

The Relationship between Senior High School Chinese-language Teachers' Digital Narrative Literacy and Digital Narrative Writing Teaching Practices in Jinzhou City: The Role of Writing Teaching Self-efficacy and Teacher Agency

Siyang Yu¹, Lei Li^{1, *}, Yalin Pang², Xiangqi Luo³, Xiaojuan Zhang¹

¹International College, Rattana Bundit University, Bangkok 10240, Thailand

²College of Electronic and Electrical Engineering, Zhengzhou University of Science and Technology, Zhengzhou 450000, China

³Medical Rehabilitation School, Yunnan Xinxing Occupations Institute, Kunming 651500, China

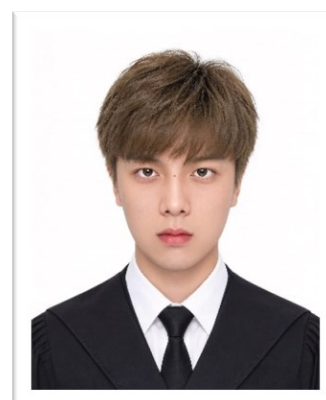
*Corresponding email: lileijx@163.com

Abstract

Digital narrative writing instruction is important for cultivating students' digital expression and media narrative competence. It responds to the literacy requirement of "expression and communication" and holds practical significance for Chinese-language teaching in county-level senior high schools. However, its implementation in Jinzhou City, China, remains limited. Instruction is still dominated by pen-and-paper training, and students' digital expression remains superficial. Digital narrative is often reduced to "illustrated composition", making it difficult to reach the core of narrative structure and media expression. Accordingly, this study focused on Chinese-language teachers in Jinzhou City. It used purposive sampling and an online questionnaire to examine the relationship between digital narrative literacy and teaching practices. It also tested the mediating role of writing teaching self-efficacy and the moderating role of teacher agency. A sample was collected from 12 senior high schools between July and September 2026, yielding 386 valid questionnaires (82.1% response rate). Results show that digital narrative literacy has a significant positive relationship with teaching practices, self-efficacy plays a mediating role, and teacher agency positively moderates both direct and mediating effects. Improving teaching thus depends on cultivating digital narrative literacy, with teacher agency as the condition and self-efficacy as the pathway.

Keywords

Digital narrative literacy, Writing teaching self-efficacy, Digital narrative writing teaching practices, Teacher agency, Senior high school Chinese-language teachers



Siyang Yu
First author
Rattana Bundit University

Introduction

Expression and communication are an important component of the core literacy of the senior high school Chinese subject. Writing instruction has always been a difficulty in Chinese-language teaching. Surveys have also shown that significant shortcomings remain in task design, process guidance, and effective feedback in writing instruction at the senior high school stage. How to move beyond the superficial training of skill imitation and develop students' logical thinking and individual expression remains to be addressed.

As digital media become deeply embedded in everyday expression, digital narrative has opened up new possibilities for writing instruction. It can guide students to integrate multimodal symbols such as text, images, and sound, and to organize individual experience into structured digital works. In addition, empirical studies at home and abroad consistently show that digital narrative can significantly improve students' writing motivation, narrative competence, and writing performance.

However, in Chinese-language classrooms in Jinzhou City, the actual implementation of digital narrative writing instruction remains at a low level. Most teachers' writing instruction still relies on pen-and-paper model essays and examination-oriented training. Digital narrative is often reduced to "illustrated composition" or a technology display, making it difficult to reach the core of narrative structure and media expression.

Therefore, teachers "know" digital narrative yet cannot "do" digital narrative writing instruction. This has become a realistic bottleneck constraining the implementation of literacy and constitutes the starting point of this study.

Teachers are the ultimate implementers of teaching reform, and their own digital narrative literacy constitutes the competence starting point of digital narrative writing instruction. Digital narrative literacy refers to the comprehensive literacy required for teachers to understand, evaluate, and create multimodal digital

narrative works. It also involves using digital storytelling tools in instruction, covering two dimensions: technical competence and pedagogical competence.

