These values are slightly lower than the other fit indices, but still lie within the acceptable range. The Root Mean Square Error of Approximation (RMSEA) of the model was 0.04, which indicates a close fit. Its 90% confidence interval ranged from 0.04 to 0.05. The Probability of Close Fit (PCLOSE) value was 0.74, which was above the 0.05 benchmark and statistically proved that the model is not significantly different from a perfectly fitting model.

Table 4: Goodness-of-Fit Indices for the First-Order Model

Fit indices	GFI	CFI	IFI	TLI	NFI	RFI	RMSEA	PCLOSE
Value	0.855	0.931	0.932	0.924	0.833	0.817	0.047	0.744

Several statistical indicators were used to evaluate the reliability and validity of the latent constructs in the model. The Composite Reliability (CR) values for four components were 0.90, 0.88, 0.85, and 0.71 for Components 1, 2, 3, and 4, which were all more than the recommended threshold of 0.70. Several statistical indicators were used to evaluate the reliability and validity of the latent constructs in the model. The Composite Reliability (CR) values for four components

were 0.90, 0.88, 0.85, and 0.71 for Components 1, 2, 3, and 4, which were all more than the recommended threshold of 0.70. The Average Variance Extracted (AVE) values for each of the components were 0.47, 0.45, 0.42, and 0.39, which were slightly below the threshold of 0.50. Despite the fact that AVE values were slightly below the conventional threshold of 0.50, the CR values exceeded the recommended criterion of 0.60, which illustrates that the indicators consistently measured their corresponding latent constructs. As asserted by [Fornell and Larcker \(1981\)](#), convergent validity can be acceptable when CR exceeds 0.60 even if AVE is slightly below 0.50, as AVE tends to be lower in newly developed scales with either moderate loadings or few items. Moreover, the Cronbach’s alpha for the first three components were .91, .88, and .85, which were above the conventional .70 threshold. For the last component, though the alpha coefficient of .669 is slightly below the threshold, it still remains acceptable due to the small number of items in this subscale.

Table 5: CR, AVE, and Cronbach’s Alpha Reliability Statistics

Component	CR	AVE	Cronbach’s Alpha	N of Items
Component 1	0.909	0.479	.910	11
Component 2	0.882	0.456	.885	9
Component 3	0.855	0.425	.851	8
Component 4	0.715	0.391	.669	4

