Future of Work and Digital Management Journal

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Validation of an Personal Development Program Model Based on Workplace Learning in the Education System

ABSTRACT

The objective of this study was to validate a model for personal development programs grounded in workplace learning components within the Iranian public education system. This research employed a mixed-methods exploratory design consisting of both qualitative and quantitative phases. In the qualitative stage, data were gathered through semi-structured interviews with 13 educational experts, selected via purposive sampling, until data saturation was achieved. Content analysis was applied to identify the dimensions and components of workplace learning. In the quantitative stage, a researcher-made questionnaire comprising 68 items across 17 components was developed based on qualitative findings. The statistical population consisted of 9,600 first-cycle secondary school teachers in Mazandaran Province, from which 370 participants were selected through multistage cluster sampling. Data were analyzed using confirmatory factor analysis (CFA), structural equation modeling (SEM), and validity assessments including AVE and HTMT. The confirmatory factor analysis indicated a good model fit (e.g., RMSEA = 0.059, CFI = 0.941). Structural modeling revealed that "learning climate" had the most significant positive effects on all personal development dimensions, particularly problem-solving, resilience, motivation, and creativity (all p < 0.001). "Continuity and persistence" also had significant positive effects on job knowledge, team spirit, and learning motivation. In contrast, "structuring" and "demand orientation" showed significant negative effects on creativity and resilience. All AVE values exceeded 0.50, and HTMT values confirmed acceptable discriminant validity among constructs. The results validate a multidimensional, context-specific model linking workplace learning components to personal development outcomes among educators. The findings underscore the critical role of a supportive learning climate and sustained engagement in fostering key personal and professional competencies, while suggesting that overly structured or pressure-driven environments may hinder growth.

Keywords: Personal Development Program, Workplace Learning, Learning Climate, Teacher Development, Iranian Education System

Introduction

In the dynamic context of 21st-century education systems, the development of human capital within organizations—especially in public education—is no longer confined to the traditional parameters of formal training or top-down performance management. Increasingly, attention has shifted toward empowering employees through personal development programs (IDPs) that are grounded in workplace learning environments, where real-time experiences, reflective practice, and personal agency intersect. These programs enable employees, particularly educators, to take active roles in shaping their own professional paths, adapting to challenges, and contributing innovatively to their institutions' goals. The

role of workplace learning in fostering such development has been thoroughly acknowledged as a responsive, context-based, and participatory approach to capacity building [1].

The education sector, in particular, faces mounting pressures to both cultivate and retain skilled personnel while simultaneously responding to rapidly evolving pedagogical paradigms. In this light, the communication competence, emotional resilience, creativity, and critical thinking of employees emerge as central to performance outcomes and institutional adaptability [2-4]. Several studies emphasize that professional development cannot remain episodic or prescriptive but must rather align with the rhythms and realities of day-to-day work processes [5, 6]. Workplace learning—defined by embeddedness in real tasks and social interactions—offers a powerful framework to support the transformation of employees into self-driven learners capable of continuously updating their competencies [7, 8].

As Gribincea and Ciulei (2023) explain, the need for personal development is especially pronounced among educational managers and teaching professionals, as they navigate increasingly complex and volatile policy, pedagogical, and social demands. The development of workplace-related skills—particularly soft skills such as teamwork, problem-solving, adaptability, and leadership—has shown considerable impact on performance in both academic and industrial contexts [9, 10]. However, a persistent challenge lies in bridging the gap between skill acquisition and real-world application, especially in organizational contexts that may resist structural change or rely heavily on hierarchical instruction models [11, 12].

The growing body of literature advocates for integrated development models that combine structured individual growth trajectories with informal, experience-based learning environments, a notion resonating deeply within public education systems in both developed and developing countries [13, 14]. Moreover, the personalization of learning pathways, especially those tailored to teachers' unique roles and responsibilities, has emerged as a key facilitator of empowerment and sustained engagement [6, 15]. Personal development programs, when grounded in workplace-specific interactions, afford greater relevance, reduce the risk of cognitive overload, and foster self-directed learning—attributes critical to adaptability in today's fluid labor markets [16, 17].

The contemporary school environment—marked by technological transformation, diverse student needs, and complex stakeholder relationships—demands teachers who are not only pedagogically proficient but also emotionally intelligent, resilient, and adept at navigating organizational complexity [3, 18]. Teachers' professional development must therefore be aligned not only with educational goals but also with workplace culture, interpersonal communication, and psychological well-being. This broader view underscores the importance of cultivating learning cultures within schools that value collaboration, experimentation, and reflection [2, 19].