Existing research has mostly focused on the cultivation of students' digital narrative competence or on the application of digital narrative in English, information technology, and other disciplines. The few studies focusing on teachers have mainly remained at the level of competence preparation and implementation difficulties, rarely asking how these competences enter real writing classrooms. However, the mechanism through which senior high school Chinese-language teachers' digital narrative literacy is transformed into digital narrative writing teaching practices has not been sufficiently examined. Furthermore, moving from "teachers possessing literacy" to "teachers conducting instruction" does not correspond directly. Important psychological mediators and boundary conditions may be involved in this process.

Accordingly, this study raises two core questions. First, does writing teaching self-efficacy play a mediating role between digital narrative literacy and digital narrative writing teaching practices? Second, does teacher agency moderate the above mediating process?

On the other hand, existing studies have consistently confirmed the facilitating effect of teachers' digital literacy and technological knowledge on their technology integration and instructional application. However, most have equated "literacy" with tool operation and have not examined it directly in the specific context of Chinese-language writing instruction. The relationship between digital narrative literacy and digital narrative writing teaching practices has not been directly demonstrated in the senior high school Chinese subject. In addition, in terms of mechanism, some studies have pointed out that teacher efficacy is a crucial, well-documented and key mediating variable as a bridge connecting teacher competence and teaching behaviour.

Research on how “writing teaching self-efficacy” mediates digital narrative literacy into writing teaching practices is still lacking. Teacher agency is regarded as a key quality enabling teachers to actively shape professional practice. It may determine whether teachers can transform potential literacy into autonomous teaching action. However, its moderating effect on the “literacy-efficacy-practice” pathway remains unverified in digital narrative writing instruction.

In summary, this study focused on Chinese-language teachers in senior high schools in Jinzhou City. It examined the relationships among the four variables above and constructed and tested a moderated mediation model. Clarifying the above relationships helps to identify the key leverage point for improving the digital narrative writing teaching competence of Chinese-language teachers in senior high schools in county-level cities and counties. It provides a basis for teacher training and instructional support. It also extends digital narrative research from a “student competence” orientation to a “teacher practice” orientation.

Literature review and hypothesis development

Research theory

Social cognitive theory holds that self-efficacy is the core of human agency and directly affects individuals’ goal selection, effort investment, and behavioural persistence. In educational contexts, teachers’ discipline-specific teaching efficacy directly affects their instructional design, strategy selection, and persistence in the classroom. Accordingly, writing teaching self-efficacy constitutes an important psychological variable for understanding teachers’ writing teaching behaviour. It also provides a theoretical basis for the mediating hypothesis of this study [1].

While social cognitive theory explains how self-efficacy mediates the translation of literacy into behaviour, it does not specify the conditions under which this mediating

process is strengthened or weakened. Self-determination theory complements this gap by highlighting the role of autonomy and agency in sustaining motivation and action. Together, these two theoretical perspectives suggest that the effect of digital narrative literacy on teaching practices may depend not only on self-efficacy as a mediating mechanism but also on teacher agency as a moderating condition.

Self-determination theory holds that individuals exhibit stronger motivation and agency when the three basic psychological needs of autonomy, competence, and relatedness are satisfied. Among these, autonomy is the core condition for individuals to actively construct beliefs and persist in action. In educational contexts, when teachers’ need for autonomy is satisfied, they are more willing to transform external requirements into teacher agency. They thus exhibit a higher level of teaching beliefs [2].

Accordingly, teacher agency may constitute a boundary condition in the process of “transforming literacy into teaching beliefs”. It also provides the basis for the moderating hypothesis of this study.

Digital narrative writing teaching practices

Digital narrative writing teaching practices refer to the actual teaching behaviours in which teachers guide students to integrate text, images, audio, and other modalities. This integration occurs for narrative conception, digital creation, and work exchange around authentic themes in writing instruction. These practices are specifically manifested in the design of digital narrative writing tasks, the guidance of the creation process, and the presentation and evaluation of works.