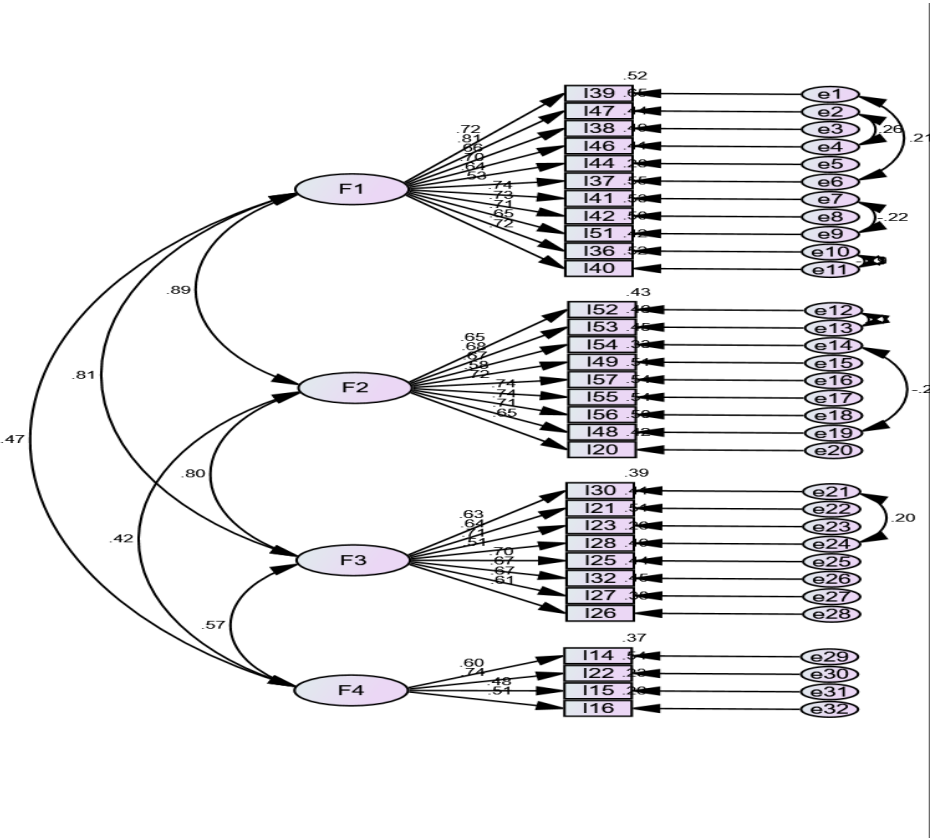


Figure 2: First-Order Model with Correlated Factors

To capture the multidimensional nature of phronesis and to reduce the redundancy that exists due to the presence of high correlations between several first-order factors, the following second-order model is presented. The RMR value was 0.05, which falls within an acceptable range ($< .08$). Although the values obtained for the GFI (0.84) and AGFI (0.82) were slightly below 0.90, they were still acceptable for complex and multidimensional models. The evaluation of the model fit was done by taking multiple complementary fit indices into account, rather than considering a single index in isolation. Accordingly, the values obtained for GFI and AGFI were interpreted together with other fit indices because these indices tend to decrease in models with many observed variables. In this respect, the satisfactory values obtained for the CFI, IFI, TLI, RMSEA, and RMR, all in all, indicate that the overall fit of the second-order model is regarded as acceptable. The PGFI (0.73) further supports the parsimony of the model. The baseline comparison indices confirmed the adequacy of the model, as well as the values obtained for CFI (.92), IFI (.92), and TLI (.92), which were all above .90 and indicated good comparative fit. The values obtained for NFI and RFI were 0.82 and 0.81, respectively, which were slightly lower than the acceptable values. However, one should bear in mind that these indices are sensitive to sample sizes and are no longer considered the primary benchmarks of fit measures. Therefore, these two values were also interpreted alongside the other fit indices, including CFI, TLI, and RMSEA. The RMSEA value of 0.04 indicates a close fit as it is below the 0.05 threshold. Its 90% confidence interval, that is, 0.04-0.05, also lies within an acceptable range. Moreover, the PCLOSE value ($.61 > .05$) supports the conclusion that the model is not significantly different from a perfectly fit model. The results can be observed in [Table 6](#).

Moreover, the construct reliability (CR) with the value 0.94 is well above the recommended threshold of 0.70 and, therefore, indicates excellent internal consistency of the higher-order construct. In the same vein, the value obtained for the AVE was 0.72, which exceeds the minimum criterion of 0.50 ([Fornell & Larcker, 1981](#)). This suggests that more than 72% of the variance observed in the indicators is explained by the latent construct. In short, the results provide strong evidence that the higher-order model of phronesis is both reliable and valid. [Figure 3](#) indicates a more comprehensive image of the second-order model together with the higher-order construct, that is, EFL teachers' phronesis and its relationship with the first-order factors.

Table 6: Goodness-of-Fit Indices for the Second-Order Model

Fit indices	GFI	CFI	IFI	TLI	NFI	RFI	RMSEA	PCLOSE
Value	0.849	0.926	0.927	0.920	0.828	0.812	0.049	0.615

