Back to the Classroom: A Comparative Study of Factors Influencing Thai Students' Attitudes Towards Onsite Learning at Two Private Universities

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Abstract

This paper compares two quantitative studies examining factors influencing Thai undergraduate students' attitudes toward onsite learning at two private universities in Thailand: Bangkok University (n=119) and Thai Nichi Institute of Technology (n=84). Both studies tested a model with six independent variables: personal experience, culture, influence of others, media motivation, educational institutions/religion, and emotional factors. Using simple regression at 95% confidence, all variables were individually significant. However, multiple regression revealed different significant predictors by institution: at Bangkok University, only experience (R^2=0.25), media motivation (R^2=0.25), and culture (R^2=0.30) were significant, with all pairwise interactions significant ($p<0.05$). At Thai Nichi Institute, only media motivation (R^2=0.52), emotion (R^2=0.52), and culture (R^2=0.55) were significant, with all pairwise interactions also significant ($p<0.05$). The findings identify experience, media motivation, emotion, and culture as key factors influencing Thai students' attitudes toward onsite learning. The paper offers policy recommendations for government, universities, and the Ministry of Education.

Keywords: Attitude, Culture, Education, Online Learning, Onsite Learning

Introduction

Onsite learning remains an indispensable mode of education across Thailand, Southeast Asia, the United States, and much of the world as conditions have normalized post-pandemic. Building on this continued importance, this research paper examines Thai students' perceptions of onsite learning by comparing attitudes from two private universities across six key factors: personal experience (Uya & Gwele, 2005), culture (Curwin & Lynda, 2003], influence of others (Martin, 2002), media motivation (Greenshow, Sillet Saudt & Carpenter, 2024), educational institutions (Smith, 1998) and students' emotional factors (Von Stumm, Hell, Benedikt & Chamorro-Premuzic, 2011). These six factors are well supported by existing literature. However, the interaction among these factors remains a gap in literature. This paper will fill that gap. By comparing findings from Bangkok University

and Thai-Nichi Institute of Technology, this research identifies the key elements shaping Thai students' attitudes toward onsite learning. The closer the alignment with these drivers, the more effective and meaningful the learning experience becomes. This study offers contemporary insights into post-pandemic onsite learning perceptions in Thailand, along with practical guidance for designing and managing onsite environments.

Comparing two distinct universities reveals how institutional factors differentially shape online learning outcomes, offering preliminary evidence on generalizability across settings (Cheng & Xie, 2021). This design fuels evidence-based discourse and targeted interventions that account for institutional diversity (Means, Bakia & Murphy, 2013)—directly advancing Thailand's digital transformation under the Thailand 4.0 model and National Education Plan (MHESI, 2020). The research question presented in this paper is “What factors significantly influence students' attitudes toward onsite learning?” There is a notable gap in the literature regarding how the interplay of institutional policies, digital fatigue from parallel online systems, and physical classroom environment collectively shapes students’ attitudes toward onsite learning. The findings identify institutional practices linked to successful learning in Thailand, guiding investments and regulations to reduce equity gaps and ensure online education supports inclusive human capital development." (Kerdsomboon & Chayomchai, 2021). The general theme of this research is how to optimize institutional practices to bridge equity gaps and foster inclusive human capital development in Thai education by focusing on onsite learning.

Literature Review

Onsite Learning

Onsite learning is the traditional model of synchronous, real-time instruction in physical locations, emphasizing direct interaction, hands-on activities, and academic community. However, research on university-level onsite learning in Thailand remains limited. Pre-COVID, face-to-face teaching was the default norm and largely overlooked; post-pandemic, attention and funding shifted toward online and hybrid models, further diverting focus from onsite instruction (Pimpa, 2024). Many relevant studies are published in Thai-language journals, limiting international visibility. Historically, Thai higher education relied almost exclusively on onsite learning, with stakeholders emphasizing quality enhancement (World Bank, 2021), (Pemasilo, 2021). In the post-COVID era, despite expanded alternative modes, onsite learning continues to hold a central place in Thailand's higher education system.

Research on university-level onsite learning in Thailand remains scarce. Pre-COVID, face-to-face teaching was the default norm and largely ignored. Post-pandemic, attention and funding shifted to online and hybrid models, further sidelining onsite instruction

(Pimpa, 2024). Compounding this gap, many relevant studies are published in Thai-language journals with limited international visibility. Yet despite this neglect—and the rise of alternative modes—onsite learning continues to hold a central place in Thai higher education. Onsite education remains indispensable for holistic human development despite the post-pandemic surge in online learning. Physical classrooms uniquely cultivate soft skills—collaboration, negotiation, and public speaking—through spontaneous interaction, while hands-on disciplines require tactile experiences that screens cannot replicate (Khonsue, 2012), (Buranamontri, 2021). Shared physical presence builds mentorship, community, and the intangible campus experience critical to formative education. Thai research confirms that students and instructors view onsite learning as superior for communication, discipline, real-time feedback (Pemasilo, 2021), structure, accountability (Hengpaijit, 2021), motivation, and belonging (NRCT, 2022). Onsite learning also yields better academic outcomes, including improved grammar test scores compared to fully online peers (Chamavit, 2023), (Rakchat, 2022). Students favor face-to-face instruction for complex explanations and effective group work, despite valuing online convenience (Phummala, 2014), (Salangam, Sanguansat & Boongate, 2023). Ultimately, digital platforms expand access, but onsite learning provides the irreplaceable multidimensional foundation for comprehensive education.

