Journal of English for Specific Purposes Praxis

Journal Site: https://www.jespp.ir ©2024- Volume: 1, Issue: 2, pp. 78–100

Article Citation:
Sabzikaran, N., Kousha, M., Namdar, H., & Asadi, B. (2024). The relationship between EAP teachers' adaptive expertise, professional development, burnout, and agencies. Journal of English for Specific Purposes Praxis, 1(2), 78–100. https://doi.org/10.22034/jespp.2024.217614

JESPP

The Relationship Between EAP Teachers' Adaptive Expertise, Professional Development, Burnout, and Agencies

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Original Research Article | Date of Submission: 10 July 2024 | Date of Acceptance: 26 September 2024

Abstract

The importance of emotional aspects and paying attention to teachers' activities from spiritual and emotional perspectives to prevent work burnout and strengthen professional learning in this occupational group is well recognized. This study aimed to ascertain how the agency of Iranian EAP instructors relates to their professional development, burnout, and adaptive expertise (AE). Additionally, it examined how well Iranian EAP instructors' agency predicts their level of burnout, professional development (PD), and adaptive expertise. Thus, the researcher employed questionnaires as the method of data collection. One hundred twenty-two Iranian EAP teachers were asked to complete the Teachers' AE, PD, Burnout, and Teacher Agency questionnaires via convenience sampling. The reliability of the translated versions of the utilized questionnaires was confirmed by Cronbach's alpha. Various statistical measures, including correlation, regression, and ANOVA ($F(4,117) = 12.506$, $p = 0.000$), were applied to draw inferences from the observed data. The findings demonstrated a significant and positive correlation between professional development and overall teacher agency. A significant positive correlation was found between Iranian teachers' AE and agency. Iranian teachers' burnout and their optimism, one of the agency components, were found to have a negative but statistically significant correlation. These study findings offered empirical evidence about the agency of Iranian EAP instructors and also revealed the predictive function of teachers' agency in describing their AE, professional growth, and burnout. The findings of the research can be helpful to everyone involved in language acquisition, including educators, researchers, and teachers.

Keywords: adaptive expertise, burnout, professional development, teacher agency

1. Introduction

A good education necessitates that the instructors enhance their teaching techniques at both the subject matter and school levels. Schools need teacher leaders who can improve educational quality and implement educational innovations (Van der et al., 2018). Driven by the link between teacher proficiency and student outcomes, scholars have argued that teacher agency is crucial for fostering teacher expertise and driving educational reform (Reichenberg, 2020). Emirbayer and Mische (1998) define teacher agency as the active participation and ownership in efforts to transform and enhance the educational environment. Consequently, educators who possess a strong sense of agency are more likely to engage in collaborative school-based initiatives and pursue ongoing professional development, thereby maximizing their potential to contribute to educational advancements (Priestley et al., 2015).

Adaptability is a hallmark of effective teaching, known as adaptive expertise (AE). AE refers to a teacher's ability to adjust and effectively handle unexpected challenges in teaching and learning contexts (Vergara-Rodríguez et al., 2022). AE is a key factor in advancing learning and serves as a standard for instructional practice (Hammerness et al., 2005; Hayden et al., 2013). Teachers need the autonomy to innovate, envision, and apply AE by creating new approaches as circumstances evolve. Teacher agency—defined as the ability to plan, evaluate, and act upon educational strategies—enables educators to adapt through continuous reflection on their specific contexts and students. This underscores the essential link between teacher agency and the capacity to deliver high-quality instruction, a crucial consideration for those involved in preservice and in-service professional development, including teacher educators, administrators, curriculum leaders, and instructional coaches (Reichenberg, 2020).

According to Maslach, Schaufeli, and Leiter (2001), burnout occurs when a sense of energy is replaced by fatigue, hope and engagement by skepticism, and a sense of effectiveness by inefficiency. Burnout signifies a transformation from a career perceived as important, purposeful, and challenging to one that is unsatisfying, displeasing, and pointless (Wang et al., 2022). Burnout is a negative emotional response to ongoing professional stress, particularly affecting jobs with a strong interpersonal component, such as teaching (Maslach & Leiter, 1997). Understanding the root causes of stressful situations and how to manage them is crucial to preventing burnout. Therefore, this study aimed to assess the degree to which the agency of E instructors can predict their adaptive expertise (AE), professional development (PD), and levels of burnout.

2. Literature Review

2.1. Professional Development (PD)

The emerging discourse on professional development (PD) has appeared as a quest to promote the quality of work and education. PD programs are designed to prepare individuals for potential challenges in their fields (Vergara-Rodríguez et al., 2022). PD comprises a variety of educational opportunities related to a person's area of work. Professionals across various fields, including doctors, lawyers, educators, accountants, engineers, and others, engage in professional development (PD) to acquire and apply new knowledge and skills that enhance their job performance. (Mizell, 2010). The purpose of PD is to advance instructors' knowledge, competence, and values to enhance student learning. Similarly, Richards and Farrell (2005) argue that PD aims to help teachers understand their role and improve their teaching practices. Craft (2000) identifies teachers' PD as a process requiring a mixture

of engagement, support, pressure, and success. The modifications obtained during or after PD contribute to the organization, curriculum, and learners (Craft, 2000).

2.2. Burnout

Burnout is a psychological phenomenon that has received considerable attention in recent literature. The term "burnout" was introduced by Freudenberger (1974) to describe the demotivation and emotional exhaustion observed in volunteers at a free health clinic. He identified that over time, these individuals experienced increasing demotivation and emotional exhaustion, accompanied by various psychological and physical symptoms such as headaches, nausea, irritability, insomnia, and frustration (Maslach & Schaufeli, 1993). Specifically, Maslach (1993) defines burnout as a psychological syndrome encompassing emotional exhaustion, depersonalization, and diminished personal accomplishment. Emotional exhaustion refers to the depletion of one's emotional resources and feeling emotionally overwhelmed. Depersonalization involves developing a callous or excessively detached attitude towards others, who are perceived as mere recipients of one's services or care.

Burnout can negatively impact a teacher's capacity to develop adaptive expertise, often leading to decreased motivation and engagement (Schön, 1984). To address this issue, it is essential to understand the interplay between burnout and the development of adaptive expertise among English language teachers to prevent burnout and improve the quality of language education. Examining the relationship between burnout, adaptive expertise, and professional development among English language teachers is crucial for several reasons. Firstly, understanding these relationships can help develop effective strategies to prevent and mitigate teacher burnout, thereby improving the quality of language education (Vergara-Rodríguez et al., 2022). Secondly, it can contribute to a more comprehensive approach to teacher training and support, emphasizing the importance of adaptive expertise and professional development (Hammerness et al., 2017). Neglecting these relationships can have detrimental consequences for both teachers and students, ultimately affecting the quality of English language education.

