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Stress Profile and Blended Learning Competence As Moderated By Blended Teaching Readiness: Context of Teachers in Public Schools

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ABSTRACT: The study determined the moderating effect of blended teaching readiness on the relationship between teacher stress profile and teacher's blended learning competence. A descriptive-correlational research design was utilized in this study. The data was analyzed using weighted mean, Pearson r, and path analysis. The respondent of the study were 300 public school teachers from the Island Garden City of Samal which was chosen using stratified sampling. Data from the respondents was collected using three sets of modified survey questionnaires. The content validity and reliability of these instruments were ascertained. The results showed that the level of teacher stress was low, while the levels of blended learning competency and blended teaching readiness were high. There was a negative correlation which is significant relationship between teacher stress profile and blended learning competence. Moreover, there was a significant positive relationship between blended teaching readiness and blended learning competence. Furthermore, the result revealed a partial moderation effect of blended teaching readiness on the relationship between teacher stress profile and teacher's blended learning competence. This implies that the readiness of teachers to engage in blended teaching methods influences how teacher stress affects their competence in blended learning. While teacher stress may generally have an impact on blended learning competence but the extent of this impact can be moderated by the level of blended teaching readiness.

KEYWORDS: educational management, teachers, stress profile, blended learning competence, blended teaching readiness, Moderation, Philippines

1. INTRODUCTION

In the current educational environment, blended learning faces several challenges, especially concerning competence development for teachers and students. One major issue is the increased workload for teachers. Preparing and managing both online and offline content requires significant time and effort. The preparation and creation of online platform materials are more rigorous than traditional in-person teaching. This increases cognitive and physical burdens, such as more time spent designing courses, uploading materials, and evaluating online assignments (Alvarez, 2020). One of the concerns in the Philippine educational system is the increasing continuity of integrated learning. Not all faculty members are predisposed to blended instruction, as evidenced by the research of Albiladi and Alshareef (2019). Despite this period, many educators continue to employ conventional teaching methods.

Farah and Barnett (2019) stated that maintaining teacher-student authenticity in a technology-driven environment is challenging. With pre-made instructional videos, students may feel disconnected from their teachers, questioning their involvement in learning. This lack of personal interaction can make building meaningful student relationships difficult, impacting the overall educational experience. Self-paced learning, a common feature of blended learning, can result in unequal progress among students. While some students excel independently, others struggle to manage their time and may fall behind, leading to a widening achievement gap.

Teachers are currently facing substantial stress, including the necessity to prepare for blended instruction with rigorous assessments and the expectations of schools for exceptional teacher/student performance. Stress impacts the learning environment, the students, and the teachers themselves (Johnson & Fauske, 2021; Rosenburg, 2010; Travers & Cooper, 1996). Teacher stress negatively impacts the school climate and is correlated with tardiness, resignations, and early retirement. This leads to inferior academic and behavioral results for students. The necessity of programs specifically designed to alleviate teacher tension is underscored by the nature and severity of these concerns, as they substantially impact their overall health and performance (Johnson & Fauske, 2021; Rosenberg, 2020).

2. METHOD

2.1 Research Respondents

The study was conducted in public elementary, junior high, and senior high schools in the Island Garden City of Samal, Philippines, with a teaching population of 1,363 teachers. A total of 300 respondents were surveyed, of which 143, 120, and 37 were from elementary, junior high, and senior high school, respectively. The selected number of participants met the conventional requirement of 300-499 participants for path analysis, a reasonable sample size recommended by Tabacknick and Fidell (1996) and Comney and Lee (1992). As a result, the sample size of 300 for this investigation would be adequate for analysis.

To eliminate bias, the researcher used the stratified sampling technique to ensure equal numbers from the elementary, junior high, and senior high schools of the Samal Division. This increases accuracy because it systematically categorizes the population into different groups (strata) and then systematically selects samples from each stratum in proportion to the total population (Lohr, 2019). The inclusion criterion was the 300 public elementary, junior high, and senior high school teachers in Island Garden City of Samal. These teachers can be anybody who, more often than not, manages Elements to Senior High classrooms. Further, the respondents in this study were selected from elementary to senior high school teachers who adopted BL as a modality and were limited to permanent teachers only. The exclusion criterion was considered since the study respondents are volunteer teachers, private teachers, and substitute teachers.