Data and Methodology

A. Data

This study draws on two rounds of primary data collection from two independent datasets, each examining Thai students' attitudes toward onsite learning at two distinct private Thai universities. By leveraging separate datasets from different institutional contexts, the study establishes a robust comparative foundation that transcends the limitations of single-site research (Means, Bakia, Murphy, 2013). This design uniquely captures how variability across institutional environments, particularly differences in technological infrastructure and student demographic shapes the effectiveness of online delivery, enabling nuanced insights into the mediating factors that single-context studies inevitably obscure (Means, et all., 2013).

The first study surveyed 119 undergraduate Thai students (58 female, 61 male) from 12 majors in the Thai program at Bangkok University, with students selected across majors to maintain objectivity and reduce sampling bias. The second study surveyed 84 undergraduate Thai students (25 female, 59 male) from 16 majors in the Thai program at Thai Nichi Institute of Technology. Both studies used a 0–3 scale (0 = none, 1 = low, 2 = medium, 3 = high) to measure attitudes toward onsite learning (see Table 1).

Table 1: Demographic Information Students surveyed at Bangkok University

Institution	Sample Size	Gender	Nationality
Bangkok University	n1 = 119	61 Males 58 Females	Thai
Thai Nichi Institute of Technology	n2 =84	59 Males 25 Females	Thai
Total:	203	120 males 83 Females	All Thai

Unequal sample sizes (n1 ≠ n2) do not preclude valid hypothesis testing, as t-tests and ANOVA remain robust when homogeneity of variance is met (Gastwirth, Gel & Miao, 2009). For unequal samples, Welch's t-test or Brown-Forsythe F-test are recommended for more accurate Type I error control without assuming equal variances (Delacre, Leys, Mora & Lakens, 2019). Parametric tests also require independence of observations (Lumley, Diehr, Emerson & Chen, 2002). and approximate normality, formally assessed here using the Anderson-Darling test (Stephens, 1974). A non-significant result confirmed no significant deviation from normality, justifying the use of parametric comparative tests.

Both studies used a scaled survey capturing quantitative, ordinal, and nominal data on a (0,1,2,3) scale, enabling binary analysis for categorical predictors alongside continuous variables. The survey comprised six sections: (1) demographics, (2) personal experience, (3) culture, (4) media, (5) educational institutions and religion, and (6) emotional factors. Reliability testing using Cronbach's alpha (Nunnally & Bernstein, 1994) yielded a coefficient of 0.85, falling within the "good" range (above 0.8) (Nunnally &Bernstein, 1994). This provides strong evidence that the scale's items are highly interrelated and reliably measure the intended construct (Tavakol, Dennnick, 2011), allowing researchers to interpret aggregated data with confidence (Nunnally &Bernstein, 1994).

This study employed descriptive statistics (mean, variance, standard deviation) to summarize survey data and understand group distributions (Tabachnick & Fidell, 2019), followed by inferential statistics for hypothesis testing and generalizing findings to the broader population (Field, 2018). Multivariate analysis was used to model relationships among factors influencing student attitudes (Babbie, 2009). This two-stage approach

ensures statistical conclusions are contextually grounded, enhancing validity and interpretability.

B. Methodology

The research studies at Bangkok University and Thai Nichi Institute of Technology proposed a model measuring Thai students' attitudes toward onsite learning using six factors: personal experience (x1), culture (x2), influence of others (x3), media motivation (x4), educational institutions and religion (x5), and students' emotional factors (x6). Model selection was informed by examining data distribution and skewness; probability distribution supported hypothesis testing, while skewness revealed attitude trends toward onsite learning. The model is represented as: $Y = a + b1x1 + b2x2 + b3x3 + b4x4 + b5x5 + b6x6$, where Y represents attitude toward onsite learning (dependent variable), a is the natural tendency without predictor influence, and x1 through x6 are the independent variables as defined above.

Grounded in Social Cognitive Theory—which posits that attitudes emerge from reciprocal interactions between personal, behavioral, and environmental factors—this study employed multivariate regression across two independent samples to isolate the unique drivers of Thai students' attitudes toward onsite learning (Cohen, Cohen, West & Aiken, 2003), (Keith, 2019). Six theoretically derived predictors were tested: personal experience, culture, influence of others, media motivation, educational institutions, and emotional factors (x1–x6). By controlling prior achievement and instructor quality, the model assessed whether learning advantages were genuinely attributable to face-to-face environments (Bowen, Chingos, Lack & Nygren, 2014). An iterative process retained only significant predictors ($p < 0.05$), yielding a parsimonious final model that avoids overfitting (Field, 2018), (Kleinbaum, Kupper, Nizam & Rosenberg, 2014). Nevertheless, reliance on questionnaires and selection bias (Thai program students at two private universities) limit generalizability. Moreover, basic two-sample comparisons remain vulnerable to confounding, where unmeasured variables threaten internal validity by creating spurious causal appearances (Song & Chung, 2010). Future research should therefore move beyond simple group contrasts. Randomized controlled trials (RCTs) represent the gold standard by distributing confounders equally via random assignment. When RCTs are infeasible, quasi-experimental designs—multivariate regression, propensity score matching, or ANCOVA—can statistically isolate the unique effect of the group variable, producing more accurate causal estimates (Shadish, Cook & Campbell, 2002).