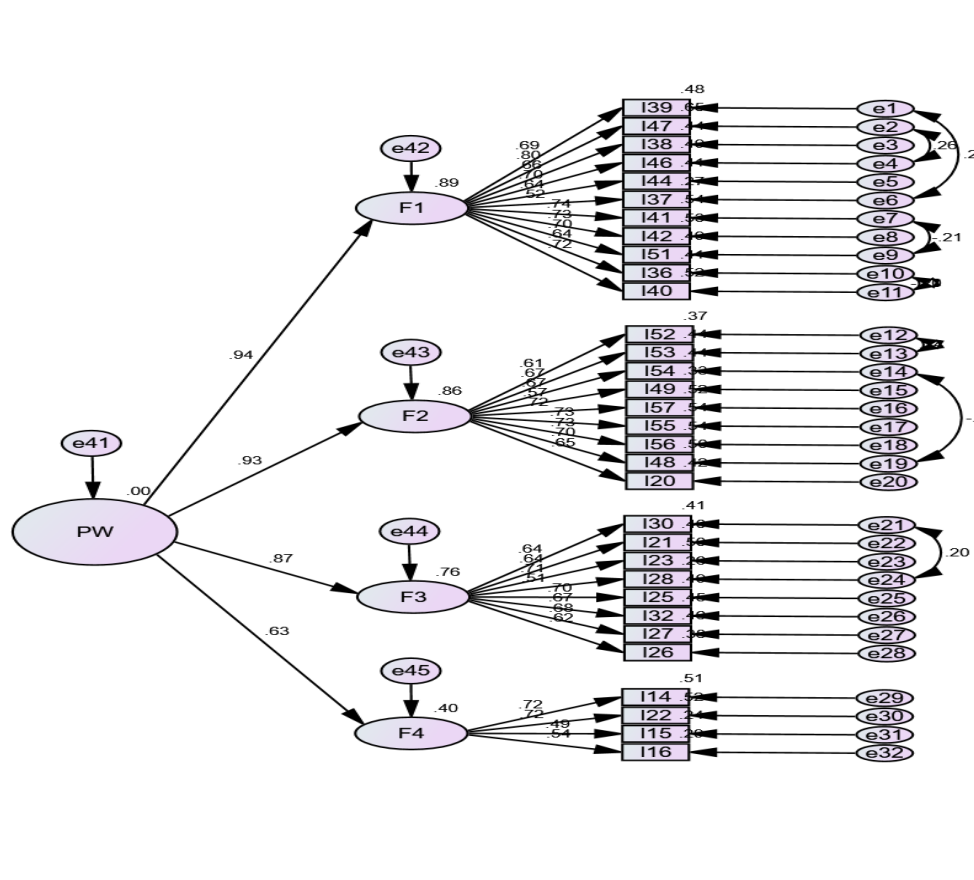


Figure 3: Goodness of Fit Model of the Second-Order Model

The comparison between these two models reveals that both provided a good fit to the data. More specifically, the fit indices of the second-order model were slightly lower than those of the first-order model ($\Delta CFI = .00$; $\Delta RMSEA = .00$). The results enabled the researchers to conclude that the dimensions of phronesis are empirically distinct, but theoretically unified under a single principal construct. In other words, the dimensions of phronesis work together as different aspects of a unified construct.

5. DISCUSSION

The primary objective of this study was to develop and validate an inventory to examine Iranian EFL teachers' phronesis. The results obtained from exploratory factor analysis and structural equation modeling confirmed four components. Component 1, with 11 items, was labeled as moral agency, and it refers to individuals' capacity to act based on moral and ethical principles and to be held accountable for their actions (Johnsen, 2025). This component, with the largest number of items, pertains to how practically wise EFL teachers act not only as knowledge providers, but also as moral agents whose actions are directly influenced by moral values like justice, honesty, fairness, and compassion. Several studies confirmed the important role moral and ethical principles play in enabling teachers to make sound judgments and wise decisions in their classrooms. In accordance with Jakubik (2020), for example, phronesis can be cultivated in education by following ethics and moral values. Kristjánsson et al. (2021) conceptualized phronesis as a

construct with four interrelated components, among which moral sensitivity is notable. [Bachmann \(2019\)](#) and [Serenko \(2024\)](#) also emphasized that moral and ethical values shape and guide individuals' phronesis.

The second component, termed teachers' moral commitment, refers to an individual's obligation that encourages them to feel that they need to act ethically and responsibly ([Soomro et al., 2024](#)). The nine items belonging to this component emphasized teachers' instructional and ethical roles in enhancing students' well-being and flourishing. Though [Javadi \(2024\)](#) claimed that one can be practically wise without pursuing an ethical life and moral commitment, many studies in the literature contradicted this claim. In this respect, in their white paper entitled "Educating for phronesis: An ideal and a journey," scholars and academics at the [University of Dayton \(2017\)](#) determined commitment to a moral tradition as an essential element involved in phronesis. [Thwaites \(2013\)](#), in addition, maintained that phronesis requires not only know-how, but also moral commitment to make sound judgments and form professional knowledge. For [Kemmis \(2012\)](#), phronesis is no more than one's commitment to do their best for those involved in uncertain and therefore unpredictable situations.

Next, Component 3, which contained eight items, was entitled practical reasoning. In accordance with [Upadhyay \(2023\)](#), practical reasoning refers to "the disposition of recognizing good ends and choosing the most effective, efficient, and ethical means of achieving them" (p. 18). In case of this research, practical reasoning dealt with teachers' ability to ethically reflect on what they needed to do and how they should do it to obtain optimal results. This finding is congruent with that of others, presenting practical reasoning as the core element that makes phronesis possible in action. As stated by [Schwartz and Sharpe \(2010\)](#), a phronetic person needs both the skill of practical reasoning and the will to follow excellence for meaningful reasons related to the purpose of the activity. As an essential element contributing to phronesis, practical reasoning deals with what is. It involves an individual's ability to see what they can do in a particular situation. The process initiates with evaluating the salient feature of a situation, deliberating what good should be achieved and how, and then, making a decision about taking the best action ([University of Dayton, 2017](#)).