The respondents who withdrew from the study were not forced to stay; they were given liberty, as their choices and decisions were respected without being penalized. The researcher was also informed of those participants who withdrew from the study and whether they provided reasons for withdrawing.

2.2 Materials and Instrument

The instruments used in this study included the adopted tools from Rosenberg (2010) for Teacher Stress, Powell, Rabbitt, and Kennedy (2014) for Blended Learning Competence, and Graham, Borup, Pulham, and Larsen (2019) for Blended Teacher Readiness.

The first part of the instrument assessed the level of teacher stress with the indicators: Student Behavior, Employee/Administrator relations, Teacher/teacher relations, Parent/Teacher relations, Time Management, Intrapersonal Conflicts, Physical Symptoms of Stress, Psychological/Emotional Symptoms of Stress; and Stress Management Techniques. The second part assessed teachers' Blended Learning Competence level through the following indicators: Mindset, Qualities, Adaptive Skills, and Technical Skills. Furthermore, the instrument assessed the teacher readiness using the following indicators: Foundations, Planning, Instructional Methods and Strategies, Assessment and Evaluation, and Management.

The responses on teacher stress profile, teachers' blended learning competence, and blended teaching readiness were analyzed using the scale based on the range of mean with its descriptive level and interpretation. The very high descriptive level covers the range of mean 4.20-5.00, which means measures of teacher stress profile, teachers' blended learning competence, and blended teaching readiness are always manifested or evident. A high descriptive level with a mean of 3.40 – 4.29 means that measures of teacher stress profile, teachers' blended learning competence, and blended teaching readiness are often manifested/evident. Moderate descriptive level with a mean range of 2.60-3.39 means measures on teacher stress profile, teachers' blended learning competence, and blended teaching readiness are sometimes manifested/evident. A low descriptive level with a mean of 1.80 – 2.59 means that measures of teacher stress profile, teachers' blended learning competence, and blended teaching readiness are seldom manifested/evident. Very low descriptive level with a mean of 1.00 – 1.79 means measures of teacher stress profile, teachers' blended learning competence, and blended teaching readiness are almost never manifested/evident.

The Likert scale was used to describe the level of blended teaching readiness and its moderating effect on the relationship between stress profile and blended learning competence of teachers. The instruments underwent a validation process with a mean score of 4.46, which was interpreted as very good. Moreover, the three instruments, namely Teacher Stress, Blended Learning Competence, and Blended Teaching Readiness, have high reliability as indicated by the Cronbach Alpha result of .982, .985, .980, respectively, with a total mean score of .982, which implies that the items have relatively high consistency.

2.3 Design and Procedure

The researcher used a quantitative-correlational research design. Descriptive-correlational research design describes existing relationships between variables without manipulating them, which is common in fields like education, psychology, and social sciences. This research design helps to identify patterns and associations. However, it does not attempt to determine causality, which makes it worthwhile when researchers are interested in understanding relationships as they naturally occur, particularly in settings like classrooms, hospitals, or workplaces (Heck & Thomas, 2015). The descriptive correlational technique was appropriate for this study because it aims to provide a relevant relationship between two or more variables. It aims to correlate the variables and determine their significant relationships.

In moderating research, the degree and nature of an association between two variables may be influenced by the value of a moderator variable. A moderator is a variable that influences the relationship between an independent variable and a dependent

variable. The investigation of moderator effects has a significant and extensive history across various study domains (Aguinis, 2004; Aiken & West, 1991).

The researcher compiled the documents necessary for assessment and evaluation by the University of Mindanao Research and Ethics Committee (UMERC). Following the evaluations, the researcher received a certificate of approval from UMERC, which is one of the conditions before beginning data collection. The permission letter from the Dean of Graduate Studies at the University of Mindanao and the Informed Consent Form (ICF), consent form, and validated questionnaire were delivered to the school district's Supervisor and Principal for approval. With the consent of the division office, the researcher worked with school principals and teachers to distribute the materials. Following that, the researcher gave an overview of the study to the participants, who volunteered to engage and participate. The survey questionnaires were given and administered. The researcher completely retrieved the teacher responses and questionnaire and ensured their confidentiality. The responses were accurately recorded and totaled automatically. The collected data were given to the statistician for analysis. The findings were encoded, tabulated, reviewed, and interpreted before drawing conclusions and making recommendations.