In addition, digital narrative provides a feasible “work-oriented” pathway for writing instruction and can improve students’ writing motivation and narrative competence. As shown in Figure 1, such a pathway also offers a practical, observable basis for examining how literacy is transformed into concrete teaching behaviour and sustained instructional action within real classroom settings [3].



Figure 1. A senior high school Chinese-language classroom in the research context.

However, in ordinary senior high schools in county-level cities and counties, such practices are constrained by class hours, equipment, and teacher competence. They have not yet been widely implemented, and the actual level of teachers' implementation is obviously low. This realistic dilemma constitutes the core concern of this study.

Digital narrative literacy and digital narrative writing teaching practices

Digital narrative literacy refers to the comprehensive literacy required for teachers to understand, evaluate, and create multimodal digital narrative works and to use digital storytelling tools in instruction.

Existing research shows that teachers' digital literacy and technological knowledge significantly affect their willingness and behaviour to integrate new technologies into instruction. Digital narrative training can also improve teachers' digital literacy and teaching competence.

For the Chinese subject, digital narrative writing instruction requires teachers to possess both narrative teaching competence and multimodal creation competence. These together constitute the competence

basis for instructional implementation. It can be inferred that the higher teachers' digital narrative literacy, the more effectively they can transform digital narrative into writing teaching practices [4]. Therefore, the following hypothesis is proposed:

Hypothesis 1 (H1): Digital narrative literacy is positively correlated with digital narrative writing teaching practices.

The mediating role of writing teaching self-efficacy

Writing teaching self-efficacy refers to teachers' judgement of their ability to organize and implement writing instruction and achieve instructional goals. Social cognitive theory points out that self-efficacy drives behaviour consistent with competence.

Research has found that teachers' discipline-specific teaching efficacy is an important mediator in transforming their professional competence into teaching behaviour. Writing instruction interventions can also significantly improve teachers' self-efficacy. In the present study, teachers with higher digital narrative literacy are more likely to gain a sense of competence in the design of digital narrative writing tasks and the

guidance of creation [5]. This enhances their writing teaching self-efficacy and ultimately prompts them to bring digital narrative into the classroom. Accordingly, the following hypothesis is proposed:

Hypothesis 2 (H2): Writing teaching self-efficacy plays a mediating role between digital narrative literacy and digital narrative writing teaching practices.

The moderating role of teacher agency

Teacher agency refers to teachers' ability to actively construct, influence, and reshape their professional practice in specific contexts. The teacher agency scale originally contained five dimensions. To avoid overlap with "writing teaching self-efficacy", and drawing on precedents for adjusting the dimensional structure, "teaching efficacy" dimension was removed. Four dimensions were retained: role responsibility, professional identity, autonomous adjustment, and decision-making participation [6].

Theory and empirical research on agency show that teachers with high agency are more inclined to transform external resources and their own literacy into autonomous teaching action. It can be inferred that the facilitating effect of digital narrative literacy on writing teaching self-efficacy may depend on teacher agency. Teachers with high agency are more willing to actively try and persist in digital narrative writing instruction.

They thereby amplify the transformation of literacy into efficacy. Teachers with low agency may follow existing teaching habits and weaken this transformation. Therefore, the following hypothesis is proposed:

Hypothesis 3 (H3): Teacher agency positively moderates the relationship between digital narrative literacy and writing teaching self-efficacy.

Combining H2 and H3, it can be inferred that the mediating effect carried by writing teaching self-efficacy does not occur to the same extent among all teachers. When teacher agency is high, the indirect effect of digital narrative literacy transmitted to digital narrative writing teaching practices through writing teaching self-efficacy is stronger. When teacher agency is low, the indirect effect is correspondingly weaker. Such conditional indirect effects constitute moderated mediation. Therefore, the following hypothesis is proposed:

Hypothesis 4 (H4): Teacher agency moderates the mediating effect of digital narrative literacy on digital narrative writing teaching practices through writing teaching self-efficacy.