Scholars such as Dillon (2022) and Ritter et al. (2017) argue for the reconceptualization of professional learning frameworks to include flexible, learner-centered ecosystems that prioritize relevance and interactivity over standardization and assessment. In this context, workplace learning is not limited to technical proficiency or task repetition but extends to meta-cognitive development, encouraging teachers to evaluate, adapt, and co-create knowledge in collaboration with peers. This resonates with Liénard et al. (2010), who demonstrated that structured communication training during clinical practice can be successfully transferred into workplace behavior when grounded in authentic, experiential interactions.

Importantly, studies have linked workplace-based development programs to higher employee satisfaction, lower turnover, and increased psychological resilience, especially in sectors marked by stress and uncertainty such as healthcare and education [3, 19]. The psychological aspect of learning environments—such as emotional safety, autonomy support, and

purposefulness—must therefore be considered in program design. When these elements are embedded, personal development initiatives are more likely to foster employee engagement, intrinsic motivation, and long-term retention of skills and values [12, 13].

Communication skills, in particular, are repeatedly cited as a linchpin of workplace learning and development, not only as tools for effective pedagogy but also as enablers of leadership, peer learning, and conflict resolution [2, 4]. As Kaneko (2024) highlights, facilitation and role-based communication strategies significantly influence knowledge sharing, collaboration, and team dynamics in educational settings. Additionally, these skills enhance the agency of teachers, empowering them to advocate for change, mentor colleagues, and participate in strategic planning—capabilities often overlooked in traditional training models.

In Iranian public education, as in many centralized systems, professional development has often relied on top-down training approaches that fail to reflect the lived realities of teachers in their specific school environments. The mismatch between external training content and internal work context has contributed to low implementation rates and limited impact [19]. Therefore, localized, workplace-integrated development models are not only timely but essential. The aim is to shift from episodic workshops toward continuous, embedded learning cycles that encourage feedback, contextual reflection, and alignment with institutional priorities [7, 20].

Digital technologies, too, play a catalytic role in facilitating access, engagement, and personalization within workplace learning ecosystems. Research by Maran et al. (2022) points to the relevance of digital self-efficacy and agility as psychological traits that enhance workplace learning outcomes, especially when coupled with adaptive instructional systems. In educational contexts, where digital transformation is ongoing, these findings underscore the need to bridge technical and human development objectives, ensuring that technology serves as an enabler rather than a barrier.

The present study was thus motivated by the dual recognition of a theoretical gap and a practical need: the absence of a validated, context-specific model for personal development grounded in the lived dynamics of workplace learning among teachers in the Iranian education system. While numerous frameworks exist globally, few are tailored to the cultural, structural, and pedagogical characteristics of Iranian public schools. The research aims to fill this gap by designing and validating a model that links theoretical constructs of workplace learning—such as learning climate, continuity, structuring, demand, and knowledge broadening—with dimensions of personal development, including communication, motivation, resilience, critical thinking, and team spirit.

Methods and Materials

This study adopted a mixed-methods design, grounded in an exploratory sequential approach. The rationale behind employing a mixed-methods strategy lies in the recognition of its strength to produce a more comprehensive understanding of complex educational phenomena, as it incorporates both qualitative depth and quantitative generalizability. In the first phase, qualitative methods were used to explore and extract the core components of personal development based on workplace learning. This phase provided the conceptual foundation for the construction of a measurement tool. The second phase consisted of quantitative procedures that sought to validate the model and the associated tool through empirical testing. The qualitative sample included 13 purposively selected experts in the fields of curriculum development, educational planning, and economic-entrepreneurial education affiliated with the Ministry of Education, as well as textbook authors and

university faculty members with related publications and research experience. These participants were selected through purposive sampling and interviews continued until theoretical saturation was achieved at the thirteenth participant. In the quantitative phase, the statistical population comprised all first-cycle secondary school teachers in Mazandaran Province in the year 2023–2024 (1402 in the Iranian calendar), totaling 9600 individuals—4600 women and 5000 men. Due to the vastness of the province, a multistage cluster sampling method was employed, dividing Mazandaran into eastern, central, and western regions. From each region, one district was randomly selected, followed by random selection of schools and teachers within those districts, resulting in a final sample of 370 teachers based on Cochran's second formula.

The qualitative data were gathered through semi-structured interviews. This type of interview allows for pre-defined core questions while also giving participants the freedom to elaborate in their own words. The flexibility inherent in semi-structured interviews made it possible to delve deeply into participants' understanding of personal development in workplace learning contexts. The researcher first reviewed the theoretical and empirical literature on personal development and workplace learning to develop the interview guide, which included general and thematic questions. During the interviews, the conversation was steered toward identifying elements of the proposed development program model. Interviews continued until data saturation occurred. The sessions, which lasted between 90 and 150 minutes, were recorded, transcribed, and subjected to qualitative content analysis. This analysis involved systematic coding, theme extraction, and conceptual modeling to identify the dimensions and components of the development model. Content analysis was guided by inductive reasoning and aimed at theory building, not hypothesis testing. The process involved extracting verbal indicators (key statements), conceptualizing them into codes, categorizing these codes into themes, and ultimately constructing a preliminary model.