The subsequent statistical methods provide a more comprehensive interpretation and analysis of the data. The mean and standard deviation were employed to evaluate teacher stress, blended learning competence, and teacher blended readiness. Secondly, Pearson r was employed to assess the importance of the relationships between the teacher stress profile and blended learning competence, the teacher stress profile and blended teaching readiness, and the teacher blended learning competency and blended teaching readiness. Third, path analysis was employed to illustrate the strength of the correlations among the three variables and the moderating effect of blended teaching readiness on the relationship between teacher stress profile and blended learning competency.

As part of accepting responsibility, fairness in dealing with people, and honesty in all aspects of the research, the research underwent an ethical review process, ensuring it was carried out responsibly and ethically. The University of Mindanao Ethics Review Committee granted the researcher a Certificate of Approval with protocol number UMERC-2023-351, stating that the study is cleared for implementation.

3. RESULTS AND DISCUSSION

3.1 Teacher Stress Profile

Shown in Table 1 are the mean scores of the teacher stress profile indices; the mean of 2.43 indicated an overall low on the stress profile of the descriptive level. The mentioned overall mean score was obtained from the calculated mean score of its indicators to show that teacher stress profile is rare in manifestation. The low level was reflected by the fact that most teacher stress profile indicators received low scores from the respondents. The lowest mean score of 1.82 with a standard deviation of 0.99 was adopted by the respondents on the teacher/teacher relations indicator. On the other hand, it was inferred from the findings that the amount of time management got the highest mean rating of 2.88, which was rated moderately.

This implies that these teachers have occasionally experienced stress in performing their jobs. The burden of the job is eliminated, and the teachers' workload is lightened up. Teachers can employ helpful strategies to mitigate stress, including exercise and relaxation techniques.

Table 1: Level of Teacher Stress Profile

Indicators	SD	Mean	Descriptive Level
Student Behavior	0.77	2.49	Low
Employee/Administrator Relations	0.98	1.95	Low
Teacher/teacher Relations	0.99	1.82	Low
Parent/Teacher Relations	0.77	2.59	Low
Time Management	0.86	2.88	Moderate
Intrapersonal Conflicts	0.81	2.73	Moderate
Physical Symptoms of Stress	0.80	2.58	Low
Psychological/Emotional Symptoms of Stress	0.96	2.27	Low
Stress Management Techniques	0.78	2.52	Low
Overall	**0.67**	**2.43**	**Low**

The findings contradict Farmer's (2020) claim that teachers feel stress because of workplace challenges. Because teaching is a relationship-based profession, complex connections with children and parents can cause teachers undue stress. It also negates the findings of Sutton and Wheatley (2021), which claimed that new teachers are likely to encounter the highest stress levels. This may be attributed to younger, less experienced educators needing to gain proficiency in managing the role effectively.

3.2 Teachers' Blended Learning Competence

Shown in table 2 shows the data on the level of teachers' blended learning competence which was measured through a survey questionnaire with the following indicators: mindset, qualities, adaptive skills, and technical skills. Computations yielded an overall mean of 3.96 or high, with a standard deviation of 0.63. This indicates that teachers' blended learning competence is often manifested. It could be gleaned from the data that the indicator with the highest mean rating of 4.01 with a high descriptive level and standard deviation of 0.74 is quality. Meanwhile, technical skills are the indicator with the lowest mean rating of 3.90, with a high descriptive rating and standard deviation of 0.69.

This implies that the practical implementation of the underpinning principles of enhancing student learning through moving from direct instruction to focused teaching, identifying students' needs, and establishing interest, motivation, and commitment is more beneficial to the teacher. Teachers establish and maintain open communication processes interpersonally with students, peers, and other parties to enhance student learning. They always evaluate technology, tools, and instruction methodologies to confirm their effectiveness.

Table 2: Level of Teachers' Blended Learning Competence

Indicators	SD	Mean	Descriptive Level
Mindset	0.65	3.99	High
Qualities	0.74	4.01	High
Adaptive Skills	0.74	3.93	High
Technical Skills	0.69	3.90	High
Overall	**0.63**	**3.96**	**High**

The findings are consistent with Kilag et al.'s (2024) views. Teachers who believe that teacher education programs are effective in developing lifelong learning competence often point to hands-on, practical experiences, incorporating technology or blended learning, and opportunities for professional development as critical factors. Teachers who are skillfully trained in technology-based teaching delivery and supervised and evaluated in areas of enhancement and development can consistently show competence in blended learning.

