

## Bridging Pedagogy and Skills: Student-Centered Learning and Human-Centered Competencies in International Schools in Phnom Penh, Cambodia

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### ABSTRACT

*This study examined the extent of student-centered learning (SCL) strategies and the manifestation of human-centered competencies (HCC) among secondary students in selected international schools in Phnom Penh, Cambodia. Employing a descriptive-correlational design, data were gathered from 77 secondary school teachers using a researcher-developed questionnaire assessing the five SCL dimensions: collaborative, inquiry-based, problem-based, active, and differentiated instruction; and the five HCC domains: critical thinking, creativity, communication, collaboration, and socio-emotional skills. Findings revealed that all SCL strategies were implemented at a high level (overall  $M = 3.98$ ), with problem-based learning rated highest. All HCC domains were also observed at high levels (overall  $M = 3.76$ ), with collaboration strongest and creativity weakest. A significant positive relationship was established between overall SCL utilization and HCC manifestation ( $r_s = 0.410$ ,  $p < .001$ ). Differentiated instruction showed the strongest correlation with overall HCC, and active learning was the most broadly associated strategy across all five competency domains. Teacher profile variables, specifically years of teaching experience in Cambodia and participation in professional training, were significantly associated with SCL implementation. The study concludes that while international schools in Phnom Penh consistently apply student-centered approaches, creativity-focused strategies remain underutilized. A six-week capacity-building program was proposed to enhance teacher practice and support the integration of SCL strategies and HCC development in classroom instruction.*

**Keywords:** student-centered learning, human-centered competencies, international schools, Cambodia, capacity-building

### INTRODUCTION

The rapid advancement of artificial intelligence and automation has significantly reshaped the global labor market, influencing how education prepares learners for future demands. As routine cognitive tasks become increasingly automated, attention has shifted toward the kinds of competencies students need to develop in school. Both the World Economic Forum (2023) and the Organization for Economic Co-operation and Development (2019) emphasized the importance of critical thinking, creativity, communication, collaboration, and socio-emotional abilities; competencies that require human judgment, interaction, and adaptability and cannot be easily replicated by machines. In this study, these are referred to collectively as human-centered competencies (HCC).

Despite the recognized importance of HCC, these competencies do not always develop naturally in classroom settings. In many classrooms, teaching continues to rely on lecture-based methods, where students listen, take notes, and prepare for examinations. While effective for certain types of learning, this approach does not consistently promote active participation or deeper thinking, thereby limiting opportunities for higher-order competency development (Theobald et al., 2020). This situation illustrated why student-centered learning (SCL), a pedagogical approach in which the teacher acted as a guide rather than a primary transmitter of information, was considered essential. In SCL environments, students were encouraged to ask questions, participate in discussions, work collaboratively, and apply what they had learned (Bremner, 2021).

SCL is grounded in constructivist learning theory. Vygotsky's (1978) Zone of Proximal Development explains why instructional scaffolding facilitates knowledge construction in collaborative settings, while Piaget's (1954) work emphasizes that learners construct understanding through active engagement with new problems. In classroom practice, SCL is operationalized through five instructional strategies: collaborative learning, inquiry-based learning, problem-based learning, active learning, and differentiated instruction (Hadwin et al., 2018; Lazonder & Harmsen, 2016; Theobald et al., 2020; Tomlinson, 2017).

Cambodia had made formal commitments to SCL through the Education Strategic Plan 2019-2023 and the Secondary Education Blueprint 2030 (Ministry of Education, Youth and Sport, 2019; Asian Development Bank, 2024). Yet classroom practice often remained teacher-centered, with instruction focused on curriculum completion and examination preparation (World Bank, 2023). International schools in Phnom Penh represented a distinct educational context: they followed internationally recognized curricula such as International Baccalaureate, Cambridge, and American-based frameworks, had access to greater resources, and were generally expected to employ student-centered approaches. However, the assumption that these schools consistently implemented SCL strategies effectively had not been empirically examined.