Ignoring the issue of burnout among English language teachers can result in several adverse consequences. Teachers experiencing burnout may become disengaged from their work, leading to decreased motivation and job satisfaction (Wang et al., 2022). This, in turn, can lead to suboptimal teaching practices and hinder students' language learning outcomes. Furthermore, neglecting teacher burnout can contribute to high teacher turnover rates, exacerbating the shortage of qualified English language educators (Li, 2023). Therefore, addressing and preventing burnout is crucial for maintaining a stable and effective English language education system.

2.3. Agency

In the context of agency, teacher agency is viewed as a crucial aspect of professional agency, where teachers' proactive involvement in shaping their roles and working conditions is considered fundamental to delivering high-quality and impactful education (Biesta et al., 2015). The socio-cultural perspective on agency, as articulated by Giddens (1984), highlights the importance of the interplay between individual and social contexts in understanding teacher agency's role in school reform and professional development (PD). According to a subject-centered socio-cultural framework, Eteläpelto et al. (2013) describe teacher agency as an analytical construct that recognizes the distinct yet interdependent nature of social contexts and individual agency.

Teacher agency encompasses emotional, cognitive, and behavioral dimensions, reflected in constructive attitudes, self-efficacy, and optimism (Shen, 2015). Research indicates that teachers' perceptions of their own agency are positively correlated with their engagement in professional learning opportunities (Lai et al., 2015; Piyaman et al., 2017) and thrive in environments that encourage collaboration among educators. Samoukovic (2015) found that teacher agency, when exercised collaboratively, contributes significantly to the enhancement of teacher expertise. Consequently, investigations often concentrate on particular school environments where teacher agency acts as a catalyst for school improvement (Biesta et al., 2007; Lai et al., 2015; Piyaman et al., 2017).

The role of teacher agency in enhancing professional development has been extensively explored and empirically validated in recent educational research (Bellibaş et al., 2020; Fu et al., 2017; Liu et al., 2016). The literature on teaching effectiveness has greatly benefited from research on the extent to which EAP teachers' agency predicts their AE, PD, and burnout in the context of Iran. This study provided empirical findings concerning Iranian EAP teachers' agency and illuminated the predictive role of teachers' agency in explaining their AE, PD, and burnout. Given the key role of the teacher in the educational environment, investments in teacher education and empowerment programs and the development of teacher training courses are essential to cultivate a reflective mindset in teachers, fostering their willingness to improve their teaching skills.

From the initial days of entering the teaching profession, inexperienced teachers should be supported with ample opportunities to enhance and preserve their professional agency and acquire more complex teaching skills. Considering the importance of continuous PD, inexperienced teachers should be presented with workshops and lectures to enhance their agency.

3. Research Questions

This study aims at the examining the Relationship between EAP teacher's adaptive expertise, professional development, burnout, and agencies. More specifically, this study focused on the following research questions:

1. To what extent is there a statistically significant association between the agency of Iranian EAP teachers and their adaptive expertise (AE)?
2. What is the statistical significance of the relationship between Iranian EAP teachers' agency and their professional development?
3. Is there a statistically significant link between Iranian EAP teachers' agency and their experience of burnout?
4. Does Iranian EAP teachers' agency predict their AE?
5. Does Iranian EAP teachers' agency predict their professional development?
6. Does Iranian EAP teachers' agency predict their burnout?

4. Method

4.1. Research Design

This research utilized a descriptive correlational and predictive approach to explore the relationships among several variables. The first three research questions were examined using a

correlational design, whereas the last three were analyzed with a predictive design. In this framework, teacher agency served as the independent variable, with adaptive expertise (AE), professional development (PD), and burnout as the dependent variables.

4.2. Participants

The sample of the study included a pool of 122 technical English university teachers. The mean age of the teacher participants was 43.55. The teacher participants were selected according to convenience sampling from six different Azad and Estate Iranian universities including Tehran University, Allameh Tabatabaei University, Imam Khomeini International University, Islamic Azad University of Science and Technology, Islamic Azad University of South Tehran Branch, and Islamic Azad University of Qazvin. The teachers who were available and whose consent was obtained took part in the study.

4.3. Instruments

The study gathered data using several questionnaires, which participants were asked to complete: The Teachers' AE Scale, Teacher PD Questionnaire, Maslach Burnout Inventory, and Teacher Agency Scale.

4.3.1. Teachers' AE Scale

The Teachers' AE Scale, derived from the Fisher Survey (Fisher & Peterson, 2001), featured 42 items on a 6-point Likert scale. This scale assessed four dimensions of adaptive expertise: metacognitive self-assessment, goals and beliefs, diverse perspectives, and epistemology. Cronbach's alpha reliability coefficients for the subscales ranged from 0.66 to 0.80, with an overall reliability ranging from 0.85 to 0.90 (Fisher & Peterson, 2001). In a pilot study with 30 Iranian EAP teachers, the scale achieved a Cronbach's alpha of 0.89. Completing this questionnaire took approximately 15 minutes

4.3.2. Teacher PD Scale

The Teacher PD Questionnaire, created and validated by Ayyoobi et al. (2016), contained 47 items rated on a 5-point Likert scale, from 1 (Strongly Disagree) to 5 (Strongly Agree). It assessed eight aspects of professional development: thematic knowledge, learning environment, research-based practices, educational planning, cooperation, educational development, and human resource development. The Cronbach's alpha for the entire scale was 0.85 in the pilot test. The questionnaire required about 30 minutes to complete.

4.3.3. Maslach Burnout Inventory

Burnout was assessed using the Maslach Burnout Inventory (Maslach & Jackson, 1986), which comprised 22 items rated on a seven-point Likert scale ranging from 'never' to 'always.' The inventory evaluated three dimensions of burnout: depersonalization (5 items), emotional exhaustion (9 items), and reduced personal accomplishment (3 items). Each dimension was scored separately, with emotional exhaustion and depersonalization measured by negative items and reduced personal accomplishment measured by positive items scored inversely. This questionnaire took about 10 minutes to complete, with a Cronbach's alpha reliability of 0.79 in the pilot study.

4.3.4. Teacher Agency Scale

The Teacher Agency Scale, developed by Liu et al. (2016b) and based on prior scales by Wang et al. (2022) and Shen (2015), included 24 items across four dimensions: teaching effectiveness (TE), learning effectiveness (LE), constructive engagement (CE), and optimism (O). Participants rated their agreement with each statement on a 6-point Likert scale. It took approximately 10 minutes to complete, with a Cronbach's alpha of 0.82.