3.3 Blended Teaching Readiness

The table below indicates the level of blended teaching readiness as outlined below in Table 3. It presents the level of blended teaching readiness, which was measured through a survey questionnaire with the following indicators: courses: the origins of learning, planning instruction, methods and procedures of instruction, assessment, and testing, and administration. Thus, computations provided an overall mean of 3.83 or high with the standard deviation of 0.69. This means that readiness to envisage blended teaching is often demonstrated. From an evaluation of the data, it was possible to infer that instructional planning is the element with the highest mean rating of 3.95 or high with a standard deviation of 0.80. On the other hand, instructional methods were considered as having the least mean rating of 3.75 or high for which the standard deviation value obtained is 0.80.

This implies that teachers have often employed appropriate instructional methods and strategies in online and face-to-face discussions with the students. Students are motivated and become interested when the lessons are delivered either online or in face-to-face discussions. The teachers utilize good criteria to assess and evaluate the student's performance in the subject. The teachers have organized their work and arranged every activity with schedules ahead of time, and the classroom settings are also organized. The teachers' readiness is observed most of the time in blended activities. They are well-prepared in either online activity or face-to-face discussion in every aspect of delivering the lessons.

Table 3: Level of Blended Teaching Readiness

Indicators	SD	Mean	Descriptive Level
Foundations	0.68	3.88	High
Instructional Planning	0.80	3.95	High
Instructional Methods and Strategies	0.80	3.75	High
Assessment and Evaluation	0.83	3.77	High
Management	0.82	3.81	High
Overall	**0.69**	**3.83**	**High**

The finding of the study is supported by the study of Akram et al. (2022), which stated that teachers' readiness and confidence play a crucial role in successfully implementing technology integration in educational settings, according to Teachers' perceptions, experiences, and perceived challenges are central to integrating information and communication technology (ICT) in their teaching practices. However, the finding contrasts with Anoba and Cahapay's (2020) study, which found that teachers were only slightly ready for blended teaching. This means that teachers are moderately prepared to use blended learning as a response to the effects of the COVID-19 pandemic on instructional implementation.

3.4 Significance on the Relationship between Teacher Stress Profile and Blended Learning Competence

As indicated in Table 4.1, the test results on the significance of the association between teacher stress profile and blended learning competence are presented. Calculations Computations yielded an overall r-value of -.385 with a p-value of <0.05, rejecting the null hypothesis. This means that the teacher stress profile has a moderate to strong but negative correlation with blended learning competence among teachers. That is, the results indicate that the stress profile of teachers hinders blended learning competence.

Table 4.1: Significance of the Relationship between Teacher Stress Profile and Blended Learning Competence

Teacher Stress Profile	**Blended Learning Competence**				
	Mindset	Qualities	Adaptive Skills	Technical Skills	**Overall**
Student Behavior	-.231** .000	-.359** .000	-.270** .000	-.213** .000	**-.305** .000**
Employee/Administrator Relations	-.374** .000	-.475** .000	-.322** .000	-.340** .000	**-.426** .000**
Teacher/teacher Relations	-.397** .000	-.466** .000	-.408** .000	-.389** .000	**-.469** .000**
Parent/Teacher Relations	-.232** .000	-.389** .000	-.290** .000	-.299** .000	**-.343** .000**
Time Management	-.003 .958	.097 .093	.122* .035	.047 .414	**.077 .184**
Intrapersonal Conflicts	-.219** .000	-.266** .000	-.236** .000	-.205** .000	**-.262** .000**
Physical Symptoms of Stress	-.194** .001	-.198** .001	-.254** .000	-.162** .005	**-.229** .000**
Psychological/Emotional Symptoms of Stress	-.333** .000	-.435** .000	-.397** .000	-.299** .000	**-.416** .000**
Stress Management Techniques	-.246** .000	-.231** .000	-.212** .000	-.190** .001	**-.247** .000**
Overall	**-.329** .000**	**-.400** .000**	**-.333** .000**	**-.302** .000**	**-.385** .000**

This implies that when teachers experience less stress in blended learning environments, it leads to several positive outcomes. Reduced stress improves teacher well-being, decreasing burnout and increasing job satisfaction, which creates a more positive classroom atmosphere. Teachers have more time for personalized instruction, providing better student support and creative lesson planning. This can lead to improved student engagement and academic performance.