For the quantitative phase, data were collected using a researcher-developed questionnaire. This tool consisted of three sections: demographic data, items related to workplace learning, and items related to personal development. The instrument encompassed 17 dimensions and 68 items, constructed on a five-point Likert scale (from 1 = very low to 5 = very high). Each item was designed to reflect the frequency or intensity of engagement in practices related to personal development and workplace learning. The scale transformation method used treated the ordinal data as interval-scale data to allow for parametric statistical analysis. The structure of the questionnaire enabled the assessment of both the perceived presence and the importance of each identified component. Given the comprehensive nature of the tool, the questionnaire served both descriptive and inferential purposes, allowing for validation through factor analysis and assessment of interrelationships among constructs.

Data analysis was conducted in two sequential but interrelated stages corresponding to the qualitative and quantitative phases. In the qualitative stage, a multi-step coding process was applied to the transcribed interviews. First, open coding was used to identify key verbal expressions and concepts. These were grouped into meaningful categories during axial coding, leading to the formulation of conceptual dimensions. Finally, selective coding enabled the synthesis of these categories into overarching themes that formed the theoretical foundation of the model. The coding process was guided by the constant comparative method, ensuring that themes emerged directly from the data. Emphasis was placed on preserving the original terminology of participants to maintain authenticity and conceptual accuracy.

In the quantitative stage, exploratory factor analysis (EFA) was performed to identify the latent structure of the instrument and determine the underlying dimensions of workplace learning and personal development. This was followed by

confirmatory factor analysis (CFA) to assess the construct validity of the model and ensure the empirical fit of the factor structure identified in the EFA phase. Structural Equation Modeling (SEM) was then applied to examine the relationships among the constructs and test the theoretical pathways proposed in the conceptual model. SEM enabled simultaneous evaluation of measurement and structural models, offering a comprehensive assessment of the validity and reliability of the proposed framework. Through these analyses, both convergent and discriminant validity were evaluated, and model fit indices such as RMSEA, CFI, and TLI were reported to substantiate the overall robustness of the model.

Findings and Results

The purpose of the quantitative phase of this study was to validate the conceptual model of the personal development program based on workplace learning by evaluating the measurement model and testing the model fit using confirmatory factor analysis (CFA). To this end, several fit indices were calculated to assess how well the proposed model explained the observed data. These indices evaluate both the absolute and incremental fit of the model, providing a robust basis for determining the adequacy of the identified components of workplace learning.

Table 1.

Fit Indices of Confirmatory Factor Analysis for Components of Workplace Learning

Fit Index	Description	Acceptable Value	Obtained Value
RMSEA	Root Mean Square Error of Approximation	< 0.08	0.059
CMIN/DF	Normed Chi-Square (Chi-square divided by degrees of freedom)	< 3.00	1.539
IFI	Incremental Fit Index	≥ 0.90	0.894
RFI	Relative Fit Index	≥ 0.90	0.903
NFI	Normed Fit Index	≥ 0.90	0.908
PNFI	Parsimony Normed Fit Index	≥ 0.50	0.719
PCFI	Parsimony Comparative Fit Index	≥ 0.50	0.732
GFI	Goodness of Fit Index	≥ 0.90	0.959
AGFI	Adjusted Goodness of Fit Index	≥ 0.80	0.819
CFI	Comparative Fit Index	≥ 0.90	0.941

The findings presented in Table 1 demonstrate that all confirmatory factor analysis fit indices fell within the acceptable range, confirming the adequacy of the measurement model. The RMSEA value of 0.059 is well below the commonly accepted threshold of 0.08, indicating a good fit between the hypothesized model and the observed data. Similarly, the CMIN/DF value of 1.539 suggests a low level of discrepancy per degree of freedom, further supporting model appropriateness. Incremental fit indices such as IFI (0.894), RFI (0.903), NFI (0.908), and CFI (0.941) are all very close to or exceed the standard cutoff value of 0.90, indicating a strong relative fit of the model. Additionally, the parsimony-adjusted indices PNFI (0.719) and PCFI (0.732) also exceed the minimum threshold of 0.50, reinforcing the model's efficiency in representing the data. Finally, the GFI and AGFI values (0.959 and 0.819, respectively) indicate excellent goodness-of-fit, both unadjusted and adjusted for model complexity. Collectively, these results support the validity of the model structure for workplace learning as a basis for personal development in the education system.

Table 2.