4.4. Procedure

The study required participation from at least 120 EAP teachers, selected via convenience sampling. Participants were briefed on the study's objectives and ensured that their responses would remain confidential to obtain informed consent. Prior to the main study, the questionnaires were translated into Persian and pilot-tested with 30 teachers similar to the main sample. An online version of the Teachers' AE Scale, Teacher PD Questionnaire, Maslach Burnout Inventory, Teacher Agency Scale, and demographic questions was prepared. Announcements were made in Iranian EAP teachers' Telegram groups, and the study's objectives were explained. A link to the questionnaire was sent to interested participants. Data were then analyzed using both descriptive and inferential statistics.

4.5. Statistical Analysis

To address the first three research questions concerning the relationships between Iranian EAP teachers' agency and their AE, PD, and burnout, Pearson correlation analysis was utilized. For the remaining questions, which investigated whether teacher agency could predict AE, PD, and burnout, linear regression analysis was employed.

5. Results

As reported in the previous section, correlation analysis and linear regression were used to answer the research questions of the study. The results of these statistical methods are presented in the following sections.

5.1. Assumptions

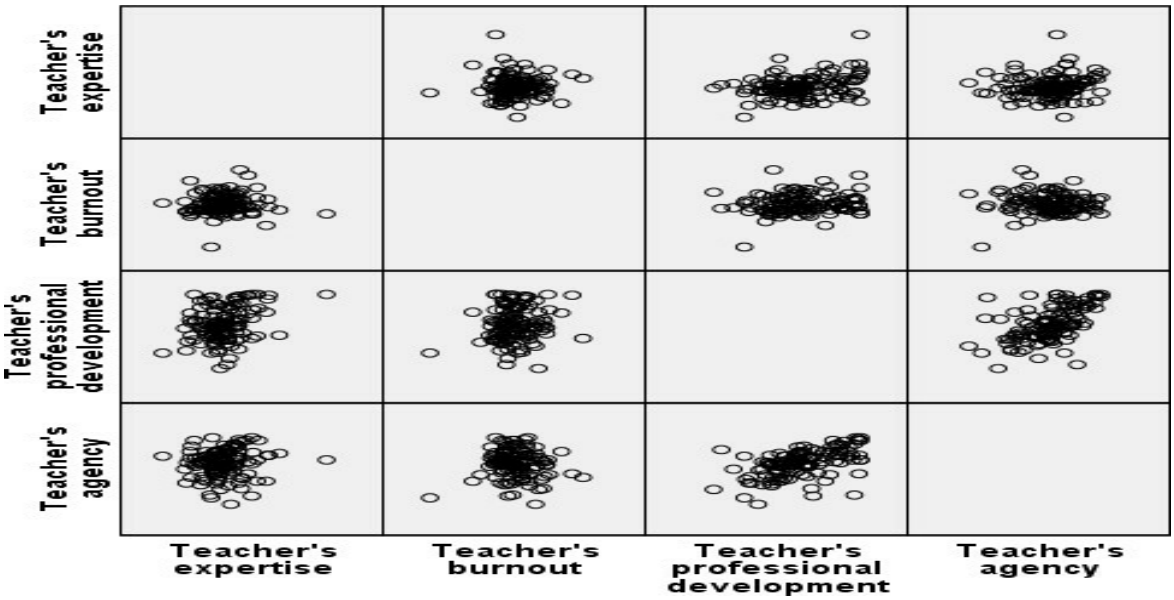
The assumptions of interval data measurement and participant independence (Tabachnick & Fidell, 2013) were satisfied since the obtained data were measured on an interval scale and participants were independent. Additionally, other key assumptions were checked by examining data characteristics: 1) Linearity, 2) Homoscedasticity, and 3) Normality.

5.1.1. Linearity and Homoscedasticity

Linearity was assessed through visual inspection of scatterplots (Figure 1). The scatterplots of scores for teachers' AE, burnout, PD, and agency showed that while the relationships were not perfectly linear, they did not exhibit severe non-linearity. There were no U-shaped or curvilinear patterns observed. However, the distribution of scores formed a funnel shape, indicating a variation in spread and suggesting that the assumption of homoscedasticity was not fully met.

Figure 1

A Multiple Scatter Plot of Research Variables



5.1.2. Normality

As seen in Table 1, although the significance (Sig.) values for the research variables related to teachers' burnout, AE, agency, and its components are less than 0.05, which suggests a violation of the normality assumption, the scores related to teachers' PD were considered normal. Therefore, the investigator concluded that some of the data did not meet the assumptions required for parametric statistical techniques. Consequently, non-parametric tests were used.

Table 1

Normality Test

Variable	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	DF	Sig.	Statistics	DF	P
Teacher's expertise	0.081	122	0.049	0.947	122	0.000
Teacher's burnout	0.092	122	0.014	0.937	122	0.000
Teacher's PD	0.055	122	0.200	0.978	122	0.053
Teacher's agency-learning	0.129	122	0.000	0.969	122	0.006
Teacher's agency-teaching	0.115	122	0.000	0.954	122	0.000
Teacher's agency-optimism	0.141	122	0.000	0.941	122	0.000
Teacher's agency-constructive engagement	0.112	122	0.001	0.950	122	0.000
Teacher's agency	0.105	122	0.002	0.978	122	0.043

5.2. Descriptive Statistics

Values of skewness ratio and kurtosis ratio are presented in Table 2. According to Table 2, if both skewness ratio and kurtosis ratio values are within the range of -1.96 and +1.96, it supports the

normality of scores (Tabachnick & Fidell, 2013). Therefore, all scores related to the research variables of teachers' AE, agency, burnout, and PD were not considered normal.

