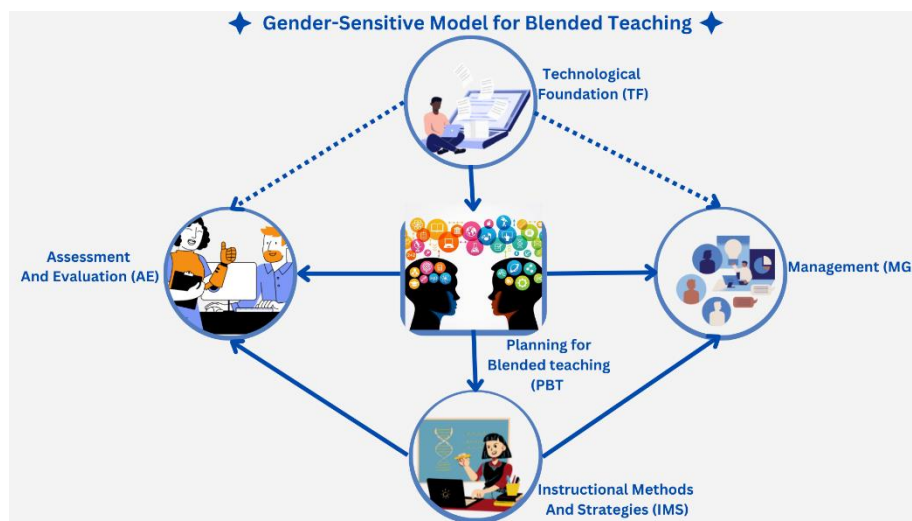# What Does the Characterization of a Gender-Sensitive Model for Blended Teaching Say?

Ma. Laarni D. Buenaventura, Jayson L. de Vera , Starr Clyde Lumanta Sebial, Nilo Jayoma Castulo, Merimee Tampus-Siena, Marie Chiela C. Malcampo, Marisol D. Andrada and Alwielland Q. Bello

Source: This photo was created by the authors using Canva.

This policy brief explores the gender-sensitive characteristics of blended teaching and develops a model explaining the relationship between these characteristics through multi-group structural equation modeling. The findings revealed that both male and female teachers have a strong association with technological foundation (TF), planning for blended teaching (PBT), and instructional methods and strategies (IMS) to assessment and evaluation (AE) and management (MG). The male group shows a significant difference in planning for blended teaching (PBT) between AE and MG. On the other hand, only female teachers demonstrated a stronger direct connection between planning for blended teaching (PBT) and assessment and evaluation (AE). The combination of Planning for Blended Teaching (PBT) and Instructional Methods and Strategies (IMS) offers a strong framework for Technological Foundations (TF) to have a substantial influence on Assessment and Evaluation (AE) and Management (MG). This research contributes to the Gender-Responsive Training Methods (GRTM) and has shed light on the significance of identifying the characteristics of a gender-sensitive model for blended teaching. This study also offers pertinent data on the precise areas of teacher education that require attention on teacher gender diversity. Theoretical and practical implications are discussed, focusing on Gender and Development (GAD) and teacher education.

Classrooms around the world have adopted blended learning modalities. From the traditional in-person classes, teaching and learning became flexible and highly technologically advanced (Ellis et al., 2006). These virtual classrooms may not be as gender sensitive as they should be (Spieler & Slany, 2018; Tariman, 2020). Gender disparities highlight the importance of including a gender perspective in designing a healthier learning environment (Usart et al., 2023). Hence, gender-based motivation and satisfaction surveys are worthwhile to implement to recognize students' needs and attitudes, which is necessary to design a customized blended course (Gulseven & Mostert, 2019).

Because technological development occurs inside organizational and cultural contexts affected by gender, technology is not neutral. As a result, technical artifacts define gendered interaction possibilities and represent gender features. Women's marginal engagement as a relevant social group in technological progress is highlighted in social studies of technology, resulting in a neglect of their interests during the design of technical products. Further examinations of gendered contexts in technological discourses reveal that the relationship between technology and masculinity is constantly being reconstructed (Bray, 2007). The idea of gender and technology reconstruction was developed to describe the complex network of interactions between humans and technology in which gender is constantly reintegrated and reconstructed (Breslin & Wadhwa, 2018).