Research methodology

Research framework

The research framework was constructed according to the purpose and hypotheses of this study (see Figure 2).

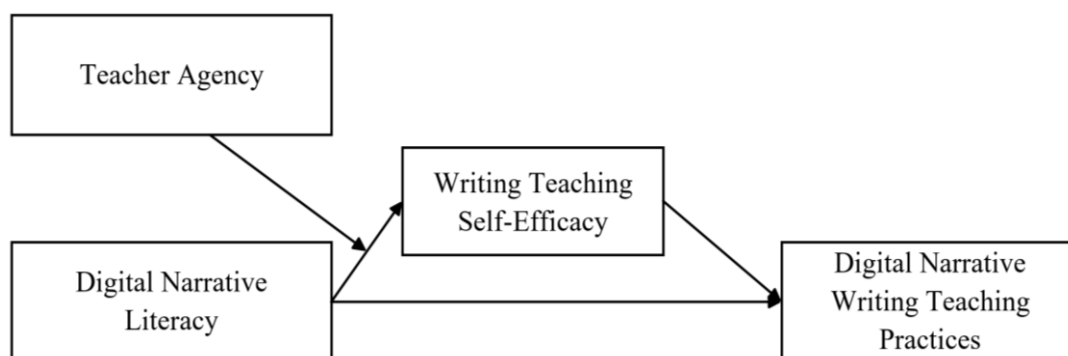


Figure 2. Research framework.

Sample and procedure

This study surveyed Chinese-language teachers in senior high schools in Jinzhou City, China.

In recent years, Jinzhou City has closely followed the national education digitalization strategy, deployed smart education cloud platforms across the city, and promoted artificial intelligence education and artificial

intelligence (AI)-assisted composition marking in primary and secondary schools. This has made the digital narrative writing teaching competence of Chinese-language teachers in senior high schools in county-level cities and counties an issue worthy of attention, and the present study is thus highly relevant in practice [7].

The survey was conducted from July to September 2026 using a combination of purposive sampling and an online questionnaire. It covered Chinese-language teachers in 12 senior high schools in the urban area of Jinzhou City and the county-level cities and counties under its jurisdiction. The survey examined their digital narrative literacy, writing teaching self-efficacy, teacher agency, and digital narrative writing teaching practices. A total of 470 questionnaires were distributed, and 386 valid questionnaires were obtained (an effective response rate of 82.1%).

Measures

The Digital Narrative Literacy Scale has two dimensions (technical and pedagogical competence) and 19 items (Cronbach's $\alpha=0.94$). It is defined as the comprehensive literacy required for teachers to understand, evaluate, and create multimodal digital narrative works and to use digital storytelling tools in instruction [8].

Writing teaching self-efficacy scale - has two dimensions - personal teaching efficacy and general teaching efficacy, with 16 items ($\alpha=0.91$). It is defined as teachers' judgement of their ability to organize and implement writing instruction and achieve instructional goals.

Digital narrative writing teaching practices scale - divided into three dimensions - digital narrative writing task design, creation process guidance, and work exchange evaluation, with 12 items ($\alpha=0.90$). It is defined as the actual teaching behaviours in which teachers guide students to integrate multimodality for narrative conception, digital creation, and work exchange around authentic themes in writing instruction [9,10].

Teacher agency scale - divided into four dimensions - role responsibility, professional identity, autonomous

adjustment, and decision-making participation, with 18 items ($\alpha=0.92$). It is defined as teachers' ability to actively construct, influence, and reshape their professional practice in specific contexts. In addition, gender, teaching experience, highest qualification, and professional title were used as demographic background variables. The remaining variables were measured with a five-point self-report scale [11].