Table 2

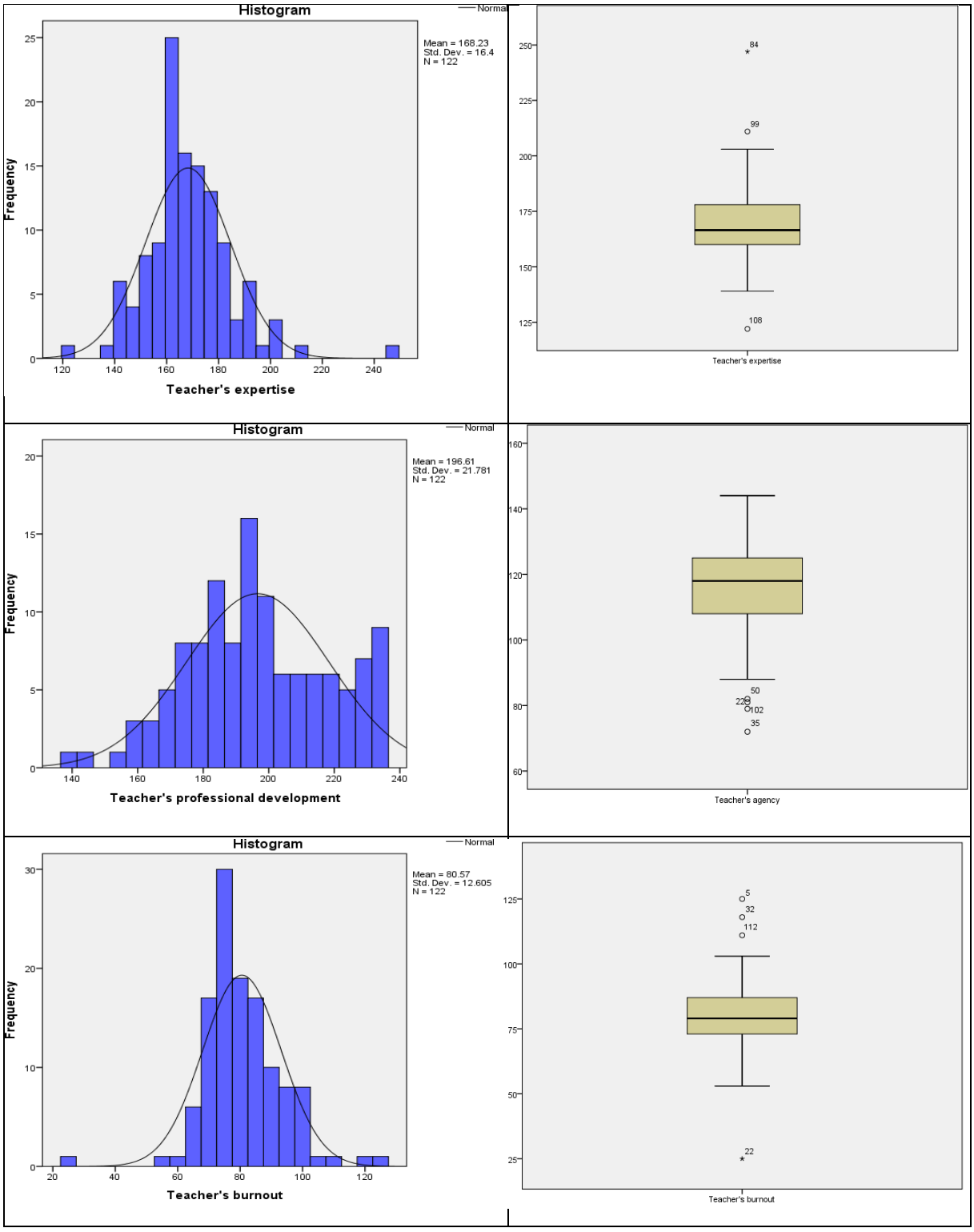
Descriptive Results of Research Variables

Variable		Statistic	Std. Error	Ratio
AE	Mean	168.23	1.485	
	Std. Deviation	16.400		
	Skewness	955	0.219	4.36
	Kurtosis	3.950	0.435	4.36
Burnout	Mean	80.57	1.141	
	Std. Deviation	12.605		
	Skewness	0.069	0.219	41.45
	Kurtosis	3.620	.435	8.32
PD	Mean	196.61	1.972	
	Std. Deviation	21.781		
	Skewness	-0.026	0.219	-0.11
	Kurtosis	-0.458	0.435	-1.052
Agency-learning	Mean	27.67	.387	
	Std. Deviation	4.273		
	Skewness	-0.441	0.219	-2.01
	Kurtosis	-0.095	0.435	-0.21
Agency-teaching	Mean	34.17	0.421	
	Std. Deviation	4.649		
	Skewness	-0.713	.219	-0.99
	Kurtosis	1.126	.435	2.58
Agency-optimism	Mean	24.75	0.354	
	Std. Deviation	3.909		
	Skewness	-0.793	0.219	-3.62
	Kurtosis	0.562	0.435	1.29
Agency-engagement	Mean	29.76	0.386	
	Std. Deviation	4.264		
	Skewness	-0.659	0.219	3.00
	Kurtosis	0.288	0.435	0.66
Agency	Mean	116.35	1.313	
	Std. Deviation	14.504		
	Skewness	-0.509	0.219	-2.32
	Kurtosis	0.260	0.435	0.60

The bar graphs and Q-Q normal plots for each variable i.e., teachers' AE, agency, burnout, and PD are depicted as follows.

Figure 2

Bar Graphs and Normal Q-Q Box of Research Variables Scores Normality



5.3. Inferential Statistics

The first goal of this study was to examine the relationship between Iranian EAP teachers' agency and their AE. The data were analyzed using the Spearman coefficient as a non-parametric test (Table 3). As seen in Table 3, it was proved that there was no significant correlation between most of Iranian teachers' agency components and their AE (learning effectiveness: r =.141. p = 0.122, N = 122; teaching effectiveness: r =0.151, p = 0.096, N = 122; constructive engagement: and r =0.023, p = 0.801, N = 122) except for optimism: r =0.227, p = 0.012, N = 122, in which the correlation was positive and significant. Moreover, it was revealed there was no positive and significant correlation between AE and total agency among EAP teachers, r =0.155. p = 0.089, N = 122.

Table 3

Correlation between Teachers' Agency and AE

		Agency-learning	Agency-teaching	Agency-optimism	Agency-constructive engagement	Teacher's agency
Spearman'sAE rho	Correlation Coefficient	0.141	0.151	0.227	0.023	0.155
	Sig.	0.122	0.096	0.012	0.801	0.089
	N	122	122	122	122	122

The second driving force behind conducting this study was to systematically investigate the relationship between Iranian EAP teachers' agency and their professional development. The data related to male and female teachers were analyzed using the Spearman coefficient which is a non-parametric test (Table 4). As provided in Table 4, it was concluded that there was a positive and significant correlation between teachers' PD and agency components including learning effectiveness, teaching effectiveness, optimism, and constructive engagement (r =0.481., p =0.000, N = 122, r = 0.491, p = 0.000, N = 122, r = 0.406., p =0.000, N = 122, r = 0.520, p =0.000, N = 122). Also, the results showed a positive correlation between PD and total agency among teachers, r = 0.562., p = 0.000, N = 122).

Table 4

Correlation between Teachers' Agency Components and Their PD Learning

		Agency-learning	Agency-teaching	Agency-optimism	Agency-constructive engagement	Teacher's agency
Spearman'sPD rho	Correlation Coefficient	0.481	0.491	0.406	0.520	0.562
	Sig.	0.000	0.000	0.000	0.000	0.000
	N	122	122	122	122	122

The third question of this study sought to find the relationship between Iranian teachers' agency and burnout. Data was analyzed using the Spearman coefficient (Table 5). According to Table 5, there was a negative and significant correlation between Iranian teachers' burnout and their optimism, which is one of the agency components (r = -0.234, p = 0.01, N = 122). However, no significant correlation was detected between the total agency and burnout, as the p-value exceeded0.05. The fourth research question investigated whether EAP teachers' agency can predict their AE. Accordingly, the researcher opted for standard multiple regression analysis. According to Tabachnick and Fidell (2013), considerations for standard multiple regressions include sample size and normality checks.