Teacher preparation curricula and teacher educators' use of technology for teaching and learning impact the use of technology in future teaching practices by preservice teachers (Foulger et al., 2017). One might anticipate greater efficacy and efficiency from teachers and students due to technology. Technology may also help with problems that affect teaching, learning, and educational institutions and modify how lessons are taught. However, the results of the study showed that male teachers outperformed female teachers in technology integration tactics, but female teachers outperformed male instructors. Hence, schools need to deliberately integrate technology into teacher preparation courses and tasks to ensure that preservice teachers (both male and female) possess the necessary technological knowledge and abilities for teaching in the 21st century. School administrators anticipate that new instructors will be familiar (Estes, 2017) with applying, adapting, and innovating what they have learned by using digital images, videos, animations, and simulations to teach process skills, promote inquiry instruction, and increase student engagement (Bell et al., 2013).

Methodology

This study utilized a quantitative research design employing a partial least squares-based structural equation modeling (PLS-SEM) approach. Respondents of this study were elementary (n = 375) and high school (n = 625) Philippine Department of Education public school teachers from Luzon, Visayas, and Mindanao. Graham et al. (2019) used a blended teaching readiness instrument. This test has 65 items in five categories: foundations, planning, teaching methods and tactics, assessment, evaluation, and management.
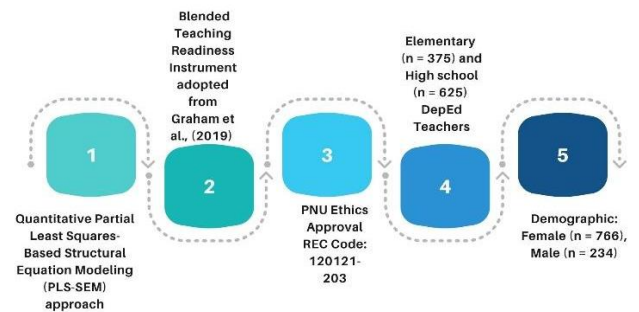
Key Findings

To understand the findings, the variables considered are Technological Foundation (TF), Management (MG), Instructional Methods and Strategies (IMS), Assessment and Evaluation (AE), and Planning for Blended Teaching (PBT). These variables are adopted based on the Graham et al. (2019) K–12 Blended Teaching Readiness Model. Technological Foundation (TF) includes technological literacy, digital citizenship, and dispositions (Graham et al., 2019). Management (MG) involves managing the learning environment and learning routines (Graham et al., 2019). Instructional Methods and Strategies (IMS) encompass personalizing instruction, student-student interaction, student-instructor interaction, and student-content interaction (Graham et al., 2019). Assessment and Evaluation (AE) covers implementing blended assessments and evaluating and reflecting (Graham et al., 2019). Planning for Blended Teaching (PBT) includes planning blended activities and assessments (Graham et al., 2019).

In 1973, Bhatt stated that path coefficient analysis could help identify the true nature of the cause-and-effect relationships among these constructs (Bhatt, 1973): management (MG), planning for blended teaching (PBT), assessment and evaluation (AE), instructional methods and strategies (IMS), and technological foundations (TF). The figure on the first page presents the PLS Path Model with Path Coefficients for male and female respondents. The summary of the key findings is as follows:

Path Model for Male and Female

There were no significant direct effects from TF to AE or TF to MG. It suggests that PBT may mediate the influence of technological foundations on these aspects rather than TF alone.

Path Model for Female

The female group revealed a slight difference from that of the male. Female's TF has no direct effect on AE and MG, together with PBT to MG. However, there is a direct influence between TF and PBT. PBT to IMS, IMS to AE and MG, and PBT to MG.

Path Model for Male

The model for the male group shows a direct effect between constructs such as TF to PBT, PBT to IMS, IMS to AE, and MG. However, it is also shown that there is no direct effect between the teachers' TF to AE and MG, PBT to AE and MG.

Multi-Group Analysis Across Gender

There is a significant difference in the effect of a construct compared to its paired construct. The multi-group analysis shows a significant difference between male and female groups regarding IMS to AE and IMS to MG. Instructional Methods and Strategies (IMS) have a more significant impact on Assessment and Evaluation (AE) for men than women. In addition, Instructional Methods and Strategies (IMS) have a greater impact on Management (MG) for men than women. The relative differences in path coefficients further emphasize the gender-specific variations in the effects of components. The notable disparities in the impacts of instructional methods and strategies (IMS) on assessment and evaluation (AE) and management (Mg) highlight the significance of incorporating gender-sensitive models for blended education.

