

តាលិកមេត្រស្រាវជាវមនុស្សសាស្ត្រនិជីវិទ្យាសាស្ត្រសន្ត័ម

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Determining Cambodian University Students' Perceptions of Lecturers' Pedagogical Content Knowledge

អាស៊េត្យអំពីឧស្សនៈនិស្សិតកម្ពុជាលើចំណេះដ៏ខត្តក្រោសល្យមេស់ គ្រុមច្រៀននៅសកលទន្យាល័យ

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ABSTRACT

While teacher professional development is all-important, research on students' perceptions of their teachers' pedagogical content knowledge (PCK) has drawn many educational researchers to explore it since PCK has a role in effective teaching. This article reported on a study examining how university students in Cambodia viewed the pedagogical content understanding of their English lecturers. The research setting was a private university situated in Phnom Penh, Cambodia. The samples were Cambodian EFL students majoring in English in 2023–2024. The researcher collected data using a slightly adapted five-level Likert-scale questionnaire from 150 students. This research used small data sets and revealed that the students perceived their lecturers' PCK as high. Among the four subconstructs of PCK, Subject Matter Knowledge (SMK) received the highest rating, followed by Instructional Objective and Context (IOC), Instructional Representation and Strategies (IRS), and Knowledge of Students' Understanding (KSU), respectively. Additionally, a difference in PCK scores between males and females was not found. Related to the student's perception of PCK based on year levels, another result indicated no statistically significant difference among the three-year levels: first-year students, sophomores, and juniors.

KEYWORDS: pedagogical content knowledge, English students, year levels

អទ្ធិដ្ឋន័យ

ខណៈការអភិវឌ្ឍអាជីពគ្រូបង្រៀនមានសារៈសំខាន់ខ្លាំង ការសិក្សាស្រាវជ្រាវពីទស្សនៈយល់ឃើញរបស់សិស្សលើចំណេះដឹង គរុកោសល្យ (PCK) បានទាក់ទាញអ្នកស្រាវជ្រាវអប់រំជាច្រើនក្នុងការសិក្សា ដោយសារ PCK មានតួនាទីនាំឱ្យការបង្រៀន ប្រកបដោយប្រសិទ្ធភាព។ អត្ថបទនេះបង្ហាញពីការសិក្សាមួយដែលស្វែងរកថាតើនិស្សិតសកលវិទ្យាល័យក្នុងប្រទេសកម្ពុជាគិត បែបណាទាក់ទងនិងការយល់ដឹងលើគរុកោសល្យរបស់គ្រូកាសាអង់គ្លេសរបស់ពួកគេ។ បរិបទនៃការស្រាវជ្រាវនេះគឺនៅសកល វិទ្យាល័យឯកជនមួយមានទីតាំងនៅក្នុងទីក្រុងភ្នំពេញ ប្រទេសកម្ពុជា។ សំណាកស្រាវជ្រាវជាក្រុមនិស្សិតកម្ពុជាកំពុងសិក្សា ជំនាញភាសាអង់គ្លេសក្នុងឆ្នាំសិក្សា២០២៣-២០២៤។ អ្នកស្រាវជ្រាវបានប្រមូលទិន្នន័យពីនិស្សិតសរុបចំនួន១៥០នាក់ ដោយ ប្រើប្រាស់កម្រងសំណួរដែលប្រើប្រាស់រង្វាស់ទិន្នន័យលីកឃើត (Likert Scale) ដែលមានប្រាំកម្រិត។ ការសិក្សានេះបានប្រើប្រាស់កម្រងសំណួរដែលប្រើប្រាស់រង្វាស់ទិន្នន័យលីកឃើត (Likert Scale) ដែលមានប្រាំកម្រិត។ ការសិក្សានេះបានប្រើប្រាស់គូនន័យខ្នាតតូច នឹងបានបង្ហាញថា និស្សិតដែលបានចូលរួមក្នុងការសិក្សានេះយល់ឃើញថាចំណេះដឹងគុកោសល្យរបស់គ្រូបង្រៀនរបស់ពួកគេមានកម្រិតខ្ពស់។ ក្នុងចំណោមអប់បទ្រឹស្តីរង់(sub-construct)ទាំងបួននៃ PCK ទស្សនៈនិស្សិត ទៅលើចំណេះដឹងមុខវិជ្ជាសិក្សា (SMK) របស់គ្រូមានកម្រិតខ្ពស់ជាងគេបង្អស់និងបន្តតាមលំដាប់ដោយ គោលបំណងនៃការ បង្រៀននិងបរិបទ (IOC) លក្ខណៈនៃការបងៀននិងយុទ្ធសាស្ត្រ (IRS) និងចំណេះដឹងលើការយល់ដឹងរបស់សិស្ស (KSU)។ លើសពីនេះ លទ្ធផលការស្រាវជ្រាវមិនបានបង្ហាញពីភាពខុសគ្នារវាងទស្សនៈរបស់និស្សិតស្ត្រីនិងនិស្សិតប្រុសនោះទេទៅលើ ចំណេះដឹងកុកោសល្យរបស់គ្រូ។ ទាក់ទងនិងការយល់ឃើញរបស់និស្សិតផ្អែកលើកត្តាកម្រិតឆ្នាំសិក្សា លទ្ធផលក៏បានបង្ហាញពីភាពមិនខុសគ្នានៃទស្សនៈនិស្សិតដែលកំពុងសិក្សានៅក្នុងឆ្នាំទី១ ឆ្នាំទី២ និងឆ្នាំទី៣។