Finally, the last component, labeled as professional support, involved four items and addressed "the assistance, guidance, and resources provided to individuals to help them succeed in their careers" ([Pantaleon, 2024, p. 836](#)). The items loaded under this component mainly cope with the assistance and guidance EFL teachers receive from their colleagues, mentors, and institutional authorities in their professional environment. In professional contexts, to obtain the common good through practical reasoning, an individual is obliged to have constructive public conversations, which begin with a well-framed question. It is then followed by a dialogue that results in deliberation. Weighing a few options and engaging in thoughtful inquiry while maintaining respect and mutual understanding would give an opportunity to the individual to wisely reflect on their actions and consequences. These elements are essential to reach wise, collaborative decisions ([University of Dayton, 2017](#)). Factors such as engaging in communication and knowledge sharing ([Jakubik, 2020](#)), participating in effective conversations ([University of Dayton, 2017](#)), and developing a cooperative and moral character ([Jakubik, 2020](#)) are all identified in the literature as crucial elements in shaping the qualities of a practically wise person. Below, the schematic representation of the four-factor model for Iranian EFL teachers' phronesis is presented:

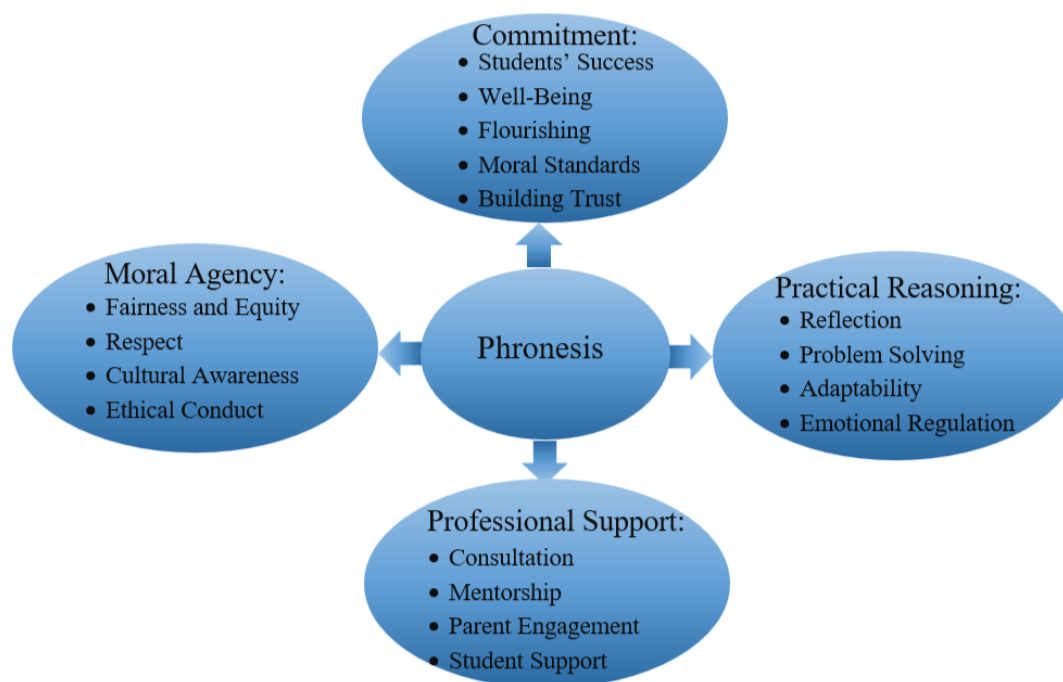


Figure 4: The Final Four-Factor Model of Iranian EFL Teachers' Phronesis

Though some instruments have been developed to measure phronesis, none is designed to exclusively be used in educational settings for measuring teachers' phronesis. For example, instruments such as Long Phronesis Measure (Darnell et al., 2022), Short Phronesis Measure (Kristjánsson et al., 2023), the Leader-Expressed Phronesis Scale (Rego et al., 2025), and the Workplace Phronesis Scale (Serenko, 2024) have recently been developed to measure individuals' phronesis. Using a four-function model of phronesis, which was proposed by Darnell et al. (2019), Darnell et al. (2022) made use of existing validated measures as a proof of the concept and operationalized phronesis into a measurable construct by presenting a measure known as the Long Phronesis Measure. However, as it takes approximately 45 minutes to complete, Kristjánsson et al. (2023) were inspired to develop and validate an instrument called a short measure of phronesis, which maintained the theoretical considerations of the original, but was easier to use. In another study done by Rego et al. (2025), the researchers attempted to develop a psychometric instrument that measures leader-expressed phronesis within organizational settings on virtue ethics. They conceptualized it as a tridimensional construct, including inquiring, judging, and acting. After conducting expert reviews, confirmatory factor analysis, and empirical validation, they came up with a theoretically sound and empirically validated tool. In the same vein, Serenko (2024) scrutinized phronesis in the workplace and developed a questionnaire reviewing the extent of literature on previous measures of wisdom based on the principles of knowledge management. The author regarded phronesis as a multifaceted construct with various dimensions including, but not limited to, moral purpose, subject matter expertise, emotional intelligence, and so forth.

As observed, none of these studies addressed the particular sociocultural and pedagogical complexities teachers encounter in their classes. These tools either target the general population or focus on specific workplace settings. None takes the unique demands of the teaching profession into consideration. The instrument introduced in this study, with its four context-sensitive dimensions, is the first to measure EFL teachers' phronesis in the field of second and foreign