Based on the researcher's professional experience in the international school sector in Phnom Penh, variability was observed in how SCL strategies were implemented across classrooms. In some, lecture-based instruction remained predominant; in others, students were actively engaged in the learning process (Ke & Neak, 2024). This variability, alongside the gap between policy and practice documented by the World Bank (2023), provided the rationale for the present study.

## Statement of the Problem

This research study therefore aimed to examine the relationship between student-centered learning strategies (SCL) and human-centered competencies (HCC) among secondary students in selected international schools in Phnom Penh, Cambodia. More specifically, it sought to answer the following questions:

1. What is the profile of the teachers in selected international schools in Phnom Penh, Cambodia?
2. What is the level of utilization of student-centered learning strategies implemented by teachers?
3. What is the level of manifestation of the human-centered competencies of secondary students as perceived by teachers?
4. Is there a significant relationship between the level of utilization of student-centered learning strategies implemented by teachers and the level of manifestation of the human-centered competencies of secondary students in selected international schools in Phnom Penh, Cambodia?
5. Is there a significant relationship between the level of utilization of student-centered learning strategies implemented by teachers and their profile variables?
6. What capacity-building program for teachers can be proposed based on the results of the study?

In light of these questions, the study was undertaken to provide empirical evidence on how student-centered learning strategies related to the development of human-centered competencies among secondary students in international schools in Phnom Penh. The findings were expected to inform school leaders, teachers, curriculum designers, policymakers, and researchers in strengthening instructional practices and designing a capacity-building program to support the effective implementation of student-centered learning in diverse educational contexts.

### Scope and Delimitations

The study was conducted in selected international schools in Phnom Penh, Cambodia, focusing on secondary school teachers handling Grades 6 to 12. It examined five student-centered learning (SCL) strategies such as collaborative, inquiry-based, problem-based, active, and differentiated instruction, and five human-centered competencies (HCC) including critical thinking, creativity, communication, collaboration, and socio-emotional skills. Data were based

on teacher perceptions of student participation and classroom practices, reflecting observed competences rather than directly measured student performance.

The study is delimited to teacher-respondents in international secondary schools and does not include public schools or other educational settings. While statistical techniques were used to determine associations among variables, the design was descriptive-correlational and did not establish cause-and-effect relationships. Other factors such as school leadership, curriculum design, and student background were not included. **Findings, therefore, represent perceived competencies within the selected schools and may not be generalized to broader contexts.**

## Review of Related Literature

### *Student-Centered Learning Strategies*

Student-centered learning (SCL) shifts the focus of instruction from the teacher to the learner. Bremner (2021) described SCL as a pedagogical orientation in which students take an active role in constructing knowledge through inquiry, collaboration, and application, while the teacher functions primarily as a facilitator who structures and supports that process. In this framework, content serves not as an end in itself but as a vehicle for developing students' capacity to think, question, and apply knowledge.

Collaborative learning draws from Vygotsky's (1978) social theory of cognition. Hadwin et al. (2018) demonstrated that effective collaboration involved co-regulation, where students collectively monitor shared understanding. This is a particularly demanding and important skill in multicultural classrooms where diverse language backgrounds and prior experiences shaped the quality of peer interaction.

Inquiry-based learning develops understanding through questioning, investigation, and evidence-based reasoning. Lazonder and Harmsen's (2016) meta-analysis of 72 studies found that scaffolded inquiry consistently outperformed direct instruction on critical thinking, problem-solving, and knowledge transfer. Similarly, Howe (2023) extended this finding, showing that classroom dialogue became more productive specifically when teachers actively structured and guided student interaction, not merely when students were given opportunities to talk.

Problem-based learning engages students in solving real-world or contextualized problems as the primary vehicle for learning. Yew and Goh (2016) noted that this structure promotes deep learning by requiring students to integrate knowledge across subject areas and develop solutions through reasoning and collaboration. Zhang and Ma's (2023) meta-analysis of 66 studies confirmed significant positive effects of critical thinking, creativity, collaboration, and communication, with the strongest effects on creative thinking.