Table 5

Correlation between Agency and Burnout

		Agency-learning	Agency-teaching	Agency-optimism	Agency-constructive engagement	Teacher's agency
Spearman'sBurnout rho	Correlation Coefficient	-0.151	-0.017	-0.234	0.017	-0.116
	Sig.	0.097	0.849	0.010	0.849	0.203
	N	122	122	122	122	122

There are varied opinions regarding the appropriate number of participants required for performing multiple regression. The criterion proposed by Tabachnick and Fidell (2013) is widely recommended. They suggest a formula for measuring sample size requirements, taking into account the number of independent variables: N > 50 + 8m (where m is the number of independent variables). In this study, there were four independent/predictor variables, calling for a sample size of more than 82 participants. With 122 cases, the sample was large enough to meet this assumption. Moreover, one of the techniques used for inspecting normality in regression analysis is examining the Normal Probability Plot (P-P). Ideally, the points should lie in a reasonably straight diagonal line from the bottom left to the top right. Also, the Normal P-P Plot of regression standardized residuals was presented.

Figure 3

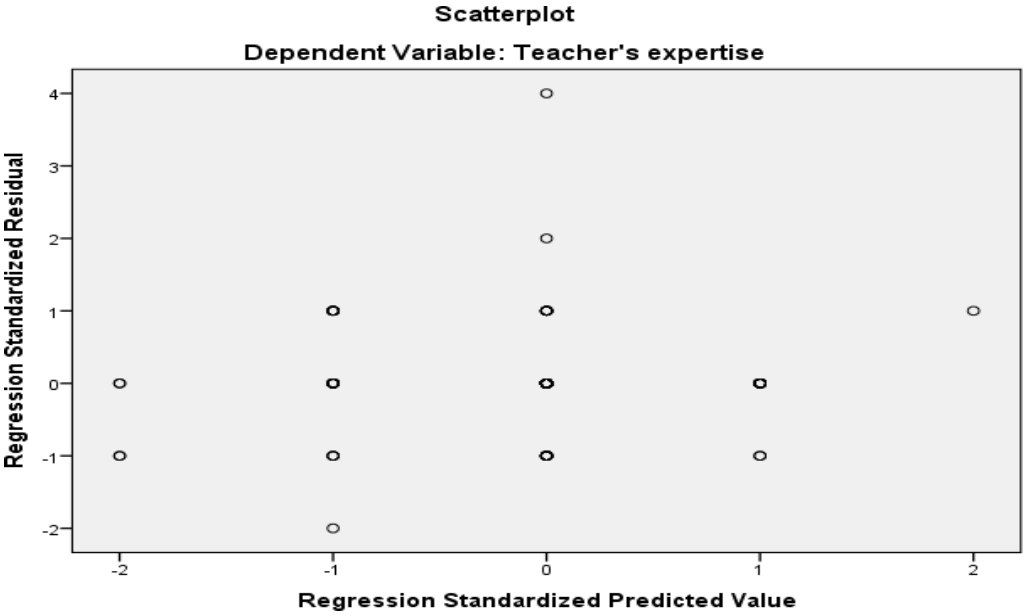
Normal P-P Plot of Regression Standardized Residual (Agency on Adaptive Expertise)

Normal P-P plot of regression standardized residual shows no major deviation from normality. Furthermore, scatterplot of standardized residuals revealed that residuals were rectangularly distributed, with most of the scores concentrated in the center.

Scatterplot of the standardized residuals shows that there was no clear or systematic pattern to the residuals. Accordingly, the assumption of normality was met.

Figure 4

Scatterplot of the Standardized Residuals (Agency on Adaptive Expertise)



Regression model summary was prepared inTable.7. Table 6 shows that R came out to be 0.259 and R2 came out to be 0.067 showing that the model explains 6% of the variance in teachers' AE (Cohen et al., 2003).

Table 6

Model Summary[b] (Agency on Adaptive Expertise)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.259[a]	0.067	0.035	16.108

a. Predictors: (Constant), Teacher's agency-constructive engagement, Teacher's agency-optimism, Teacher's agency- learning, Teacher's agency-teaching
b. Dependent Variable: Teacher's expertise

Table 7 shows that ANOVA results was not significant ($F(4,117) = 2.104$, $p = 0.085$) implying that the model cannot significantly predict AE.

Table 7

ANOVA[a] Model (Agency on Adaptive Expertise)

1	Regression	2184.220	4	546.055	2.104	0.085[b]
	Residual	30359.354	117	259.482		
	Total	32543.574	121			

a. Dependent Variable: Teacher's expertise

b. Predictors: (Constant), Teacher's agency-constructive engagement, Teacher's agency-optimism, Teacher's agency-learning, Teacher's agency-teaching

Table 8 presents the Standardized Beta Coefficients which indicate the degree to which each predictor variable contributes to the prediction of the predicted variable.

Although, the inspection of the Sig. value showed that optimism as the predictor variable makes statistically significant unique contributions to the equation as the p value is less than0.05. However, teacher's agency could not predict EAP teachers' AE.

The 5th question intended to see if EAP teachers' agency can predict their PD. As a result, the researcher opted for the standard multiple regression analysis in order to answer this research question. To answer this question, some assumptions had to be tested. According to Tabachnick and Fidell (2013), standard multiple regressions were considered such as sample size and normality check.