Significance Testing of Relationships Between Workplace Learning Components and Personal Development Program Dimensions

Workplace Learning Component	Personal Development Component	Effect Coefficient (β)	t-value	p-value
Continuity and Persistence	Communication Skills	0.092	1.978	0.048
	Critical Thinking	0.116	2.788	0.005
	Creativity	0.124	2.625	0.009
	Innovation and Ideation	0.101	2.095	0.037
	Job Knowledge	0.172	3.811	0.000
	Learning Motivation	0.166	3.721	0.000
	Problem-Solving Skills	0.116	2.717	0.007
	Achievement Motivation	0.143	3.248	0.001
	Resilience	0.108	2.635	0.009
	Team Spirit	0.176	3.903	0.000
Demand Orientation	Communication Skills	−0.017	0.377	0.706
	Critical Thinking	−0.018	0.395	0.693
	Creativity	−0.118	2.471	0.014
	Innovation and Ideation	−0.072	1.517	0.130
	Job Knowledge	−0.010	0.203	0.839
	Learning Motivation	−0.025	0.442	0.659
	Problem-Solving Skills	−0.011	0.228	0.819
	Achievement Motivation	−0.081	1.793	0.074
	Resilience	−0.103	2.273	0.023
	Team Spirit	0.075	1.632	0.103
Goal Orientation	Communication Skills	−0.058	1.051	0.294
	Critical Thinking	−0.111	2.301	0.022
	Creativity	0.036	0.774	0.439
	Innovation and Ideation	−0.023	0.462	0.644
	Job Knowledge	−0.069	1.368	0.172
	Learning Motivation	−0.031	0.637	0.524
	Problem-Solving Skills	−0.041	0.919	0.358
	Achievement Motivation	0.022	0.450	0.653
	Resilience	0.004	0.088	0.930
	Team Spirit	0.006	0.139	0.889
Knowledge Deepening	Communication Skills	0.005	0.092	0.926
	Critical Thinking	0.003	0.056	0.955
	Creativity	−0.074	1.503	0.133
	Innovation and Ideation	0.025	0.506	0.613
	Job Knowledge	−0.036	0.719	0.473
	Learning Motivation	−0.034	0.651	0.515
	Problem-Solving Skills	−0.059	1.277	0.202
	Achievement Motivation	−0.097	2.085	0.038
	Resilience	0.024	0.525	0.600
	Team Spirit	0.018	0.385	0.701
Knowledge Breadth	Communication Skills	0.160	3.273	0.001
	Critical Thinking	0.168	3.629	0.000
	Creativity	0.095	2.040	0.042
	Innovation and Ideation	0.139	3.108	0.002
	Job Knowledge	0.073	1.631	0.104
	Learning Motivation	0.150	3.667	0.000
	Problem-Solving Skills	0.043	0.949	0.343
	Achievement Motivation	0.113	2.364	0.018
	Resilience	0.138	2.864	0.004
	Team Spirit	0.045	1.165	0.244
Learning Climate	Communication Skills	0.700	15.318	0.000
	Critical Thinking	0.660	15.017	0.000
	Creativity	0.754	16.925	0.000
	Innovation and Ideation	0.689	14.209	0.000
	Job Knowledge	0.736	17.063	0.000
	Learning Motivation	0.629	13.245	0.000
	Problem-Solving Skills	0.826	20.507	0.000
	Achievement Motivation	0.699	17.223	0.000

	Resilience	0.705	16.952	0.000
	Team Spirit	0.707	17.818	0.000
Structuring	Communication Skills	−0.154	3.176	0.002
	Critical Thinking	−0.089	1.838	0.067
	Creativity	−0.178	3.601	0.000
	Innovation and Ideation	−0.122	2.360	0.019
	Job Knowledge	−0.121	2.771	0.006
	Learning Motivation	−0.101	1.913	0.056
	Problem-Solving Skills	−0.167	3.114	0.002
	Achievement Motivation	−0.037	0.760	0.448
	Resilience	−0.135	3.071	0.002
	Team Spirit	−0.104	2.235	0.026

The results of the structural model evaluation revealed differential significance among the six components of workplace learning in predicting dimensions of the personal development program. The "Learning Climate" component demonstrated the strongest and most consistent impact across all ten development dimensions, with all standardized path coefficients significant at $p < 0.001$ and effect sizes ranging from 0.629 to 0.826, underscoring its central role in fostering professional competencies such as problem-solving, creativity, and team collaboration. Similarly, "Continuity and Persistence" showed statistically significant positive effects on all development dimensions except for one, with notable influence on team spirit ($\beta = 0.176$, $p < 0.001$), job knowledge ($\beta = 0.172$, $p < 0.001$), and learning motivation ($\beta = 0.166$, $p < 0.001$), indicating its value in sustained professional growth.