Active learning refers to any instructional approach that requires students to think actively and engage with content during lessons. Theobald et al. 's (2020) review of 231 studies confirmed that active learning consistently outperforms conventional lecturing, with the most pronounced advantages for students historically underserved by traditional instruction. Differentiated instruction, as described by Tomlinson (2017), responds to the diversity of learner readiness, interests, and prior knowledge by varying content, process, and product. Ziernwald et

al. (2022) found positive effects on both academic achievement and motivation, while Pozas et al. (2021) reported that it was also significantly associated with students' sense of social inclusion.

### *Human-Centered Competencies*

The HCC examined in this study draw from several internationally recognized frameworks. The Partnership for 21st Century Skills [P21] (2019) identified critical thinking, creativity, communication, and collaboration as the foundational competencies. The Collaborative for Academic, Social, and Emotional Learning [CASEL] (2020) provided a structured framework for the fifth domain, socio-emotional skills. The Organisation for Economic Co-operation and Development Learning Compass 2030 (2019) emphasized student agency and transformative competencies as essential orientations for navigating complex futures, while the World Economic Forum (2023) has consistently identified these competencies among the most valued capabilities in contemporary labor markets.

In the Cambodian context specifically, Boun et al. (2020) conducted a multilevel confirmatory factor analysis validating the four Cs: critical thinking, creativity, communication, and collaboration, as a reliable and internally coherent construct among undergraduate students in Cambodia, providing direct methodological support for the framework adopted in the present study. Ke and Neak's (2024) comparative study further showed that collaboration, creativity, and problem-solving differed significantly by school type in Cambodia, affirming the institutional context shapes competency development.

The research literature documents consistent positive associations between SCL strategies and HCC development. Cipriano et al. (2023), in a contemporary meta-analysis of 424 studies, confirmed significant and sustained improvements in socio-emotional competencies when embedded within student-centered instruction. These findings are further supported by Mahoney et al. (2021), whose updated research on school-based programs reinforces the conclusion that structured collaborative environments substantially improve social and emotional functioning.