ពាក្យគន្លឹះ: ចំណេះដឹងគរុកោសល្យ, និស្សិតភាសាអង់គ្លេស, កម្រិតឆ្នាំសិក្សា

1. INTRODUCTION

The idea of professional development for teachers has garnered more attention (Clarke & Hollingsworth, 2002). Professional development impacts effective teachers (Soine & Lumpe, 2013). Ample data supports the claim that teacher effectiveness significantly influences student accomplishment more than other factors related to the student's background or personal circumstances (Lumpe, 2007). In addition to subject matter knowledge of teachers, which is highly regarded (Sarkar et al., 2024) and their awareness of students' background knowledge and learning difficulties (Grossman, 1990), other elements for effective teachers include pedagogical strategies, familiarity with curriculum, educational setting, goal, and value (Shulman, 1987).

Pedagogical content knowledge (PCK), which is regarded as the foundation of teachers' knowledge in producing effective teachers, is one of the characteristics of effective instructors (Loughran et al., 2004; Abell & Lederman, 2007, as cited in Halim,

et al., 2013). It is particularly interesting because PCK identifies the distinct bodies of knowledge relevant to teaching. It is an awareness of how particular topics, problems, or situations are organized, represented, tailored to learners' interests and skill levels, and presented for instruction.

Shulman (1986) first presented the notion regarding teacher knowledge almost forty years ago. Content, pedagogy, curriculum, learners and learning, school environments, educational philosophies, goals and objectives, and PCK are the seven categories of teacher knowledge that Shulman (1987) established. PCK is considered the knowledge base for teaching. It is intersection of content and pedagogy (Shulman, 1987), which suggests that PCK refers to the ability of the teacher to know both what to teach and how to teach it.

PCK frameworks have become critical components in educational research conducted inside the school education system. In tertiary education, subject matter expertise of lecturers is greatly appreciated (Sarkar et al., 2024). As a result, curriculum and

teacher education researchers have turned their attention to studying these frameworks (Fraser, 2015).

Student perceptions can be used to measure teachers' PCK (Uner & Akkus, 2019). For instance, students' voices showed that a good teacher thoroughly understand the subject, explains things to students in an understandable way, makes the material engaging, provides frequent feedback, and goes above and beyond to assist students (Olson & Moore, 1984). Since it was first developed as professional information exclusive to teachers, PCK has been thoroughly studied (Kind, 2009). On the other hand, regarding foreign (FL) and second languages (L2), there is a dearth of studies on PCK (Even et al., 2016). Nonetheless, the PCK construct has also piqued EFL researchers' curiosity. Their investigations have added to or modified Shulman's fundamental theory of PCK in various ways (Faisal, 2020). This paper concentrated on PCK and its use in English instruction in Cambodian tertiary education settings.