In contrast, the "Demand Orientation" component exhibited mostly non-significant or negative relationships, with only a few exceptions such as its negative but significant impact on creativity ($\beta = -0.118$, $p = 0.014$) and resilience ($\beta = -0.103$, $p = 0.023$), suggesting that overly demanding environments may inhibit certain personal development outcomes. Similarly, "Goal Orientation" and "Knowledge Deepening" were found to have weaker and inconsistent associations, with some significant negative effects, such as the influence of Goal Orientation on critical thinking ($\beta = -0.111$, $p = 0.022$) and Knowledge Deepening on achievement motivation ($\beta = -0.097$, $p = 0.038$). "Structuring," while theoretically supportive, revealed mostly negative significant relationships with development outcomes, especially with creativity ($\beta = -0.178$, $p < 0.001$), problem-solving ($\beta = -0.167$, $p = 0.002$), and resilience ($\beta = -0.135$, $p = 0.002$), potentially indicating the rigidity of over-structured environments in dynamic learning contexts.

"Knowledge Breadth," however, showed a positive and statistically significant influence on key dimensions including communication ($\beta = 0.160$, $p = 0.001$), critical thinking ($\beta = 0.168$, $p < 0.001$), and learning motivation ($\beta = 0.150$, $p < 0.001$), reinforcing the idea that broad exposure to knowledge sources contributes meaningfully to holistic professional development. These findings confirm the multidimensional and context-dependent nature of workplace learning as a foundation for individualized growth in the educational sector.

Table 3.

Internal and External Validity of Model Constructs (HTMT and AVE)

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	AVE
1. Communication Skills	—																0.649
2. Continuity & Persistence	0.522	—															0.700
3. Critical Thinking	0.737	0.537	—														0.639
4. Creativity	0.675	0.478	0.644	—													0.675
5. Demand Orientation	0.471	0.581	0.470	0.356	—												0.685
6. Goal Orientation	0.461	0.611	0.434	0.444	0.640	—											0.665
7. Innovation & Ideation	0.735	0.543	0.721	0.737	0.451	0.491	—										0.630
8. Job Knowledge	0.737	0.564	0.752	0.721	0.470	0.448	0.683	—									0.712
9. Knowledge Deepening	0.497	0.681	0.499	0.399	0.624	0.649	0.525	0.483	—								0.661
10. Knowledge Breadth	0.569	0.593	0.572	0.466	0.639	0.662	0.566	0.511	0.609	—							0.646
11. Learning Climate	0.839	0.635	0.818	0.800	0.642	0.661	0.851	0.846	0.676	0.634	—						0.725
12. Learning Motivation	0.689	0.572	0.671	0.692	0.474	0.481	0.670	0.671	0.493	0.564	0.808	—					0.675
13. Problem-Solving	0.761	0.517	0.685	0.698	0.459	0.451	0.711	0.722	0.455	0.482	0.879	0.701	—				0.686
14. Achievement Motivation	0.698	0.555	0.717	0.661	0.443	0.512	0.664	0.711	0.461	0.547	0.838	0.646	0.741	—			0.709
15. Resilience	0.782	0.536	0.692	0.675	0.424	0.498	0.751	0.732	0.514	0.554	0.839	0.675	0.679	0.730	—		0.683
16. Structuring	0.407	0.651	0.438	0.335	0.614	0.679	0.439	0.428	0.701	0.632	0.668	0.448	0.383	0.487	0.428	—	0.628
17. Team Spirit	0.733	0.590	0.734	0.705	0.453	0.511	0.733	0.714	0.535	0.512	0.856	0.695	0.749	0.737	0.729	0.461	0.704

Table 3 presents the results of internal and external construct validity tests using two primary indices: HTMT (Heterotrait-Monotrait Ratio of Correlations) for discriminant validity and AVE (Average Variance Extracted) for convergent validity. The diagonal of the matrix displays the AVE values for each construct, all of which exceed the minimum acceptable threshold of 0.50, thereby confirming acceptable convergent validity. These values range from 0.628 (Structuring) to 0.725 (Learning Climate), indicating that each construct explains a substantial proportion of the variance in its respective indicators.