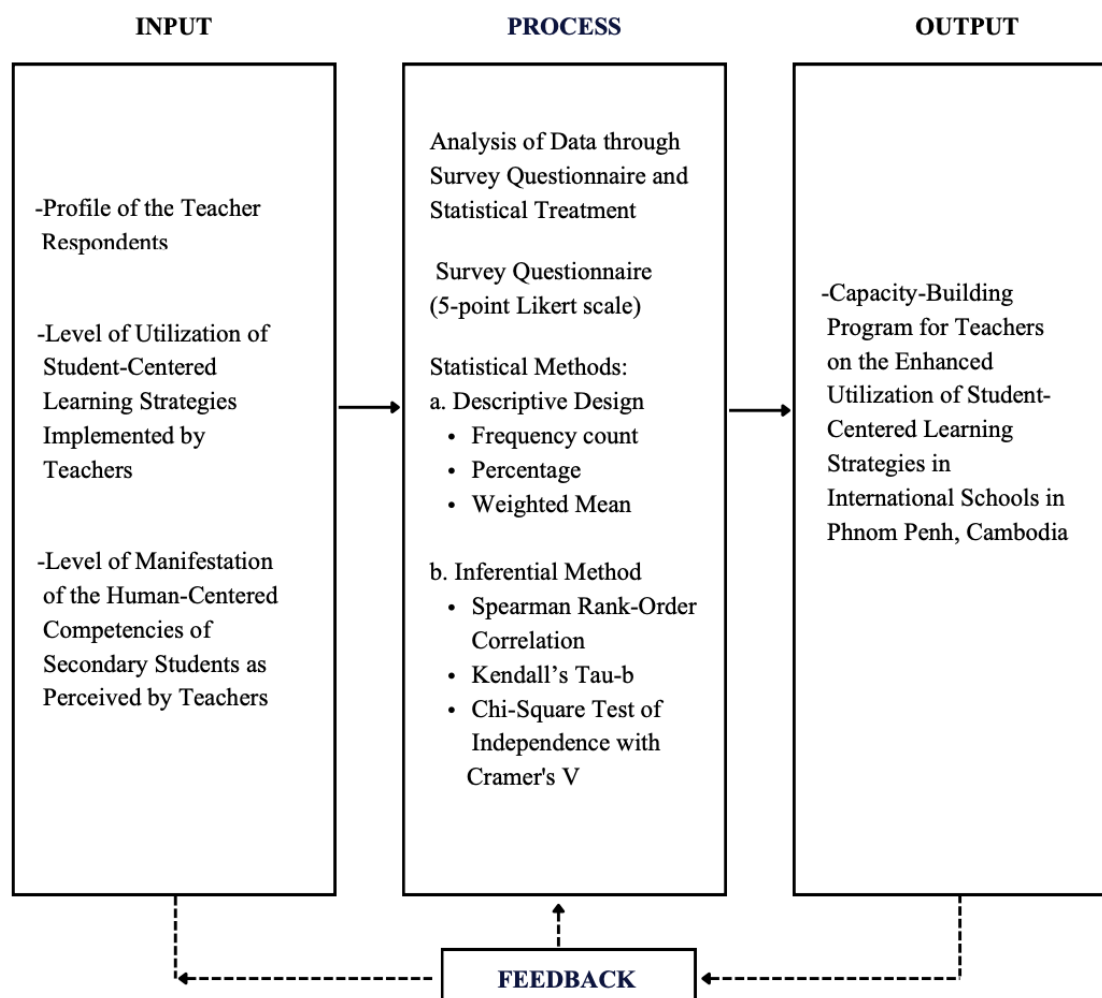
### **Theoretical Framework**

This study is anchored on constructivist learning theory and self-determination theory, supported by experiential, social, and situated learning perspectives. Constructivist theory emphasizes that learners actively construct knowledge through interaction with their environment, with Vygotsky's Zone of Proximal Development highlighting the role of scaffolding and collaboration, and Piaget underscoring the reorganization of knowledge through problem-solving. These perspectives are reflected in strategies such as collaborative, inquiry-based, and problem-based learning, which encourage students to question, reflect, and build deeper understanding. Kolb's (1984) experiential learning cycle further explains how active engagement, reflection, and application are embedded in student-centered approaches, while Bandura's (1977) social learning theory and Lave and Wenger's (1991) situated learning theory

highlight the importance of peer interaction and authentic contexts in developing communication, collaboration, and socio-emotional skills.

Complementing these perspectives, self-determination theory (Ryan & Deci, 2020) explains how autonomy, competence, and relatedness sustain intrinsic motivation in learning environments. In this study, autonomy is supported through differentiated instruction and learner choice; competence through active, problem-based tasks; and relatedness through collaborative learning and classroom interaction. Taken together, these theories provide the foundation for examining how student-centered learning strategies such as collaborative, inquiry-based, problem-based, active, and differentiated instruction are associated with the development of human-centered competencies, including critical thinking, creativity, communication, collaboration, and socio-emotional skills.

## Conceptual Framework



## METHODOLOGY

This section presents the methodological framework used to examine the relationship between student-centered learning (SCL) strategies and human-centered competencies (HCC) in selected international schools in Phnom Penh, Cambodia. It begins with the research design and steps undertaken, followed by data collection and sample selection. The statistical methods of analysis are then outlined, together with the hypotheses tested and their validation. Finally, the section discusses the study's limitations and the ethical considerations observed throughout the research process.

## Research Design

This study employed a quantitative descriptive-correlational design. The descriptive component was used to determine the level of SCL strategy utilization and HCC manifestation as they naturally occur in the selected international school context, without intervention or manipulation (Creswell & Creswell, 2018). The correlational component examined the nature and strength of relationships between the study's variables. Because data were gathered at a single point in time and no conditions were manipulated, findings describe associations between variables rather than cause-and-effect relationships.