Table 8

Coefficients (Agency on Adaptive Expertise)

Unstandardized. Coefficients				Standard. Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	156.382	11.934		13.104	0.000
	Teacher's agency-learning	0.157	0.524	0.041	0.300	0.765
	Teacher's agency-teaching	0.008	0.494	0.002	0.015	0.988
	Teacher's agency-optimism	1.204	0.498	0.287	2.416	0.017
	Teacher's agency-constructive engagement	-0.758	0.498	-0.197	-1.523	0.131

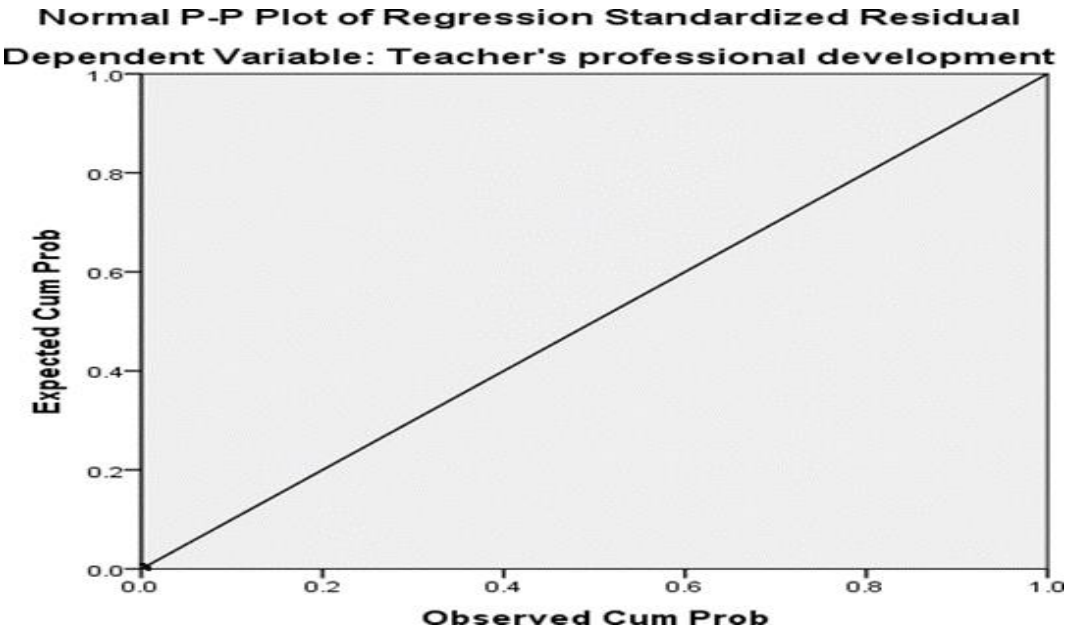
a. Dependent Variable: Adaptive expertise

Different ideas about the legitimate number of participants needed for running a multiple regression exists. Among these, Tabachnick and Fidell's (2013) criterion is highly recommended by many. Tabachnick and Fidell (2013) proposed formula for calculating sample size requirements, taking into account the number of independent variables: $N > 50 + 8m$ (m = the number of independent variables). In this analysis, there were four independent/predictor variable, calling for a sample including more than 82 participants. Including 122 cases, the sample pool seemed to be large enough to meet this assumption.

Moreover, inspecting the Normal Probability Plot (P-P) is one of the employed techniques for checking normality in a regression analysis. Here, it is a hope that the points lie in a reasonably straight diagonal line from bottom left to top right. Also, the Normal P-P Plot of regression standardized residuals was shown.

Figure 5

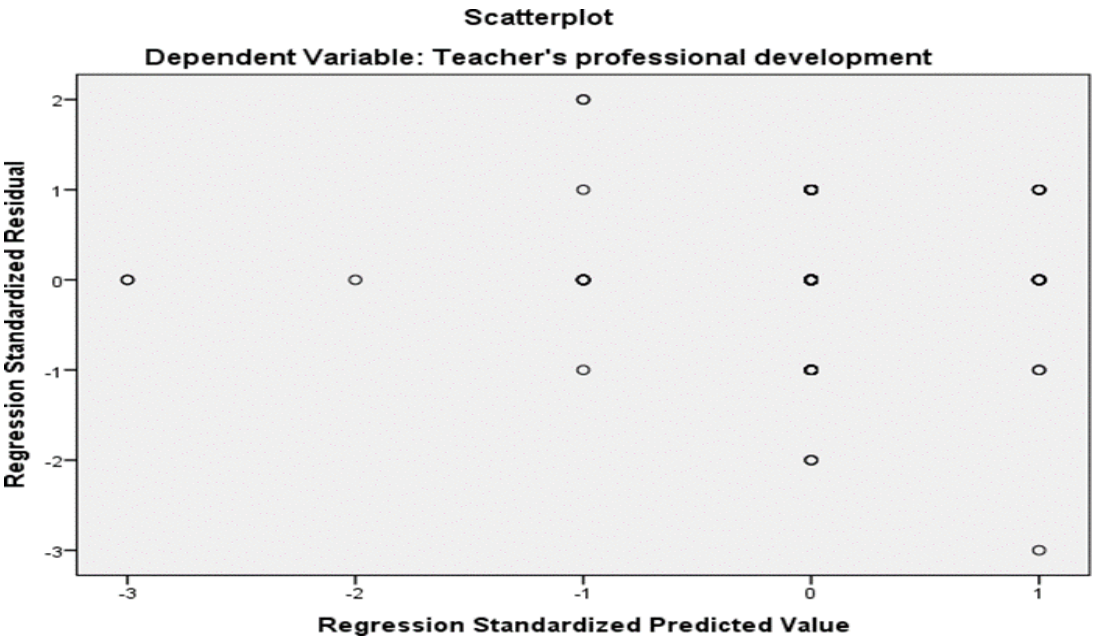
Normal P-P Plot of Regression Standardized Residuals (Agency on Professional Development)



The examination of the normal P-P plot of regression standardized residual shows no major deviation from normality. Furthermore, the scatterplot of standardized residuals showed that residuals were rectangularly distributed, with most of the scores concentrated in the center. The scatterplot of the standardized residuals, there was no clear or systematic pattern to the residuals. Accordingly, the normality assumption was proved.

Figure 6.

Scatterplot of the Standardized Residuals (Agency on Professional Development)



Regression model summary is provided in Table 9. Table 9 indicates that R came out to be0.547 and R2 came out to be0.300. This means that the model explains 30 percent of the variance in teachers' PD (Cohen et al., 2003).

Table 9

Model Summary[b] (Agency on Professional Development)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.547[a]	0.300	0.276	18.539

a. Predictors: (Constant), Teacher's agency-constructive engagement, Teacher's agency-optimism, Teacher's agency-learning, Teacher's agency-teaching
b. Dependent Variable: Professional Development

Table 10 summarizes the results of ANOVA ($F(4, 117) = 12.506$, $p = 0.000$), the results of which were considered significant. This means that the model can significantly predict Iranian teachers' PD.

Table 10

ANOVA[a] (Agency on Professional Development)

1	Regression	17192.943	4	4298.236	12.506	0.000[b]
	Residual	40211.950	117	343.692		
	Total	57404.893	121			

a. Dependent Variable: Teacher's PD

b. Predictors: (Constant), Teacher's agency-constructive engagement, Teacher's agency-optimism, Teacher's agency-learning, Teacher's agency-teaching

Table 11 summarizes the Standardized Coefficients. They signify the degree to which each predictor variable contributes to the prediction of the predicted variable.