Furthermore, the HTMT values between constructs mostly remain below the conservative threshold of 0.85, suggesting strong discriminant validity among the constructs. Notably, a few inter-construct correlations approach higher values, particularly between Learning Climate and Creativity (0.800), Learning Climate and Communication Skills (0.839), and Resilience and Team Spirit (0.729), which reflects the conceptual closeness of these domains within the framework of workplace learning and personal development. Despite these high associations, they do not exceed critical thresholds that would compromise construct distinctiveness.
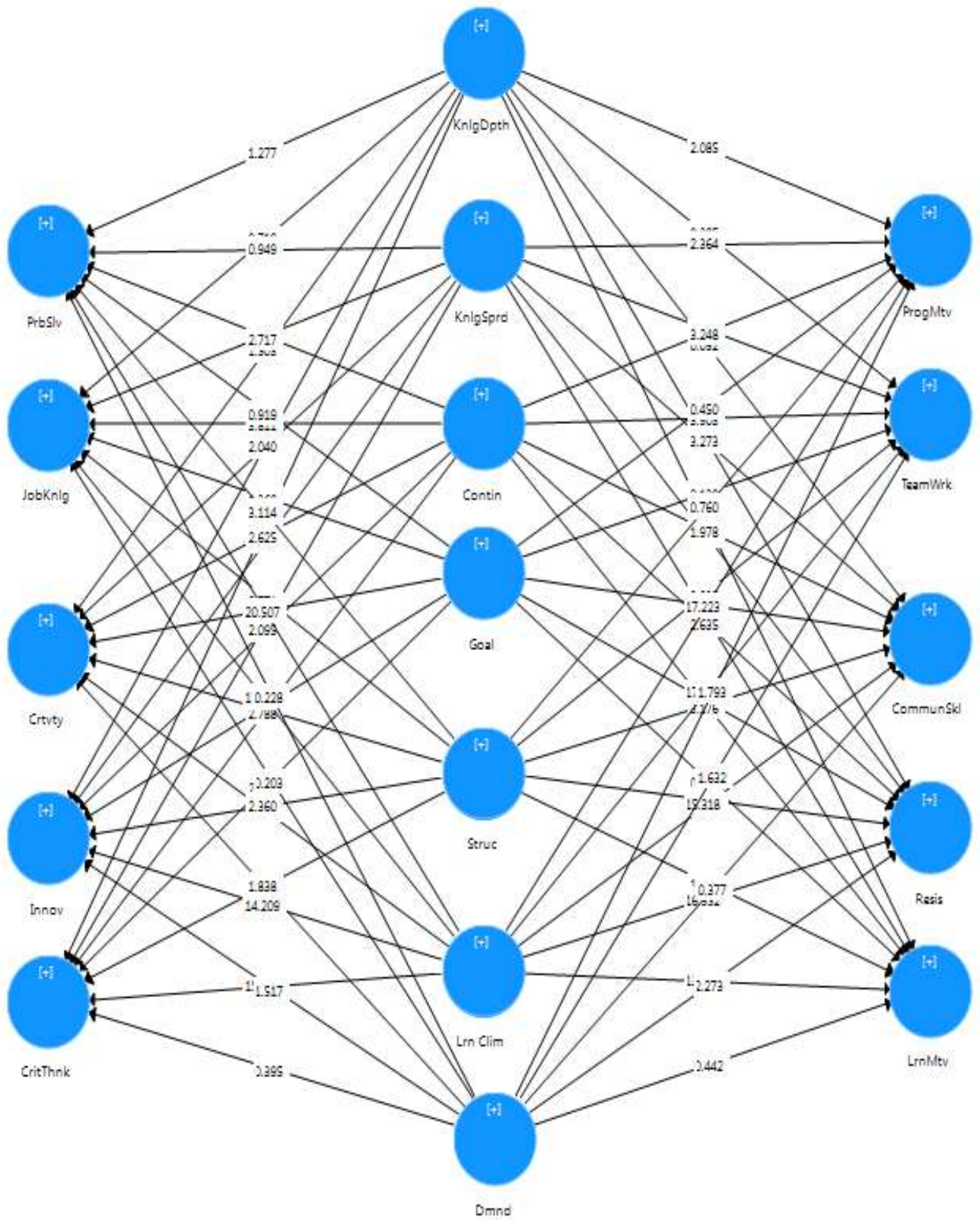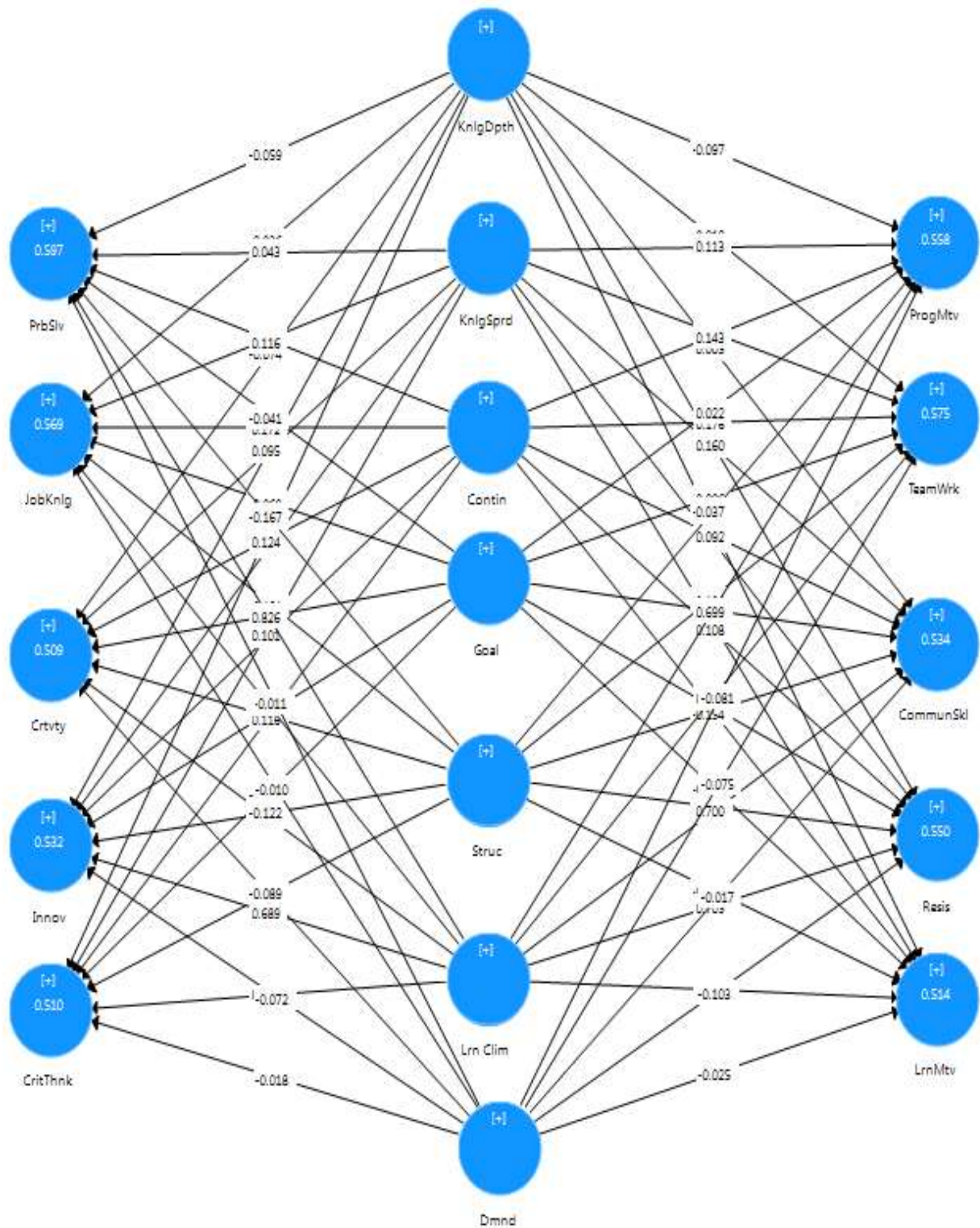
Figure 1.