## Research Steps

The research process began with obtaining permission from school administrators, followed by distributing the survey questionnaire via Google Forms. Respondents were provided with informed consent outlining the study's purpose, voluntary nature of participation, and confidentiality of responses. Completed data were collected, organized, and prepared for statistical analysis.

## Data Collection and Sample Selection

The study was conducted within the international school sector of Phnom Penh, Cambodia, comprising approximately 68 international schools serving multinational expatriate communities and professional Cambodian families (International School Consultancy Research, 2023). The respondents were secondary school teachers (Grades 6-12) who met the following criteria: (a) employed full-time with primary classroom instructional responsibilities, (b) had taught at their school for at least one academic year, and (c) regularly handled at least one secondary-level subject. Administrative staff, teaching assistants, and part-time or substitute teachers were excluded. Using total population sampling (Fraenkel & Wallen, 2023), resulting in a final sample of 77 teacher-respondents.

## Data Analysis Methods

Frequency counts and percentages were used to describe respondent profiles. Weighted means were computed for SCL utilization and HCC manifestation, interpreted using scale ranges (4.51 - 5.00 = Very High; 3.51 - 4.50 = High; 2.51 - 3.50 = Moderate; 1.51 - 2.50 = Low; 1.00 - 1.50 = Very Low). Spearman's rank-order correlation ( $r_s$ ), was used to determine the

relationships between SCL utilization and HCC manifestation. Kendall's Tau-b correlation was used for ordinal profile variables (age, educational attainment, teaching experience, and training attended), and the chi-square test of independence with Cramer's V coefficient was used for nominal profile variables (gender, marital status, degree, and specialization). All tests were evaluated at the  $\alpha = .05$  significance level.

## Research Hypotheses and Validation

The study hypothesized that no significant relationships existed between the use of student-centered learning (SCL) strategies and the manifestation of human-centered competencies (HCC), and between teacher profile variables and SCL implementation.

Findings, however, indicated otherwise. Spearman rank-order correlation revealed a clear and positive association between overall SCL utilization and HCC manifestation. These results reject the null hypothesis and affirm that intentional and consistent application of SCL strategies directly supports competency development.

Analysis of teacher profile variables further validated the second hypothesis. and Years of teaching experience in Cambodia and participation in professional training were significantly associated with higher SCL utilization. Age and highest educational attainment showed no meaningful relationships, retaining their null hypotheses. For nominal variables, marital status and bachelor's degree type registered significant but weak associations, while gender and specialization had none. These findings underscored that professional development and contextual teaching experience, rather than demographic or academic credentials alone, are the most meaningful factors in sustaining student-centered instruction.

## Study Limitations and Ethical Considerations

The study was delimited to teacher-respondents in selected international schools in Phnom Penh, Cambodia, and did not include public schools or other educational settings. While statistical techniques were used to determine associations among variables, the design was descriptive-correlational and did not establish cause-and-effect relationships. Other factors such as school leadership, curriculum design, and student background were not included.

Ethical protocols were strictly observed. Informed consent was obtained from all participants; participation was voluntary, and respondents were assured of their right to withdraw at any stage without penalty. Confidentiality was maintained by anonymizing responses and excluding personally identifiable information. Data were used solely for academic purposes, and findings were reported in aggregate form to protect individual privacy.

## RESULTS AND DISCUSSION

### SOP 1. Profile of Teacher-Respondents

The 77 teacher-respondents represented a professionally diverse group. The majority (65.0%) fell within the mid-career age range of 31 to 50 years. Female teachers constituted the majority (57.1%), and most respondents were married (51.9%). In terms of educational attainment, 54.5% held college-level degrees and 45.5% held master's-level degrees. Secondary education was the most common undergraduate background (67.5%), and English Language was the most frequent specialization (32.5%), followed by Science (18.2%) and Mathematics (16.9%). Teaching experience in Cambodia was most concentrated in the two-to-five year range (31.2%), and 40.3% had attended 5-10 relevant training programs or seminars.