Four categories, including content knowledge, pedagogic knowledge, PCK, and support knowledge, make up the foundational knowledge of L2 teacher education. PCK refers to the specialized knowledge of conveying content knowledge in various ways students can understand. It includes an understanding of how students learn a subject matter, potential challenges they may face, misconceptions that impede learning, and solutions to these issues (e.g., teaching English grammar, teaching EFL reading and writing skills) (Day & Conklin, 1992, as cited in Day, 1993).

A prerequisite for most Cambodian lecturers is likely their qualification in Cambodian higher education. It may vary due to the minimum criteria of each university. Mostly, a newly recruited lecturer must at least hold a master's degree in their specialized area and have teaching experience at the tertiary level. However, it remains unclear whether or not their teaching practice actively supports students' learning or is professionally qualified enough. Besides, the literature review revealed that few studies have found Cambodian students' perceptions of their lecturers' PCK.

This study aims to explore Cambodian university students' perceptions of EFL lecturers' pedagogical

content knowledge. The posted research questions are as follows:

- What are students' perceptions of their EFL lecturers' teaching knowledge in their classrooms?
- Do their perceptions differ among gender and year level?

This study employed the 'Assessing Students' Perceptions of College Teachers' PCK' survey as the research instrument (Jang et al., 2009). It was revised using Shulman's PCK (1986, 1987). In examining teachers' knowledge, the instrument's validity and reliability were also satisfactory (Jang et al., 2009). According to Jang et al. (2009), PCK comprises subject students' assessments of the teacher's understanding of the concepts and subject matter within the discipline, known as Subject Matter Knowledge (SMK). Instructional Representation and Strategies (IRS) describes how students interpret how much a teacher employs representational tools such as examples, metaphors, analogies, and explanations, as well as how they choose instructional strategies, such as informational technology, to support content learning. Instructional Objects and Context (IOC) refers to understanding the purpose and methodology of education. The interactive environment in the curriculum, instructors' attitudes, their understanding of classroom management, their familiarity with the school environment, and instructional values are all included in the IOC. College students' opinions of how much a teacher assesses their understanding before, during, and after interactive instruction, as well as after the conclusion of lessons and units, are referred to as Knowledge of Students' Understanding (KSU).

2. METHODOLOGY

The researcher used a quantitative research design for this small-scale investigation. All Cambodian EFL students majoring in English at a university participated in this survey. Nine classes were present during the research period, from year one to year three. One hundred fifty students from all the specified classes voluntarily participated in the data collection period. The total number of participants was 52 male and 98 female. Fifty-eight participants were freshmen, thirty-five sophomores, and fifty-seven juniors.

A questionnaire is the sole instrument in this study. The researcher slightly modified it from Jang et al.'s (2009). Shulman's PCK (1986, 1987) served as the original model for the instrument mentioned above. Jang et al. (2009) found that the validity and reliability of the knowledge assessment tool for teachers are adequate, and they also provided further recommendations for utilizing this revised instrument in future studies. Furthermore, the survey was unique because it focused only on college instructors' knowledge in the specific teaching and learning context. The questionnaire's main objective was to determine what university students thought of their EFL lecturers' PCK, SMK, IRS, IOC, and KSU. Contextually speaking, EFL lecturers refer to the ones who teach various compulsory English subjects, namely Core English, Writing Skills, Cultural Studies, and Literature Studies. There were seven items in each category. The survey used a five-point Likert scale of frequency. The five response options are: "1=Never," "2=Seldom," "3=Sometimes," "4=Often," and "5=Always."

The Google form survey was distributed to all classes. In addition to giving clear instructions, the researcher guaranteed that all survey responses would be kept private and utilized only for research. Each respondent filled out the questionnaire during the allotted forty minutes.