Table 11

Coefficients (Agency on Professional Development)

Unstandardized Coefficient.				Standard Coefficient		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	104.815	13.735		7.631	0.000
	Teacher's agency-learning	1.131	0.603	0.222	1.877	0.063
	Teacher's agency-teaching	0.083	0.569	0.018	0.146	0.884
	Teacher's agency-optimism	0.492	0.573	0.088	0.858	0.393
	Teacher's agency-constructive engagement	1.529	0.573	0.299	2.670	0.009

The inspection of the Sig. value showed that constructive engagement as the predictor variable makes statistically significant unique contributions to the equation as the p value is less than0.05. However, other teacher's agency components could not predict EAP teachers' PD.

The 6th question explored whether EAP teachers' agency can predict their burnout. To answer this question, some assumptions needed to be checked before performing the analysis. Linear regressions were considered such as sample size and normality check.

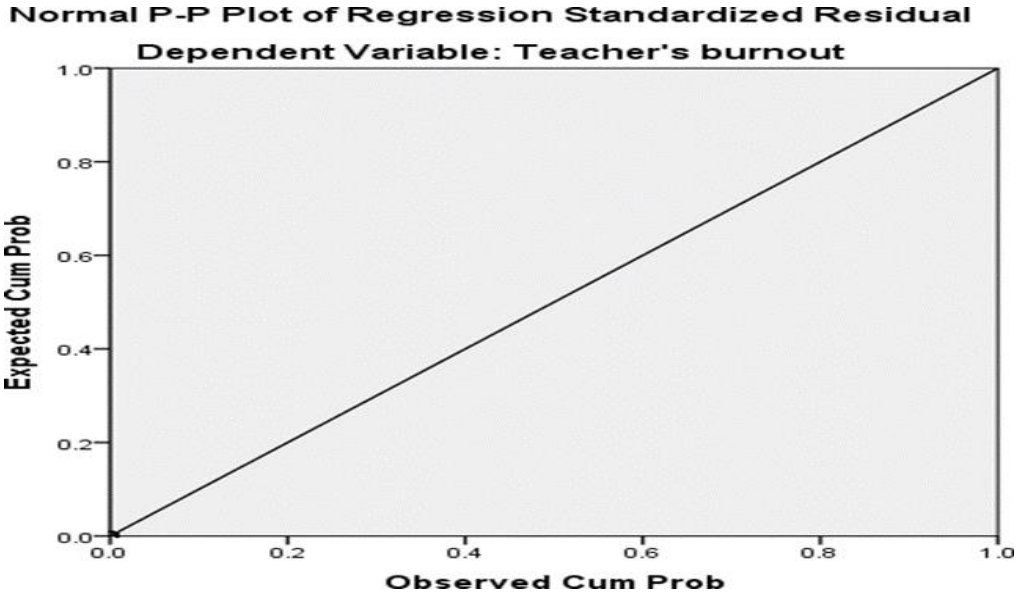
As in previous research question, it was revealed that burnout has a statistically significant relationship with optimism, so for answering this research question, different ideas about the legitimate number of participants needed for running a linear regression was inspected. Among these, criterion of Tabachnick and Fidell (2013) is greatly recommended by many. Tabachnick and Fidell (2013) proposed a formula for computing sample size requirements, considering the number of independent variables: N > 50 + 8m (m = the number of indep. variables). In this, there was one independent/predictor variable, calling for a sample including more than 58 participants including 122 cases, the sample pool appeared to be large enough to meet this assumption.

Moreover, one of the employed techniques for checking normality in a regression analysis is inspecting the Normal Probability Plot (P-P). It is a hope that the points lie in a reasonably straight diagonal line from bottom left to top right. In addition, Normal P-P Plot of regression standardized residuals was also shown.

Examining the normal P-P plot of regression standardized residual shows no major deviation from normality. Furthermore, the scatterplot of standardized residuals indicated that residuals were rectangularly distributed, by most of the scores focused in the center.

Figure 7

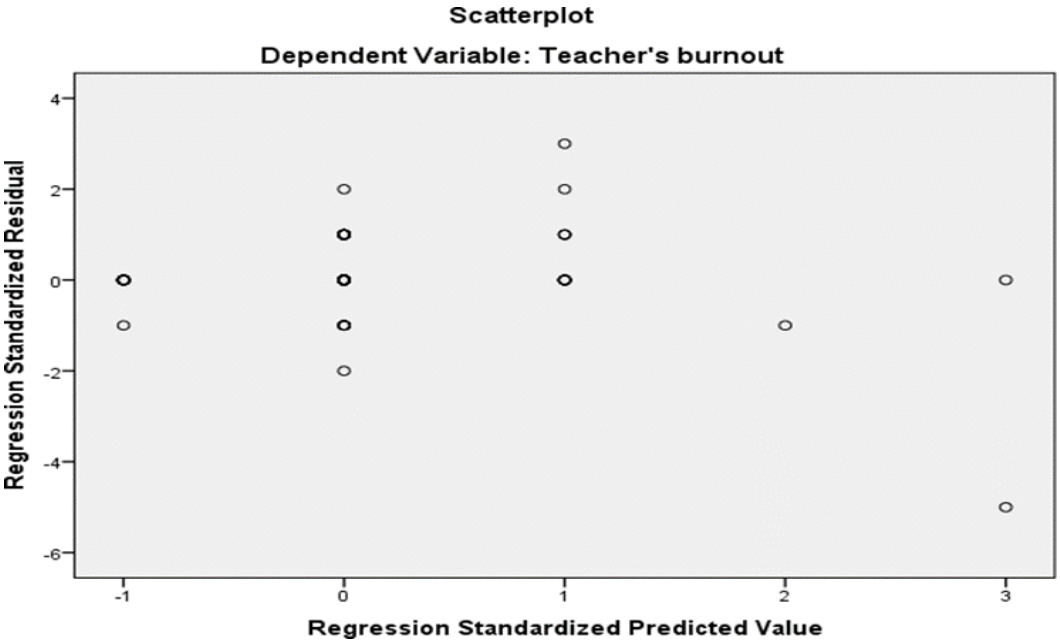
Normal P-P Plot of Regression Standardized Residuals (Agency on Burnout)



As observed in scatterplot of the standardized residuals, there was no clear or systematic pattern to the residuals. Accordingly, the assumption of normality was met.

Figure 8

Scatterplot of the Standardized Residuals (Agency on Burnout)



Regression model summary appears in Table 12. According to Table 12, R came out to be0.167 and R2 came out to be0.028 implying that the model explains 2% of the variance in teachers' burnout (Cohen et al., 2003).