language teaching and learning. The four context-sensitive dimensions — moral agency, commitment, practical reasoning, and professional support — driven from the literature and the empirical data make the instrument appropriate to be used in educational settings.

6. CONCLUSION

Some professions, like teaching, have their roots in ethics and virtue, as, in comparison with others, they place more moral responsibilities on their practitioners' shoulders. In this case, qualities such as fairness, care, and integrity are considered as the characteristics that define the professional practice, highlighting that the profession is concerned with actions and interactions that are inherently moral and ethical (Kristjánsson, 2024). Consistent employment of virtuous behavior is associated with positive academic outcomes (Villacís et al., 2021). Indeed, integrating virtue-based interventions with educational settings not only fosters students' academic success and ethical behavior, but also prepares them for personal growth and lifelong learning (Vazquez-Marin et al., 2025). Such being the case, when it comes to bridging the gap between moral knowledge and action, phronesis plays a significant motivational role (Kristjánsson et al., 2021).

In response to the lack of an effective instrument to measure EFL teachers' phronesis, this study designed and developed a valid and reliable instrument for assessing EFL teachers' phronesis. This would provide individuals with instruments to have self-assessment and to reflect on their teaching philosophy and daily decisions. Raising awareness of the importance of phronesis is a crucial step in considering phronesis in education (Jameel, 2025). School principals, teacher educators, and researchers may also benefit from the outcomes of the present study by using the inventory as a tool to reflect on and assess EFL teachers' phronesis in academic settings in Iran. As asserted by Schei (2021), "the good teacher has phronetic insights" (p. 3). Employing teachers and educators who know how to decide and how to act in morally complex situations is of utmost importance due to the fact that teaching quality is associated with student achievement, as maintained by Engida et al. (2024). Teachers with phronesis tend to enhance students' well-being in all their endeavors and are appropriately responsive to every single circumstance by integrating their habits, experiences, and values (Heilbronn, 2025). Moreover, the new inventory may present some valuable implications for researchers to study teacher professionalism and ethical issues, as the presence of a standardized and validated tool opens avenues for individuals to conduct further inquiries and plunge into the subject matter more deeply.

Even though in recent years research on individuals' phronesis has been at the locus of scholars' and academics' attention, more needs to be done to attain a better understanding of the essence of the concept in the context of teacher education. First, Jakubik (2020) framework of phronesis in education was used in this research as the foundational basis for developing and validating the relevant inventory. Future research shall explore and examine the concept through different theoretical lenses to deepen scholars' understanding of how phronesis is performed and assessed in various educational and professional contexts. Second, to obtain a general perception of the construct and explore individuals' perspectives in this regard, the instruments used for the qualitative phase of the study primarily consisted of a thorough literature review and semi-structured interviews. Future research could expand the depth and breadth of this multifaceted construct by replicating this study while applying a wider range of qualitative tools, such as narratives of experience, classroom observation, focused group discussions, and dialogue journals.