Descriptive statistics were used to give a general picture of how students perceived the EFL lecturers' level of PCK. These included computing means, standard deviations, and frequency distributions. Table 1 indicates the mean range for scoring interpretation of PCK level, which the researcher developed.

Table 1
Mean range for scoring interpretation

	I
Mean Range	Level of PCK
1.0-1.8	Very Low
1.9-2.7	Low
2.8-3.6	Moderate
3.7-4.5	High
4.6-5.0	Very High

Related to statistical validation, significant PCK, SMK, IRS, IOC, and KSU results indicated a deviation from normality by the Shapiro-Wilk test results in Table 2 below. Consequently, the Shapiro-

Wilk test results indicated that the Mann-Whitney test was later calculated to investigate the differences in how males and females perceive PCK. The Kruskal Wallis test was also analyzed to compare EFL students in years one, two, and three.

Table 2
Tests of normality

Variables	Shapiro-Wilk			
v arrables	Statistic	df	Sig.	
PCK	.959	150	.000	
SMK	.933	150	.000	
IRS	.955	150	.000	
IOC	.093	150	.000	
KSU	.95	150	.000	

a. Lilliefors Significance Correction

3. FINDINGS AND DISCUSSION

Students' Perceptions of EFL Lecturers' Teaching Knowledge

According to Table 3, the study's findings indicate that students perceived their EFL lecturers' total PCK was high (Mean = 4.22, SD = .509). Specifically, the results of their response on the PCK sub-constructs revealed that they had a similarly high level of SMK (Mean = 4.28, SD = .508), IOC (Mean = 4.27, SD)= .56), IRS (*Mean* = 4.18, SD = .57), and KSU (Mean = 4.15, SD = .59), respectively. As seen in Table 3 results, the students considered their lecturers' SMK, IOC, IRS, and KSU good and positive. Specifically, the average student evaluations over IRS, IOC, and KSU were slightly lower than those of SMK. Gehrtz et al. (2022) indicated that university lecturers often possess strong subject matter expertise due to educational qualifications and research conduction in a specific field. To the researcher's teaching experience and knowledge, English lecturers in the present study may have high content knowledge on their teaching discipline, such as Writing Skills, Core English, Cultural Studies, Literature Studies although their academic research involvement remained scant.

Table 3

Pedagogical content knowledge of students' responses (n=150)

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Variables	Mean	SD	Level	α
SMK	4.28	.508	High	0.79
IRS	4.18	.570	High	0.84

IOC	4.27	.563	High	0.88
KSU	4.15	.599	High	0.87
PCK	4.22	.509	High	0.95

Difference of Perceptions of PCK among Females and Males

Mann-Whitney U test was conducted to determine whether there is a difference in PCK scores between males and females. The results indicated a non-significant difference between groups [Z=-.589, p=.556]. It can be concluded that there was no difference in PCK scores between males and females. It may be because those students, regardless of sex, receive similar instructing exposure, including teaching activities, methods, and interactions with their EFL lecturers, at the research site, typically in the same classes, and are expected to accomplish similar learning objectives. Moreover, female and male students may share similar past English learning experiences, shaping their perceptions of PCK.

Students' Perceptions of PCK among Year Levels

The Kruskal Wallis test examined the PCK difference among the year-one, year-two, and year-three students. The analysis revealed a non-significant result, H(2) = 1.76, p = .414, indicating that there was no statistically significant difference among the groups (p > 0.05). Regardless of the year levels, the participants may sense PCK consistency if EFL lecturers employ comparable teaching techniques and methodologies. Curriculum consistency may be another plausible explanation. The students may be exposed to PCK-related concepts and instructional strategies if the curriculum content and learning objectives remain constant across academic years.

4. CONCLUSION

It is essential to highlight that, out of all the PCK factors examined, SMK received the highest rating, followed by IOC, IRS, and KSU received the lowest. The students' overall views of PCK and their English lecturers were favorable and reasonable. This indicates the student's perception of the lecturer's teaching ability; consequently, their PCK understanding was positive. High perception of English lecturers' PCK can motivate teachers to enhance their teaching skills, seek professional

development opportunities, engage in reflective practices, and continually improve their teaching methods. Because most English lecturers do not actively engage in research, such as action or academic research on English teaching and learning, they are recommended to conduct various studies to create new theoretical and practical knowledge and translate research implications into practice in their classrooms.