Research findings

Distribution of population characteristics

As shown in Table A1 (see Appendix), the sample was predominantly female (262 teachers, 67.9%). Teaching experience was concentrated at 10 years or below (214 teachers, 55.4%). Highest qualification was predominantly a bachelor's degree (286 teachers, 74.1%). For professional title, 79.8% of respondents ($n=308$) were Level-1 secondary school teachers or below, including Level-2 secondary school teachers and lower ranks. The sample was widely distributed across gender, teaching experience, highest qualification, and professional title, and was broadly representative of the teacher population of interest in this study.

Model fit

As shown in Table 1, $\chi^2/df=2.31$, CFI=0.95, TLI=0.94, RMSEA=0.058, SRMR=0.048, all of which met the established criteria for good fit.

Table 1. Model fit indices.

Fit index	SRMR	χ^2/df	CFI	TLI	RMSEA
Value	0.048	2.31	0.95	0.94	0.058

Note: $n=386$. CFI=Comparative Fit Index; TLI=Tucker-Lewis Index; RMSEA=Root Mean Square Error of Approximation; SRMR=Standardized Root Mean Square Residual.

Correlation analysis

As shown in the Table 2, the correlation matrix showed that digital narrative literacy was significantly positively correlated with digital narrative writing teaching

practices ($r=0.435^{***}$, $p<0.001$), and therefore H1 was supported.

Table 2. Correlation analysis.

Variable	1	2	3	4	M	SD
Digital narrative literacy	(0.72)	/	/	/	3.42	0.87
Writing teaching self-efficacy	0.421***	(0.76)	/	/	3.58	0.86
Digital narrative writing teaching practices	0.435***	0.493***	(0.71)	/	3.21	0.89
Teacher agency	0.386***	0.412***	0.351***	(0.74)	3.74	0.85
α	0.94	0.91	0.90	0.92	/	/
CR	0.95	0.93	0.92	0.94	/	/
AVE	0.52	0.58	0.50	0.55	/	/

Note: *** $p<0.001$; values in parentheses on the diagonal are the square roots of AVE. 1=Digital narrative literacy; 2=Writing teaching self-efficacy; 3=Digital narrative writing teaching practices; 4=Teacher agency.

Mediating and moderating effect analysis

Mediating effect test: Path analysis was used to test the mediating effect of writing teaching self-efficacy between digital narrative literacy and digital narrative writing teaching practices. Moderating effect test: First, teacher agency was centred and an interaction term was constructed (digital narrative literacy $\times$ teacher agency). Second, with writing teaching self-efficacy as the dependent variable, the moderating effect was tested by examining the effects of digital narrative literacy and the interaction term on writing teaching self-efficacy [12].

As shown in Table 3, writing teaching self-efficacy had a statistically clear and mediating effect on the path from digital narrative literacy to digital narrative writing teaching practices (0.189^{***} , $p<0.001$). And H2 was supported (digital narrative literacy $\times$ writing teaching self-efficacy $\rightarrow$ digital narrative writing teaching practices).

Teacher agency had a significant positive moderating effect on the path from digital narrative literacy to writing teaching self-efficacy (0.178^{***} , $p<0.001$), and H3 was supported (digital narrative literacy $\times$ teacher agency $\rightarrow$ writing teaching self-efficacy).

Table 3. Mediating and moderating effect analysis.

Effect	Path	Co-efficient
Direct	Digital narrative literacy $\rightarrow$ digital narrative writing teaching practices	0.259***
Mediation	Digital narrative literacy $\rightarrow$ writing teaching self-efficacy $\rightarrow$ digital narrative writing teaching practices	0.189***
Moderation	Digital narrative literacy $\times$ teacher agency $\rightarrow$ writing teaching self-efficacy	0.178***

Note: *** $p<0.001$.

Moderated mediation effect analysis

In Table 4, the indirect effects of digital narrative literacy on digital narrative writing teaching practices.

Through writing teaching self-efficacy were significant at different levels of teacher agency (0.126^{***} , 0.186^{***} , 0.251^{***} , $p<0.001$), and H4 was supported.

Table 4. Moderated mediation effect analysis.