This profile suggests that the teaching workforce is professionally prepared, moderately experienced, and actively engaged in ongoing development, providing a solid foundation for implementing student-centered learning strategies.

### SOP 2. Level of Utilization of Student-Centered Learning Strategies

Table 1 presents the summary of SCL strategy utilization across all five dimensions. All five dimensions were implemented at a High Utilization level, with an overall mean of 3.98. Problem-based learning obtained the highest mean ( $M = 4.04$ ), followed by differentiated instruction ( $M = 4.00$ ), collaborative learning ( $M = 3.98$ ), and inquiry-based learning ( $M = 3.97$ ). Active learning had the lowest mean dimension ( $M = 3.94$ ), though still within the High Utilization range. Within individual items, the single item rated at Moderate Utilization ( $M = 3.48$ ) was the use of debates, role plays, or structured discussions, an item under active learning.

**Table 1:** Summary of the Level of Utilization of Student-Centered Learning Strategies Implemented by Teachers

| SCL Strategy Domain        | Mean | Description      |
|----------------------------|------|------------------|
| Collaborative Learning     | 3.98 | High Utilization |
| Inquiry-Based Learning     | 3.97 | High Utilization |
| Problem-Based Learning     | 4.04 | High Utilization |
| Active Learning            | 3.94 | High Utilization |
| Differentiated Instruction | 4.00 | High Utilization |
| Overall Mean               | 3.98 | High Utilization |

**Note. Scale:** 4.51 – 5.00 Very High Utilization; 3.51 – 4.50 High Utilization; 2.51 – 3.50 Moderate Utilization; 1.51 – 2.50 Low Utilization; 1.00 – 1.50 Very Low Utilization

These findings indicated that teachers in the selected international schools consistently implemented SCL strategies across all five dimensions, though interactive discourse formats such as debates and role-plays remain a challenge. The relatively narrow range of means (3.95-4.04) suggested a broadly coherent instructional culture, consistent with Bremner's (2021) characterization of student-centered teaching as a fundamental shift in classroom orientation rather than the adoption of isolated techniques.

### SOP 3. Level of Manifestation of Human-Centered Competencies

Table 2 presents the summary of HCC manifestation across all five domains. All five domains were observed at a High Manifestation level, with an overall mean of 3.76. Collaboration obtained the highest mean at 3.87, followed by critical thinking at 3.79, socio-emotional skills at 3.73, communication at 3.71, and creativity at 3.68.

**Table 2:** Summary of the Level of Manifestation of the Human-Centered Competencies of Secondary Students as Perceived by Teachers

| HCC Domain             | Mean | Description        |
|------------------------|------|--------------------|
| Critical Thinking      | 3.79 | High Manifestation |
| Creativity             | 3.68 | High Manifestation |
| Communication          | 3.71 | High Manifestation |
| Collaboration          | 3.87 | High Manifestation |
| Socio-Emotional Skills | 3.73 | High Manifestation |
| Overall Mean           | 3.76 | High Manifestation |

**Note. Scale:** 4.51 – 5.00 Very High Manifestation; 3.51 – 4.50 High Manifestation; 2.51 – 3.50 Moderate Manifestation; 1.51 – 2.50 Low Manifestation; 1.00 – 1.50 Very Low Manifestation

Collaboration ranked highest, consistent with the multicultural environments of the selected schools where peer interaction across linguistic and cultural boundaries was a regular feature of classroom life. Creativity ranked lowest, reflecting the greater difficulty of observing creative behaviors in structured academic settings, particularly in schools where curricula were aligned with externally assessed standards such as IB or Cambridge (Beghetto & Kaufman, 2020).