This study is subject to limitations. Using a Likertscale questionnaire as the only source of data collection is a disadvantage of the present study. The obtained data may not support a holistic view of teachers' teaching practice, which needs more triangulated data, such as interviews or classroom observation, to cross-validate the findings. Because of the small participant sample size, generalizability is not attainable. Another limitation might arise from the fact that it is not reasonable to assume that students can interpret the variations in their teachers' behaviour in an educational or explanatory manner (Lorte, 1975, as cited in Uner & Akkus, 2019). Nonetheless, the perceptions of Cambodian students offer insightful data that lecturers can utilize to enhance their instruction and support successful teaching and learning in classrooms.

Future correlational studies examining other variables, especially English learning achievement or proficiency, should be undertaken owing to the possibility of an association between PCK and learning performance. Later, researchers may consider exploring PCK's level perceived by the lecturers themselves, as this may point out any changing reflections of PCK on classroom practices. Future investigations should be conducted at intervals throughout the semester to understand changing students' needs and ideas, and encourage open-ended responses.

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 learners' learning differences, such as motivation, learning strategies, learning styles, multiple intelligences, and error analysis.

APPENDIX

QUESTIONNAIRE (Adapted from Jang et al., 2009)

Part	T.	Personal	l Int	form	ation

Gender: ☐ Male	□Female	
Age: years old		
Year Level: ☐ Year 1	□ Year 2	□ Year 3

Part II: Pedagogical Content Knowledge

This questionnaire contains five statements about teaching practices that could take place in this class. You will be asked how often each practice takes place. There are no "right" or "wrong" answers. Think about how well each statement describes what this class is like for you. Please check the box that describes your view on each item.

- 1. If teaching practice takes place Never
- 2. If teaching practice takes place Seldom
- 3. If teaching practice takes place Sometimes
- 4. If teaching practice takes place Often
- 5. If teaching practice takes place Always

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No.	Statements	Never	Seldom	Sometimes	Often	Always
1	My English teacher knows the content he/she is teaching.					
2	My English teacher explains clearly the content of the subject.					
3	My English teacher knows how theories or principles of the subject have been developed.					
4	My English teacher selects the appropriate content for students.					
5	My English teacher knows the answers to questions that we ask about the subject.					
6	My English teacher explains the impact of subject matter on society.					
7	My English teacher knows the whole structure and direction of this SMK.					
8	My English teacher uses appropriate examples to explain concepts related to subject matter.					
9	My English teacher uses familiar analogies to explain concepts of subject matter.					
10	My English teacher's teaching methods keep me interested in this Subject.					
11	My English teacher provides opportunities for me to express my views during class.					
12	My English teacher uses demonstrations to help explaining the main concept.					
13	My English teacher uses a variety of teaching approaches to transform subject matter into comprehensible knowledge.					
14	My English teacher uses multimedia or technology (e.g. PowerPoint) to express the concept of subject.					

15	My English teacher makes me clearly understand objectives of this course.			
16	My English teacher provides an appropriate interaction or good atmosphere.			
17	My English teacher pays attention to students' reaction during class and adjusts his/her teaching attitude.			
18	My English teacher creates a classroom circumstance to promote my interest for learning.			
19	My English teacher prepares some additional teaching materials.			
20	My English teacher copes with our classroom context appropriately.			
21	My English teacher's belief or value in teaching is active and aggressive.			
22	My English teacher realizes students' prior knowledge before class.			
23	My English teacher knows students' learning difficulties of subject before class.			
24	My English teacher's questions evaluate my understanding of a topic.			
25	My English teacher's assessment methods evaluate my understanding of the subject.			
26	My English teacher uses different approaches (questions, discussion, etc.) to find out whether I understand.			
27	My English teacher's assignments facilitate my understanding of the subject.			
28	My English teacher's tests help me realize the learning situation.			