Model with T-values

Figure 2.

Model with Beta Values

Discussion and Conclusion

The aim of this study was to validate a model of personal development grounded in the components of workplace learning within the context of the Iranian education system. The findings support the construct validity and empirical fit of the proposed model, which includes six primary workplace learning components—learning climate, continuity and persistence, structuring, demand orientation, goal orientation, and knowledge acquisition (breadth and depth)—and their relationships with ten dimensions of personal development programs, including communication skills, critical thinking, creativity, resilience, and teamwork. Confirmatory factor analysis demonstrated an acceptable model fit across multiple indices, and structural modeling revealed significant paths between most learning components and developmental outcomes. These results validate the multidimensional, interconnected nature of workplace learning in shaping effective personal development frameworks for teachers.

One of the most robust findings of the study concerns the critical role of learning climate in fostering a wide range of developmental attributes, including problem-solving skills, creativity, learning motivation, achievement motivation, and team spirit. Each path from learning climate to these individual capacities was statistically significant with large effect sizes. This aligns with global research recognizing learning climate as a key enabler of professional development. A healthy learning climate offers psychological safety, peer collaboration, and a reflective environment that encourages growth [1, 6]. Olaleye and Lekunze (2023) also emphasize the importance of emotional intelligence and workplace culture in supporting individual growth and performance, particularly in emotionally demanding professions such as education. Moreover, the association between learning climate and resilience, motivation, and communication in the current study supports findings by Ghanbary Vanani et al. (2022) who identified emotional safety and participation as essential in enhancing employee well-being and adaptive behavior in Iranian public organizations.

The component of continuity and persistence also exhibited positive and significant associations with personal development variables such as job knowledge, team spirit, and learning motivation. These findings support the notion that sustained engagement and continuity in experiential learning are key to meaningful transformation. As Gribincea and Ciulei (2023) argue, personal development is not an isolated intervention but a continuous, evolving process embedded within professional experience. The significance of continuity in fostering long-term competencies echoes research on the role of experiential learning in educational reform, which suggests that repeated exposure to meaningful tasks supports self-efficacy and skill retention [2, 5]. The present study's validation of continuity and persistence as a predictive factor underscores the need for school systems to design learning environments that encourage iterative learning cycles and sustained reflective practices.