This view is supported by the study of Vidal (2023), who provided information that high burnout or stress level teachers correlate with low motivation to teach, low competence, and comparatively much lower mental and emotional health of the teachers, thus demoting their effectiveness in the classroom. These studies also use less stress in that professional growth, cooperating teachers and technological integration are all facilitated because of the reduced stress levels. This means that blended learning affords 'better teach-load management and enhanced ability to adapt to normal or emergency remote or hybrid teaching models,' thereby improving students' teaching and learning quality.

3.5 Significance on the Relationship between Blended Teaching Readiness and Blended Learning Competence

Illustrated in Table 4.2 is the result of the test of the relationship between blended teaching readiness and blended learning competence. The result shows an overall r-value of .751 with a p-value <0.05, which signified the rejection of the null hypothesis. This means a positive and significant relationship exists between blended teaching readiness and blended learning competence. This means that blended teaching readiness is positively correlated with blended learning competence. Hence, there is a positive association between the two variables.

This implies that high competence in blended learning and readiness for blended teaching leads to more dynamic, flexible, and effective educational experiences. Teachers can seamlessly integrate technology with traditional methods, creating engaging and personalized learning environments that boost student achievement. With greater autonomy and confidence, educators can design lessons tailored to student needs, efficiently manage their time, and adapt to challenges such as remote learning. Strong competence fosters better communication and stronger student-teacher relationships while promoting continuous professional growth and peer collaboration.

Table 4.2: Significance of the Relationship between Blended Teaching Readiness and Blended Learning Competence

Blended Teaching Readiness	**Blended Learning Competence**				
	Mindset	Qualities	Adaptive Skills	Technical Skills	**Overall**
Foundations	.477** .000	.725** .000	.808** .000	.877** .000	**.819** .000**
Instructional Planning	.532** .000	.558** .000	.560** .000	.633** .000	**.643** .000**
Instructional Methods and Strategies	.313** .000	.563** .000	.641** .000	.775** .000	**.651** .000**
Assessment & Evaluation	.257** .000	.525** .000	.590** .000	.745** .000	**.602** .000**
Management	.251** .000	.545** .000	.593** .000	.725** .000	**.601** .000**
Overall	**.413** .000**	**.660** .000**	**.722** .000**	**.852** .000**	.751** .000**

This supports the findings of García-Peñalvo et al. (2021), who discovered a relationship between students' blended learning readiness and higher education learning competence. Blended learning readiness is the extent to which students have the requisite abilities, attitudes, and resources to succeed in blended learning contexts. Learning competency is learning, processing, and using knowledge and skills to attain academic objectives. The study found a positive correlation between students' blended learning readiness and learning competence. Teachers better prepared for blended learning exhibited higher levels of learning competence.

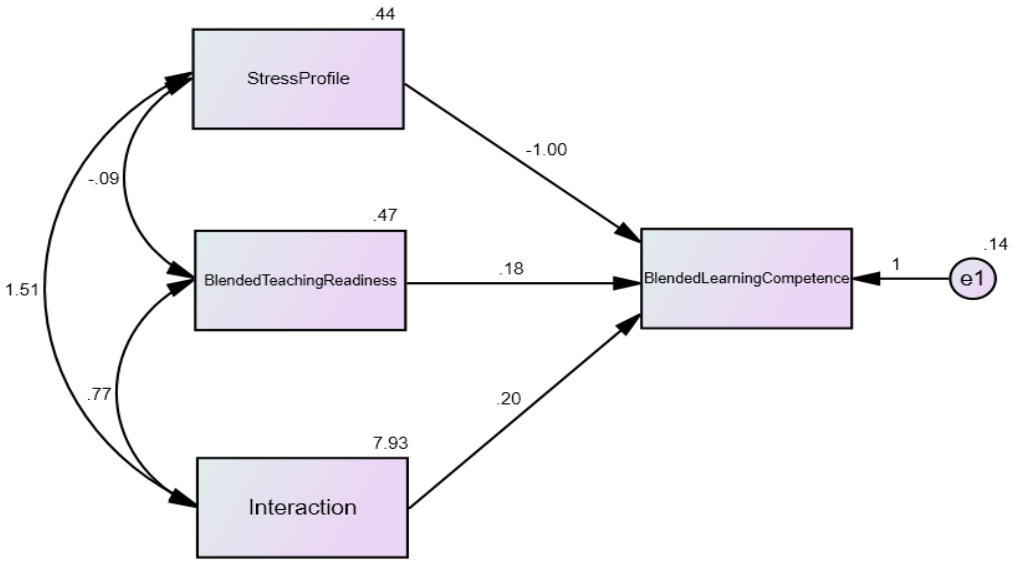
3.6 Moderating Analysis of the Three Variables