#### SOP 4. Relationship Between SCL Utilization and HCC Manifestation

Table 3 presents the Spearman rank-order correlation results between SCL strategy dimensions and HCC domains. The overall level of SCL utilization showed a statistically significant positive relationship with the overall level of HCC manifestation ( $r_s = 0.410$ ,  $p < .001$ ), confirming the central hypothesis of this study. The null hypothesis that no significant relationship exists between the overall level of SCL utilization and the HCC manifestation is therefore rejected.

**Table 3:** Relationship Between Student-Centered Learning Strategy Utilization and Human-Centered Competency Manifestation (Spearman's  $r_s$ )

| SCL Strategy               | Critical Thinking | Creativity     | Communication  | Collaboration  | Socio-Emotional | Overall HCC    |
|----------------------------|-------------------|----------------|----------------|----------------|-----------------|----------------|
| Collaborative Learning     | 0.192             | <b>0.284*</b>  | 0.162          | 0.207          | 0.138           | 0.216          |
| Inquiry-Based Learning     | 0.219             | <b>0.475**</b> | <b>0.267*</b>  | <b>0.361**</b> | 0.149           | <b>0.351**</b> |
| Problem-Based Learning     | <b>0.263*</b>     | <b>0.426**</b> | <b>0.286*</b>  | <b>0.380**</b> | 0.208           | <b>0.353**</b> |
| Active Learning            | <b>0.304**</b>    | <b>0.510**</b> | <b>0.310**</b> | <b>0.358**</b> | <b>0.266*</b>   | <b>0.392**</b> |
| Differentiated Instruction | <b>0.353**</b>    | <b>0.466**</b> | <b>0.310**</b> | <b>0.430**</b> | <b>0.231*</b>   | <b>0.425**</b> |
| Overall SCL                | <b>0.311**</b>    | <b>0.504**</b> | <b>0.298**</b> | <b>0.402**</b> | <b>0.231*</b>   | <b>0.410**</b> |

**Note.** \* $p < .05$ . \*\* $p < .01$ . The overall HCC correlation for collaborative learning ( $r_s = 0.216$ ,  $p = .059$ ) was not statistically significant.

Among the SCL dimensions, differentiated instruction demonstrated the strongest correlation with overall HCC ( $r_s = 0.425$ ,  $p < .001$ ), followed by active learning ( $r_s = 0.392$ ,  $p < .001$ ), problem-based learning ( $r_s = 0.353$ ,  $p = .002$ ), and inquiry-based learning ( $r_s = 0.351$ ,  $p = .002$ ). Collaborative learning showed the weakest associations overall, reaching significance only with creativity ( $r_s = 0.284$ ,  $p = .012$ ); its correlation with overall HCC was not statistically significant. Active learning was the only strategy significantly related to all five HCC dimensions, making it the most broadly associated SCL strategy. Among the HCC dimensions, creativity consistently showed the strongest correlations with all SCL strategies ( $r_s$  range: 0.284 - 0.510), suggesting that student-centered instructional activities particularly support the development of original thinking and intellectual risk-taking.

These results confirmed that intentional and consistent use of SCL strategies was directly associated with competency development, with creativity emerging as the most responsive domain and active learning the most broadly influential strategy.

### SOP 5. Relationship Between Teacher Profile and SCL Utilization

Among the ordinal profile variables tested using Kendall's Tau-b, the number of relevant training or seminars attended demonstrated the strongest and consistent significant associations with SCL utilization, with significant relationships observed for collaborative learning ( $\tau_B = 0.299$ ,  $p = .001$ ), problem-based learning ( $\tau_B = 0.228$ ,  $p = .012$ ), active learning ( $\tau_B = 0.252$ ,  $p = .005$ ), and the overall SCL mean ( $\tau_B = 0.239$ ,  $p = .006$ ). The number of years of teaching experience in Cambodia also showed a significant relationship with overall SCL utilization ( $\tau_B = 0.186$ ,  $p = .031$ ) and active learning ( $\tau_B = 0.180$ ,  $p = .042$ ). Age and highest educational attainment showed no significant associations with any SCL dimension; their null hypotheses are retained.