Interestingly, knowledge breadth—representing access to diverse and expansive knowledge domains—was positively associated with critical thinking, motivation, and communication skills. This finding corroborates the literature suggesting that diverse knowledge exposure enhances cognitive flexibility and the ability to apply knowledge creatively in problem-solving situations [15, 20]. The ability of teachers to function effectively in diverse contexts and to synthesize knowledge across domains is increasingly recognized as a key competency for 21st-century educational success [8, 10]. Additionally, the positive relationship between knowledge breadth and team spirit reinforces the idea that collaborative knowledge sharing enriches both individual and collective learning experiences [9].

The component of structuring, however, presented largely negative correlations with developmental outcomes. In particular, structuring had significant negative effects on creativity, problem-solving, resilience, and communication. While structure and order are often emphasized in traditional educational management systems, these findings suggest that excessive rigidity may hinder personal development, particularly in areas requiring flexibility and innovation. These results align with previous research indicating that rigid organizational hierarchies and overly standardized procedures can suppress initiative and adaptability among employees [12, 14]. The inverse relationship between structuring and problem-solving is especially relevant in educational settings where teachers must regularly improvise and respond dynamically to student needs. Thus, while structuring may be important for compliance and order, it appears to be counterproductive for personal development domains that thrive on autonomy and creativity.

The role of demand orientation and goal orientation in the model revealed more nuanced effects. Demand orientation showed significant but mostly negative associations with creativity and resilience, implying that pressure-driven learning environments may suppress rather than stimulate developmental growth. These findings resonate with studies on workplace stress and burnout, which have consistently identified over-demanding environments as detrimental to employee performance and well-being [3, 18]. Likewise, while goal orientation slightly enhanced critical thinking, it did not yield significant positive effects on most other development dimensions, indicating that outcome-based motivation alone may not be sufficient to drive comprehensive development. Instead, a focus on intrinsic motivation and collaborative learning might offer more sustainable developmental benefits, as suggested by Hajjami and Crocco (2023).

Moreover, the internal and external validity indices (HTMT and AVE) confirmed the discriminant and convergent validity of the constructs in the model. These results demonstrate that the identified dimensions of workplace learning and personal development are both empirically distinct and theoretically coherent, thus reinforcing the robustness of the proposed framework. The AVE values for all constructs were above the acceptable threshold of 0.50, while HTMT values indicated strong differentiation between constructs such as learning climate, resilience, and communication. These results affirm the multidimensionality of personal development and support the use of nuanced, component-based modeling for designing workplace-based interventions [7, 17].

Collectively, the findings of this study underscore the contextual sensitivity of personal development in workplace settings. They highlight the necessity of holistic frameworks that go beyond technical training and incorporate psychological, social, and organizational factors. The validation of a culturally grounded model in the Iranian education context fills a notable gap in the literature, where most existing models are derived from Western corporate environments. The inclusion of constructs such as resilience, team spirit, and communication further reflects the need for social-emotional competencies in teaching professions, which are often undervalued in standardized training programs [4, 11].

Despite its robust findings, the present study is not without limitations. First, while the research employs a mixed-methods approach, the qualitative phase was limited to a relatively small sample of educational experts, which, although appropriate for theoretical saturation, may not fully capture the breadth of perspectives in Iran's diverse education system. Second, the study's quantitative data was collected from one province, which may limit the generalizability of findings to other regions with different cultural or institutional characteristics. Additionally, the self-reported nature of the questionnaire responses may introduce social desirability bias, particularly in evaluating competencies such as motivation, teamwork, and

communication. Lastly, while the model demonstrated statistical validity, it is not yet clear how it performs over time or in longitudinal evaluations of teacher development outcomes.

Future research should aim to expand the model's validation across other provinces and institutional settings, including private and rural educational institutions, to assess its broader applicability. Longitudinal studies are particularly recommended to evaluate the impact of the model over time and determine whether the identified workplace learning factors lead to sustained improvements in personal development. Furthermore, incorporating observational data and supervisor evaluations may help triangulate findings and address self-reporting limitations. Comparative cross-national studies could also offer valuable insights into how workplace learning models function across different cultural and governance contexts, enriching the global understanding of effective development programs for educators.

From a practical standpoint, the validated model offers educational policymakers and school administrators a structured yet flexible framework to design and implement personal development programs rooted in real workplace dynamics. Training efforts should focus on enhancing the learning climate within schools by encouraging collaboration, open communication, and reflective practices. Administrators should reconsider rigid structuring practices that limit creativity and autonomy, and instead promote environments that support experimentation and continuous learning. Finally, professional development initiatives must prioritize social-emotional competencies—such as resilience, communication, and teamwork—alongside technical skills, ensuring that teachers are holistically prepared to meet the evolving challenges of modern education.

Acknowledgments

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

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