Shown in Table 5 is the path analysis of the moderating effect of blended teaching readiness on the relationship between teacher stress profile and teachers' blended learning competence. The result presented a negative significant relationship between teacher stress profile and teachers' blended learning competence, with an estimated value of -.995 and a p-value < 0.05. The relationship between the interaction variable (teacher stress profile x blended teaching readiness) and blended learning competence is significant, with an estimated value of .196 and p-value <0.05. The relationship between blended teaching readiness and teachers' blended learning competence is not significant, with an estimated value of .176 and a p-value of .092.

This implies that blended teaching readiness partially moderates the relationship between teacher stress profile and blended learning competence. It shows that teachers' readiness to engage in blended teaching methods influences how teacher stress affects their competence in blended learning. In other words, while teacher stress may impact blended learning competence, the extent of this impact can be moderated by the level of blended teaching readiness.

The result supports the study conducted by Safraz et al. (2022), which states that teachers' online teaching readiness moderates the relationship between students' online learning perception and learning outcomes. This means that even though blended teaching readiness helps the teachers remain competent despite the stress they experience in blended teaching, their readiness still needs to be completed. This means that there are other factors that they can consider in order to remain competent in blended teaching when dealing with stress.

Table 5: Moderation Analysis of the Three Variables



Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Blended Learning Competence	<---	Stress Profile	-.995	.168	-5.941	***	H_01
Blended Learning Competence	<---	Interaction	.196	.042	4.640	***	H_{o3}
Blended Learning Competence	<---	Blended Teaching Readiness	.176	.105	1.684	.092	H_{02}

Regression Weights: (Group number 1 - Default model)

Since the Hypo 1 is not significant, therefore, PARTIAL MODERATION.

4. CONCLUSION

The study revealed that the teacher stress profile in the case of the participating teachers was relatively low. The mean scores indicated that teachers possessed high blended competence and readiness for blended teaching. In line with our hypotheses, the research establishes a negative association between teacher stress profile and blended learning competence. The study also provides a positive correlation between blended teaching readiness and blended learning competence. The study also confirms the hypothesis that blended teaching readiness partially mediates the teacher stress profile and blended learning competence relationship. The relationship will have several implications for education. It contributes to workplace teamwork, enhances teacher morale, improves retention rates among teachers, and helps create new strategies that help students get better scores and improve the learning experience.

The findings supported anchored in the theory of connectivism developed by Siemens (2004), which is often regarded as a learning theory for the digital age, focusing on how technology and networks shape the learning process. Connectivism emphasizes that learning occurs through the formation of connections within a network of people, tools, information, and digital resources. It enables teachers to incorporate technology into their instructional activities effectively. It helps them to design dynamic and engaging learning experiences, resulting in higher student engagement and learning outcomes.

Overall, teachers who are well prepared to implement blended learning strategies may feel more relaxed about their competence. Blended learning partially addresses issues inherent in our educational system. It can shape our educational system's future if executed meticulously and organized with appropriate attitudes and competencies. Soon, measures to modify blended learning will be started to our advantage. Moreover, this may result in higher-quality training, lower stress levels, and even better learning opportunities.

Further support could still be required to effectively address teacher stress and enhance general well-being in blended learning situations. A fundamental characteristic of blended learning is that educators are dynamic, technologically proficient, and thoroughly prepared to operate well in both traditional classroom settings and ICT-supported environments. They will be proficient in employing conventional techniques and contemporary technologies.

Many existing studies focused on estimating the causal relationships between teacher stress profile, blended learning competence, and blended teaching readiness. Given the now-established clarity of these relationships, empirical research is more pertinent to finding strategies for reducing teacher stress to achieve the necessary level of competency in blended learning.

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