Policy and Practice Implications

The findings in this study can be a basis for teacher training institutions, professional development training providers, and policymakers in developing gender-sensitive curricula and/or training programs for Gender-Responsive Training Methods (GRTM) (ICF World Bank Group, 2021). The technological foundations that focus on current teachers' teaching materials and strategies are essential for developing the skills needed for teacher preparation in blended learning. Because of this, teacher education institutions need to improve their pedagogical courses and include ICT in their lessons. When making the course's learning outcomes, it is important to consider including more positive ICT integration and prepare future teachers for tasks like lesson planning, making assessment tools, and managing the classroom. On the other hand, the different professional development training conducted by the Department of Education for in-service teachers should include activities that tackle gender sensitivity. This is very useful for designing and developing gender-sensitive training programs that concentrate on the professional and personal development of teachers and classroom preparations.

The study's findings indicate that educational interventions and training programs should be tailored to address the gender-specific traits that were discovered. Gaining a comprehensive understanding of these subtle distinctions can develop more efficient approaches to training educators in mixed instructional settings. The study's findings have important implications for developing curricula, professional development programs, and policies that attempt to improve the effectiveness of blended teaching methods. These implications should consider the unique requirements and characteristics of both male and female educators. Specifically, the following are forwarded:

● **Programs for Educators' Individualized Growth.** The gender-specific features of blended learning highlight the need for specialized programs for educator training. It would be wise for educational authorities and institutions to create training programs catering to the specific issues and demands of male and female educators. Teachers' preparedness and performance in blended classrooms may be improved through specific training, materials, and mentorship programs.

● **Policy Considerations.** Educational policymakers should consider broadening educational policies to include gender-sensitive approaches. One aspect of this is acknowledging and resolving the distinct difficulties male and female educators encounter in hybrid classrooms. Policies that support an inclusive and supportive teaching environment can increase educators' job satisfaction, retention, and effectiveness.

● **Methods for Creating an Inclusive Academic Environment.** The results of this study can help male and female teachers develop more inclusive pedagogical techniques that consider their unique personalities and approaches to the classroom. Administrators and instructional leaders in schools should push for more adaptable pedagogical practices that play to teachers' individual strengths while also creating a more supportive and cooperative classroom climate.

According to Advincula & Cayabat's (2020) study, the respondents to their survey frequently reported having difficulties with gender sensitization in the classroom and with instruction. Gender and education or gender and development modules should be offered in teacher education programs to cultivate knowledge on creating a gender-conscious and gender-friendly classroom environment (Brown et al., 2022). Results from the study by Schechter (2013) demonstrate a classroom culture in which gender-diverse treatment in pedagogical decisions, such as lesson design, behavioral direction, and student-teacher contact, is the norm rather than the exception. The results suggest that teachers' unclear and purposeful ideas about gender, along with their lack of training in gender sensitivity, led to a school environment full of gender differences.

Conclusion

To answer the question, the characterization of a gender-sensitive model for blended teaching contributes to the discourse of Gender-Responsive Training Methods (GRTM). The study sheds light on the gender-sensitive traits of blended teaching teachers through its thorough examination of measuring, model fit, structural model, and multigroup analysis. The findings provide important implications for educational practices and teacher training programs by demonstrating the complex linkages between many dimensions and the influence of gender on these relationships. Future studies can concentrate on the other lens based on the gender sensitivity model (i.e., investigating teachers' stereotypes and biases, advancing teacher training through gender sensitivity, etc.).

Researchers' Note

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To strengthen the culture of excellence in teacher education research and educational policy studies.

Objectives

The EPRDO shall manage the University's research production, enhance human resource capabilities, and share expertise to other Teacher Education Institutions (TEIs) in the area of teacher education research

Strategies

1. Establish and maintain a web-based university research portal that facilitates automated research management systems, and which also serves as the database of teacher education policies and teacher education research in the country and Southeast Asia.
2. Share research expertise and competence in teacher education research with other TEIs throughout the country;
3. Develop and disseminate the University research agenda
4. Design and implement the research capability program for faculty and staff;
5. Manage University's research production particularly the conduct of educational policy studies in education and teacher education; and
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