Teacher agency	Indirect effect	SE	95% CI
Low	0.126***	0.034	[0.084, 0.191]
Medium	0.186***	0.041	[0.115, 0.269]
High	0.251***	0.059	[0.165, 0.352]

Note: *** $p<0.001$.

Conclusion

Drawing on social cognitive theory, the theory of teacher agency, and the theory of digital narrative literacy, this study tests a moderated mediation model of the effect of digital narrative literacy on digital narrative writing teaching practices. The main conclusions are as follows: First, the positive correlation between digital narrative literacy and digital narrative writing teaching practices is supported. The two move in the same direction, indicating that teachers' digital narrative literacy is an important foundation for their digital narrative writing teaching. However, literacy alone does not necessarily bring about changes in teaching behaviour, and the transformation from "possessing literacy" to "implementing instruction" remains to be explained.

Second, the mediating role of writing teaching self-efficacy is supported. This finding responds to the long-standing "tool orientation" in digital narrative research: Existing discussions have mostly focused on technology and equipment, whereas this study shows that whether teachers are willing to bring digital narrative into writing instruction depends on whether they hold the belief that they can "teach well". This is consistent with the judgement that a sense of competence drives action and supports the driving role of self-efficacy in discipline-specific teaching behaviour.

Third, the moderating role of teacher agency is supported. This result verifies the applicability of teacher agency theory in educational contexts. Teachers' existing literacy and skill reserves constitute the competence basis for understanding and internalizing external requirements, whereas agency determines whether they can actively transform literacy into an autonomous commitment to teaching. If teacher training only improves literacy without activating agency, the efficiency of the transformation from literacy to practice will be greatly reduced.

Fourth, the moderated mediation effect is supported. This indicates that the mediating mechanism carried by

writing teaching self-efficacy is not a universal psychological process but is conditional: As teacher agency increases, the efficiency with which digital narrative literacy is transmitted to teaching practices through efficacy is significantly enhanced. This suggests that research on digital narrative writing instruction needs to attend simultaneously to the interaction of teacher literacy, teaching efficacy, and professional agency.

Theoretical contributions

The theoretical contributions of this study are reflected in three dimensions. First, in terms of research objects, unlike existing digital narrative research focused on student competence cultivation or non-Chinese subjects, this study focused on senior high school Chinese-language teachers, advancing digital narrative research from a "student competence" orientation to a "teacher practice" orientation.

Second, in terms of mechanism, it constructed a moderated mediation model featuring writing teaching self-efficacy as the mediator and teacher agency as the moderator. This model reveals the psychological pathway and boundary conditions for the transformation of teachers' digital narrative literacy into writing teaching practices. This differs from the single direct-effect design of existing research.

Third, in terms of research context, using senior high schools in Jinzhou City as the field, it provided empirical evidence for digital narrative writing instruction from senior high schools in county-level cities and counties, extending the contextual boundary of this field.

Practical implications

First, education authorities and schools should incorporate teachers' digital narrative literacy into the professional development system for Chinese-language teachers. They should offer step-by-step workshops from narrative structure to multimodal creation, rather than remaining at the level of equipment operation training.

Second, writing teaching self-efficacy should be used as the core indicator of training effectiveness, and teachers' sense of competence in "teaching well" should be enhanced through lesson study, peer collaboration, and work sharing.

Third, teacher agency should be activated through authorization, flexible curriculum space, and instructional autonomy, making teachers active designers rather than passive implementers of digital narrative writing instruction.

Fourth, senior high schools in county-level cities and counties face resource constraints. Master teacher studios, regional teaching research communities, and inter-school collaboration can jointly build and share digital narrative lesson examples and repositories. This lowers implementation thresholds for individual schools. Targeted support can be drawn from universities and high-quality urban senior high schools. Such support can be obtained through the "action plan for revitalizing ordinary senior high schools in county-level cities and counties" and education digitalization policies.