In addition, the use of non-probability convenience sampling in this study might have limited the generalizability of the findings. Consequently, researchers in future studies are encouraged to validate the inventory with a larger sample size recruited through random sampling procedures. Finally, as Hatchimonji et al. (2020) asserted, the development of phronesis and its

components depends on the development of other aspects of virtue and is shaped by contextual factors. That is, the development of phronesis is highly context-sensitive and is culturally embedded. Thus, what is considered to be a wise pedagogical decision or action in a particular cultural or institutional context may not be practically wise in other contexts and for different individuals. Accordingly, to address this gap regarding the interaction between/among context, culture, and virtue, future researchers may replicate the study and adapt the inventory in regions with different cultures and educational systems.

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Appendices

Appendix A: EFL Teachers’ Phronesis (Practical Wisdom) Inventory

This instrument is composed of 32 statements concerning teachers' practical wisdom. Please indicate the degree to which each statement applies to you by marking whether you: **Strongly disagree = 1; Disagree = 2; Neutral = 3; Agree =4; Strongly agree = 5**

Moral Agency					
39-I make serious efforts to ensure fairness, justice, and equality in all my decisions and actions.	1	2	3	4	5
47-I attempt to demonstrate moral behavior and make wise decisions when I am in class.	1	2	3	4	5
38-I respect the beliefs, values, moral principles, and the diversities observed in my classes.	1	2	3	4	5
46-I try to decide and act morally right in all places and spaces.	1	2	3	4	5
44-I am very careful when interacting with parents and other stakeholders.	1	2	3	4	5
37-While teaching, I am fully aware of the role of cultural differences in students' communication.	1	2	3	4	5

41-I attempt to be practically wise when encountering challenges and dealing with complexities.	1	2	3	4	5
42-When evaluating students' work and assigning their grades, I endeavor to be attentive in providing appropriate feedback.	1	2	3	4	5
51-In broader educational settings, like conferences, I make sure to follow professional ethics and moral principles.	1	2	3	4	5
36-It is necessary for all teachers to have a strong commitment to moral standards.	1	2	3	4	5
40-I always try to be aware of my decisions and actions.	1	2	3	4	5
Commitment					
52-Students' academic success and overall development are among the most prominent commitments of mine.	1	2	3	4	5
53-Self-satisfaction and success in life are the desired outcomes I expect to obtain.	1	2	3	4	5
54-I devote myself to ensuring students' satisfaction, well-being, and comprehensive knowledge of life meaning and conduct.	1	2	3	4	5
49-As a practically wise teacher, I set and follow moral standards in society.	1	2	3	4	5
57-As a wise teacher, I endeavor to facilitate an educational system in which students would become happy, flourishing individuals with internal peace.	1	2	3	4	5
55-I do my best to build trust based on mutual respect, empathy, and understanding.	1	2	3	4	5
56-By applying wise decisions and implementing effective teaching, I expect to see an educational system with more motivated and inspired individuals.	1	2	3	4	5
48-I constantly make efforts to be very cautious and do right, even in online classes.	1	2	3	4	5
20-I analyze and evaluate the effectiveness of my instruction to make sound decisions.	1	2	3	4	5
Practical Reasoning					
30-I always have various resources and recently developed materials at hand for addressing students' different needs.	1	2	3	4	5
21-I can easily identify challenges in my classes and provide wise solutions accordingly.	1	2	3	4	5
23-As an innovative and practically wise teacher, I try to be creative and employ various instructional strategies.	1	2	3	4	5
28-I keep up with brand-new technology and incorporate digital tools to facilitate learning and assess students' progress.	1	2	3	4	5
25-As an adaptable and flexible teacher, I modify my teaching methodologies and materials to satisfy students' diverse needs and objectives.	1	2	3	4	5
32-I endeavor to be very open to change and feedback.	1	2	3	4	5
27-I believe I have deep knowledge and understanding of the subject matter being taught to provide accurate and meaningful instruction.	1	2	3	4	5
26-In moments of conflict, I can regulate my emotions and remain calm to better make judicious decisions and act correspondingly.	1	2	3	4	5
Professional Support					
14-I usually consult with my colleagues when something goes wrong in my classes and ask for their assistance.	1	2	3	4	5
22-To share expertise and grow professionally, I socially engage with my colleagues and collaborate with them through dialogical and collegial interactions.	1	2	3	4	5
15-Students are among the people who can provide me with valuable support.	1	2	3	4	5
16-I see mentors as experienced individuals who can offer guidance and feedback in a time of need.	1	2	3	4	5