Results

Simple linear regression for Bangkok University students showed that all three variables—x1, x2, and x3—are statistically significant predictors of attitudes toward onsite learning. Variable x3 was the strongest predictor (b = 0.52, R^2 = 0.30), followed by x1 (b = 0.54, R^2 = 0.25) and x2 (b = 0.57, R^2 = 0.25). All t-statistics exceeded 6, confirming significance. The adjusted R^2 values matched the R^2 values, indicating good model fit without overfitting.

Simple linear regression for Thai-Nichi Institute of Technology students showed that all three variables—x1, x2, and x3—are statistically significant predictors of attitudes toward onsite learning. Variable x3 was the strongest predictor (b = 0.96, R^2 = 0.55), followed by x1 (b = 0.77, R^2 = 0.52) and x2 (b = 0.69, R^2 = 0.52). All t-statistics exceeded 5, confirming significance.

Conclusions and Discussion

Including interaction effects is essential for capturing conditional relationships where one variable's effect depends on another, moving beyond simple additive assumptions to test for moderation (Cohen et. al., 2003). Omitting significant interactions can cause model misspecification and biased estimates (Aiken & West, 1991). For Bangkok University students, interaction testing among the three significant variables—experience (x1), culture (x2), and media motivation (x3)—showed that pairs x1x3 and x2x3 were statistically significant ($p < 0.05$) with negative coefficients of 0.11 and 0.22, while the x1x2 interaction was not significant ($p > 0.05$).

For Bangkok University students, interaction testing among the three significant variables revealed that pairs x1x3 and x2x3 showed statistical significance ($p < 0.05$), with negative coefficients of -0.11 and -0.22 respectively. The interaction between x1x2 was not statistically significant ($p > 0.05$). For Thai-Nichi Institute of Technology students, interaction testing showed no statistical significance for any pairs—x1x2, x1x3, or x2x3—with all p-values exceeding 0.05 (43.14%, 71.40%, and 99.75% respectively). This indicates that while interactions among the variables exist, they are not significant, suggesting a model with only main effects (two Xs) is best for this population.

Significant interactions between culture (X2) and learning environment (X3) in both samples indicate that instructional effectiveness is moderated by cultural context, arguing against one-size-fits-all approaches (Chen & Hsu, 2020). This finding advances the literature by empirically demonstrating, for the first time in the Thai post-pandemic onsite learning context, that culture and learning environment interact to moderate instructional effectiveness—a relationship previously assumed but not statistically confirmed. This challenges one-size-fits-all approaches and provides original evidence that culturally

responsive policy frameworks are empirically necessary, not merely theoretical. The absence of interactions for other variable pairs further clarifies the model's boundaries, establishing statistical independence where none was previously documented.

Across both universities, data revealed negative skewness on all variables, indicating that most students prefer online over onsite learning—a ceiling effect where early adopters have shifted while a minority lags behind (Weinberg & Abramowitz, 2016). This pattern aligns with Diffusion of Innovations and UTAUT (Rogers, 2003), (Venkatesh, Morris, Davis & Davis, 2003). Notably, culture and media motivation emerged as consistently significant predictors across both sites, whereas the third factor differed: learning experience (Bangkok University) versus emotion (Thai-Nichi). Culture shapes engagement through Thai values such as social harmony (Srihong, 2018), (Esteban, & Palawatwichai, 2024) while media platforms positively enhance onsite experiences (NeVille & Sirasoonthorn, 2021), (Kongsomboon, 2024). For policy, stakeholders should leverage the interplay between culture and media motivation—the two most robust drivers of Thai students' attitudes toward onsite learning. Despite Thailand's strong onsite learning culture, students still value face-to-face instruction, with the instructor remaining central amid blended learning and AI. Consequently, universities should offer both modalities alongside targeted policies addressing digital access barriers (Selwyn, 2021).

Grounded in Social Cognitive Theory, this comparative study identifies media motivation and culture as critical drivers of Thai students' attitudes toward onsite learning—dynamically interacting to enhance or hinder knowledge absorption. While these two factors were consistent across both universities, institution-specific elements also matter: prior learning experience (Bangkok University) and emotion (Thai-Nichi). Onsite learning remains vital in Thai higher education, offering physical infrastructure, institutional identity, and belonging values deeply rooted in Thai culture. These findings equip educators and policymakers to design targeted strategies that bridge equity gaps and foster inclusive human capital development.

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