Limitations and future research directions

First, the sample came from senior high schools in Jinzhou City, and whether the conclusions can be generalized to other regions and educational stages remains to be tested. Second, although a two-time-point design supplemented by Harman's single-factor test was used to alleviate common method bias, variable measurement still relied mainly on teacher self-reports, and future research could introduce classroom observation and analysis of student works. Third, the digital narrative writing teaching practices scale was contextually adapted in this study, and its reliability and validity need to be further tested in larger samples; in the future, a dedicated scale for this construct can be developed and validated.

Funding

This work was not supported by any funds.

Acknowledgements

The authors would like to show sincere thanks to those technicians who have contributed to this research.

Conflicts of Interest

The authors declare no conflict of interest.

References

- [1] Aarar, M., Pérez Valverde, C. (2025) Enhancing evidence-based writing and critical thinking skills of high school students by implementing a debating-via-zoom approach. *Education Sciences*, 15(9), 1204.
- [2] Sönmez, E. E., Dadandı, P. U. (2023) Does digital storytelling have an effect on writing outcomes? *Malaysian Online Journal of Educational Technology*, 11(2), 147-157.
- [3] Ghafouri, M., Hassaskhah, J., Mahdavi-Zafarghandi, A. (2026) From virtual assistant to writing mentor: exploring the impact of a ChatGPT-based writing instruction protocol on EFL teachers' self-efficacy and learners' writing skill. *Language Teaching Research*, 30(8), 4217-4239.
- [4] Jiang, J. (2024) "Emotions are what will draw people in": a study of critical affective literacy through digital storytelling. *Journal of Adolescent Adult Literacy*, 67(4), 253-263.
- [5] Nuroh, E. Z., Retnaningdyah, P., Munir, A. (2025) Digital storytelling: pre-service English teachers' experiences, difficulties and solutions. *Journal of Education and Learning (EduLearn)*, 19(2), 971-977.
- [6] Peltzer, K., Lira Lorca, A., Krause, U. M., Graham, S., Busse, V. (2026) Effects of feedback on deep-level features of argumentative writing over multiple drafts: insights from an intervention study with secondary EFL students. *Reading and Writing*, 39(1), 333-364.

-
- [7] Sowell, J. (2024) Writing instruction in large secondary school EFL classes: a qualitative pilot study. *Journal of Language Education Research*, 14(3), 201-219.
- [8] Spaliviero, C., Serragiotto, G. (2025) Fostering multiliteracies in language teacher education through digital storytelling. Assessing the effectiveness of an online professional development intervention. *International Journal of Linguistics*, 17(4), 88-120.
- [9] Ünal, Ş., Çil, O. (2024) Investigating classroom teachers' experiences on the use of digital stories. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education*, 18(1), 191-218.
- [10] Yim, S., Warschauer, M. (2025) Bringing new literacies into the secondary classroom: a case study of synchronous collaborative writing with Google docs. *Language Teaching Research Quarterly*, 51, 409-431.
- [11] Zhang, K., Chen, P., Xiang, F., Li, L. (2023) Study of the dilemma of continuing professional development and coping strategies of university teachers in remote areas of China. *International Journal of Higher Education*, 12(6), 137-137.
- [12] Utami, H. N., Elfa, M. O. J., Wiyono, S. N., Sari, D. N., Perdana, T. (2025) Sustaining consumer excitement: the role of online customer experience and engagement in shaping behavioural intentions in food social commerce. *Sustainability*, 17(17), 8061.

Appendix

Table A1. Distribution of population characteristics.

Variable	Category	n	%
Gender	Male	124	32.1
	Female	262	67.9
Teaching experience	5 years and below	118	30.6
	6-10 years	96	24.9
	11-15 years	77	19.9
	16-20 years	54	14.0
	21 years and above	41	10.6
Highest qualification	Associate degree or below	22	5.7
	Bachelor's degree	286	74.1
	Master's degree or above	78	20.2
Professional title	Level-2 secondary school teacher or below	150	38.9
	Level-1 secondary school teacher	158	40.9
	Senior	68	17.6
	Professor-level	10	2.6

Note: n=386.