Among nominal profile variables tested using chi-square, marital status showed a significant association with collaborative learning ( $\chi^2 = 6.472$ ,  $p = .039$ ; Cramer's  $V = .302$ ), and bachelor's degree type showed significant associations with collaborative learning ( $\chi^2 = 6.311$ ,  $p = .043$ ;  $V = 0.286$ ) and the overall SCL mean ( $\chi^2 = 6.014$ ,  $p = .049$ ;  $V = 0.274$ ). The Cramer's  $V$  values indicated weak practical associations despite statistical significance. Gender, highest educational attainment, and specialization showed no significant relationships.

These findings underscored that professional development and contextual teaching experience were the most meaningful factors associated with SCL implementation, while demographic and academic credentials alone did not determine instructional quality.

### SOP 6. Proposed-Capacity Building Program

Based on the findings, a six-week capacity building program was proposed to enhance teacher practice and support the integration of SCL strategies with HCC development. The program emphasizes differentiated instruction and active learning, with targeted modules on creativity-focused strategies, collaborative discourse facilitation, and professional training workshops.

This program directly addresses the instructional gaps identified, particularly the underutilization of creativity-focused strategies and the challenges of facilitating structured discussions in diverse classrooms.

## SUMMARY

The study examined the extent of student-centered learning (SCL) strategies utilization and the manifestation of human-centered competencies (HCC) among secondary students in selected international schools in Phnom Penh, Cambodia. Results revealed that all five SCL strategies such as collaborative, inquiry-based, problem-based, active, and differentiated instruction were implemented at a high level, with problem-based learning rated highest. All five HCC domains such as critical thinking, creativity, communication, collaboration, and socio-emotional skills were likewise documented at a high level of manifestation, with collaboration strongest and creativity weakest.

Correlation analysis confirmed a significant positive relationship between overall SCL utilization and HCC manifestation, with differentiated instruction showing the strongest association and active learning broadly linked across all competency domains. Teacher profile variables, particularly years of teaching experience in Cambodia and participation in professional training, were significantly related to SCL implementation. These findings highlight that while international schools consistently apply student-centered approaches, creativity-focused strategies remain underutilized, underscoring the need for targeted capacity-building programs to strengthen instructional practices and enhance competency development.

## CONCLUSION

This research study established that student-centered learning (SCL) strategies were consistently implemented at a high level, with problem-based learning rated highest. Human-centered competencies were also documented at a high level across all five domains, with collaboration most consistently observed and creativity the least. A significant positive relationship was confirmed between overall SCL utilization and HCC manifestation; differentiated instruction demonstrated the strongest correlation with overall HCC, and active learning was uniquely associated with all five competency domains. Teacher profile variables, particularly participation in professional training and years of teaching experience in Cambodia, were significantly associated with SCL implementation.

These conclusions affirmed that professional development and contextual teaching experience were the most meaningful factors associated with effective SCL practice, while creativity-focused strategies require greater emphasis to ensure balanced competency development among students.

## RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. Strengthen the integration of creativity-focused strategies within student-centered learning (SCL) to address the weakest competency domain, so that students develop originality and innovation alongside collaboration and critical thinking.
2. Provide continuous professional development and training programs for teachers, emphasizing differentiated instruction and active learning approaches. Such training will sustain high levels of SCL implementation and broaden its impact across all HCC domains.
3. Encourage school leaders to institutionalize SCL practices across curricula, ensuring consistency in implementation. Embedding SCL structurally will prevent variability and ensure equitable learning experiences across classrooms.
4. Develop and implement a six-week capacity-building program to enhance teacher practice and support the integration of SCL strategies with HCC development. This program directly addresses the instructional gaps identified, particularly the underutilization of creativity-focused strategies.
5. Conduct further research on the relationship between SCL strategies and HCC in diverse international school contexts to validate and extend findings of this study. Replication across other international school settings in Southeast Asia would strengthen the evidence base and inform broader application of student-centered approaches.

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## AI DECLARATION STATEMENT

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

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