Table 12

Model Summary[b] (Agency on Burnout)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.167a	0.028	0.020	12.479

a. Predictors: (Constant) Teacher's agency-optimism,

b. Dependent Variable: Teacher's burnout

Table 13 represents the results of ANOVA ($F(1,120) = 3.455$, $p = 0.065$), the results of which were not considered significant denoting that the model cannot significantly predict Iranian teachers' burnout.

Table 13

ANOVAa (Agency on Burnout)

1	Regression	538.061	1	538.061	3.455	.065b
	Residual	18685.914	120	155.716		
	Total	19223.975	121			

a. Dependent Variable: Teacher's burnout

b. Predictors: (Constant), Teacher's agency-optimism

Standardized Beta Coefficients signifying the degree to which each predictor variable contributes to the prediction of the predicted variable are manifested in Table 14.

Table 14

Coefficients (Agency on Burnout)

Unstandardized Coefficient				Standardized Coefficient		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	93.914	7.269		12.919	0.000
	Teacher's agency-optimism	-0.539	0.290	-0.167	-1.859	0.065

a. Dependent Variable: Optimism

Also, the inspection of the Sig. value showed that optimism as the predictor variable did not make a statistically significant unique contribution to the equation as the p value is more than0.05. However, teacher's agency could not predict EAP teachers' burnout.

6. Discussion

This study provides valuable insights into the interplay between teachers' agency and their professional development (PD), burnout, and academic engagement (AE). It also assesses the extent to which Iranian EAP teachers' agency can predict their levels of burnout, PD, and AE. The analysis of data for the first research question reveals a significant positive correlation between AE and agency among Iranian EAP teachers. This finding aligns with the work of Jee Kung et al. (2023), who explored teachers' progression towards understanding epistemic complexity and developed systematic profiles of adaptive teaching expertise based on qualitative data. Similarly, Els et al. (2022) reviewed the conceptualization of adaptive expertise and performance, identifying various individual, task, and environmental factors related to adaptation.

Regarding the second research question, which investigated the relationship between teachers' PD and their agency, a significant and positive association was found. Constructive engagement emerged as a notable predictor of PD, confirming previous studies that link teacher agency with enhanced professional learning (Hallinger et al., 2017; Liu et al., 2016; Piyaman et al., 2017; Polatcan et al., 2021). Liu et al. (2016) observed a moderate and significant impact of teacher agency on professional learning in Chinese schools, while Hallinger et al. (2017b) noted a varying impact in China and Thailand. These studies underscore the role of teacher agency in fostering a culture of professional learning, suggesting that a strong sense of agency contributes to collaborative efforts to improve workplace learning.

The third research question explored the relationship between teachers' agency and burnout, revealing a significant negative correlation between optimism (a component of agency) and burnout. However, no significant correlation was found between other aspects of agency and burnout. These results are consistent with research indicating that restricted teacher agency correlates with increased burnout, including feelings of helplessness, inadequate management, and excessive workload (Powell, 2019; Tucker, 2020). Research has shown that supportive environments that promote teacher agency lead to greater organizational citizenship and academic optimism among teachers, reinforcing the value of agency in professional development (Bellibaş et al., 2020; Liu et al., 2016). PD is a constructive process that requires agency to continuously develop professional identities and competencies (Eteläpelto et al., 2015).

Findings related to the fourth research question indicated that teachers' agency did not predict AE. Effective practice in language teaching often necessitates a proactive, agentic stance. Recent research emphasizes the importance of teacher agency in enhancing teaching capabilities and supporting school transformation (Fu et al., 2017; Liu et al., 2016). Professional agency is crucial for teachers' development and must be nurtured during teacher education to enable teachers to advance their own and others' professional growth, foster innovation, and adapt to evolving professional requirements.

Teacher agency involves teachers proactively engaging in their professional development and making deliberate choices about their learning. Agency is central to a teacher's professionalism (Molla & Nolan, 2020), enabling educators to practice according to their ideals. When teachers exercise full agency, they are empowered and have autonomy in their daily work.

Three key factors underscore the importance of teacher agency: first, teachers are increasingly aware of their role as transformational leaders in career development and school reform; second, sustained professional change necessitates recognizing teachers' agency in PD and educational reform; and third, there is growing interest in how teachers' work environments influence their professional growth (Eteläpelto et al., 2013; Priestly et al., 2012; Meirink et al., 2010).

Sullanmaa et al. (2023) argue that professional agency facilitates effective management of new learning at individual and community levels through co-regulative learning. This involves deliberate use of others as learning resources while also supporting them. Engaged professionals view themselves as active learners who make intentional decisions and consider the impact of their actions. This perspective enhances collaborative learning and broadens knowledge within professional communities (Giddens, 1984; Turnbull, 2005).

The fifth research question focused on whether EAP teachers' agency could predict their PD, leading to the use of conventional multiple regression analysis. This analysis required checking various assumptions, including sample size and normality, with guidance from Tabachnick and Fidell (2013). The study adhered to established guidelines for multiple regression analysis.

The sixth research question explored the predictive power of EAP teachers' agency on burnout. Findings showed that optimism, as a predictor variable, did not have a statistically significant effect on overall burnout. The potential link between agency and burnout remains unclear. Signs of burnout, such as feeling overwhelmed and unsupported, are consistent with descriptions of constrained teacher agency (Tucker, 2020). Teachers with greater autonomy are less likely to experience burnout, suggesting that limited control over classroom and work responsibilities can exacerbate burnout (Maslach, 1982).

7. Conclusions and Implications

The study concluded that Iranian EAP instructors' agency is linked to their AE, burnout, and PD. It also assessed how well agency predicts burnout, professional growth, and AE. The positive relationship between AE and agency and the significant correlation between PD and agency underscore the importance of providing teachers with consistent opportunities to exercise professional agency. Teacher education programs should include curricula and pedagogies that foster agency and involve competent educators to support these learning opportunities.

Promoting dynamics that facilitate active teacher participation in professional development is crucial. Reform strategies should be designed to encourage teacher ownership and collaborative efforts to enhance the work and learning environment. Teacher learning, when viewed through the lens of

professional agency, can transform professional communities from adaptive to proactive, utilizing co-regulation techniques effectively.

The negative correlation between teacher optimism and burnout highlights the need for programs that support teachers in managing their workload and personal well-being to prevent burnout. With a sample of 120 Iranian EAP teachers, the study was limited to specific teacher characteristics and relied on questionnaires, which may offer superficial data. Future research could benefit from qualitative approaches such as reflective journals and observations to validate findings and gain deeper insights.

Acknowledgment

We are grateful to the authors of the research articles and textbooks used in this study.

Authors' Contributions

All authors have conducted the study, collected data, analyzed and interpreted the data, and written up the manuscript.

Funding

The study did not receive any funding.

Competing Interests

The authors declare that there is no conflict of interest.

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