Volume 02 June 2022

ISSN 2758-1985

Cambodian Journal of Educational Development

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Volume 02 June 2022

This publication is supported by Hiroshima University and Japan International Cooperation Center (JICE) in Cambodia.

Editors and Reviewers

Forward

Dear readers of CJED vol. 2,

Thank you very much for taking this issue in your hand. I do not know in what year, even possibly sometime in the next century, you are going to read the articles included in this volume. I am very much curious about how you would see Cambodian education in your time, and also how you would see Cambodian education in 2022 that CJED vol. 2 describes.

Educational research in Cambodia has been rapidly developing since the early 21st century. Publishing a journal is an indicator showing the advancement of an academic discipline. Other indicators may be holding conferences, establishing related academic societies, and teaching the discipline in higher education institutions. RUPP started graduate education programs in 2006 and Comparative Education Society of Cambodia was founded in 2018, for instance. During this period, NIE has offered a new master's course and CDRI has established the section of education as well.

It is said that the first academic journal was published in 1665 for communication among scholars—there is a historical debate about which journal, Journal des sçavans in Paris or Philosophical Transactions of the Royal Society of London, should be counted as the first academic journal, though. CJED shall contribute to the advancement of educational research in Cambodia, by encouraging researchers to communicate with each other, who are eager to unravel problems in Cambodian Education.

Another contribution of CJED is the professionalization of teachers, teacher educators, and professors of educational research: CJED can promote the status of those professionals in education which is sometimes seen as lower than the status of other professionals like medical doctors, lawyers, or professors of traditional disciplines. All professionals are required to continue to update their knowledge and improve their skills. Reading academic journals, attending seminars, and doing research are practices for such professional development. CJED offers opportunities for professional development to professionals in education. Teachers, teacher educators, and professors can raise their statuses as professionals by reading CJED and publishing their research products in CJED.

Indeed, the second volume of CJED is a small step among the achievements of educational research in 2022. It is not a representative but a good sample that could illustrate a landscape of Cambodian education in the early 2020s. I wonder how you would see the landscape illustrated here in comparison with Cambodian education in your time, and I hope you will learn something from reading this volume.

I do appreciate all of you who participated in creating this opportunity: who established the journal, contributed papers to it, reviewed them and provided advice for revising, and are now reading this issue. Congratulations on this achievement.

MARUYAMA Yasushi, Ph.D.
Hiroshima University

Keynotes from Editor-in-Chief

I am delighted to share with you the volume 2 of the Cambodian Journal of Educational Development (CJED), a new multidisciplinary and peer-review journal that publishes original research in the field of education. On behalf of CJED, I am deeply pleased and honored to extend a very warm welcome to the readership of CJED publication series. I would like to take this opportunity to express my grateful thanks to Hiroshima University and Japan International Cooperation Agency (JICE) in Cambodia for their technical and financial support. And I sincerely thank our authors, anonymous reviewers and especially, all editorial members who enthusiastically, willingly, and voluntarily involve contributing to the success of the journal.

The establishment of CJED aims to (1) document research articles of graduates and current students who are receiving and have received Japanese government's scholarship to study in Japan from various scholarship programs, including The Project for Human Resource Development Scholarship by Japanese Grant Aid (JDS), PEACE Student Exchange Program, SPIES, JICA Long-Term-Training, MEXT and so on, (2) promote research culture in Cambodia, and (3) involve with the government of Cambodia in transforming Cambodia from an agriculture-based country to an industrial country through the implementation Industrial Development Policy 2015-2025.

We hope that our regular publication will become the primary platform for researchers to share findings and discuss all aspects of current and future education issues that benefits education reform in Cambodia.

Pov Sokunrith

Editor-in-Chief

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សង្ខិត្តន័យ

ការស្រាវជ្រាវនេះ ជាករណីសិក្សាមួយដែលមានគោលបំណងស្វែងរកឧត្តមានុវត្តន៍ក្នុងចំនោមនាយកសាលាបឋមសិក្សាដែលទទួលជ័យលាភីនៅប្រទេសកម្ពុជា។ ការសិក្សានេះបានដៅការជ្រើសរើសនាយកសាលាបឋមសិក្សាដែលទទួលជ័យលាភីចំនួនប្រាំនាក់ ដើម្បីចូលរួមផ្តល់បទសម្ភាសន៍ស៊ីជម្រៅមួយ។ ពួកគាត់បានទទួលពានរង្វាន់ពីក្រសួងអប់រំ យុវជន និងកីឡា នៅចន្លោះឆ្នាំ២០១៣ ដល់ឆ្នាំ ២០១៩។ ការវិភាគទិន្នន័យតាមគំនិតសំខាន់ត្រូវបានយកមកប្រើប្រាស់ដើម្បីវិភាគទិន្នន័យ។ លទ្ធផលនៃការសិក្សាបានបង្ហាញថា នាយកសាលាបឋមសិក្សាដែលទទួលបានពានរង្វាន់ មានឧត្តមានុវត្តន៍ពិសេសដោយឡែកក្នុងការដឹកនាំសាលារៀនឱ្យទទួលបានជោគជ័យ ដោយក្នុងនោះមានការកំណត់ចក្ខុវិស័យរួមការអភិវឌ្ឍសមត្ថភាពគ្រូបង្រៀន និងបុគ្គលិកអប់រំដទៃទៀតបង្កើតចំណងទំនាក់ទំនងនឹងភាពជាដៃគូរប្រកបដោយប្រសិទ្ធភាព ការដឹកនាំការបង្រៀន និងរៀន ការកសាងជំនឿទុកចិត្ត ការផ្សារភ្ជាប់គោលនយោបាយអប់រំទៅការអនុវត្ត និងការដឹកនាំប្រកបដោយគុណលក្ខណសម្បត្តិផ្ទាល់ខ្លួន។ លទ្ធផលនៃការសិក្សានេះប្រើប្រាស់សម្រាប់ការអនុវត្តជាក់ស្តែងស៊ីជំជម្រៅ និងផ្តល់នូវក្របខណ្ឌគោលនយោបាយដ៏មានប្រសិទ្ធភាពសម្រាប់ធ្វើឱ្យប្រសើរឡើងនូវការគ្រប់គ្រង និងដឹកនាំរបស់នាយកសាលានៅប្រទេសកម្ពុជា។

ពាក្យគន្លឹះ៖ សាលាបឋមសិក្សា នាយកសាលា ឧត្តមានុវត្តន៍ ភាពជាអ្នកដឹកនាំ ទទួលបានជ័យលាភី ប្រទេសកម្ពុជា

អត្ថបទទី២៖ ការយល់ឃើញរបស់បុគ្គលិកអប់រំលើការស្រាវជ្រាវប្រតិបត្តិក្នុងប្រទេសកម្ពុជា

សង្ខិត្តន័យ

បច្ចុប្បន្ន ការស្រាវជ្រាវប្រតិបត្តិត្រូវបានចាត់ទុកជាក្របខណ្ឌកំណែទម្រង់វិស័យអប់រំដ៏សំខាន់មួយសម្រាប់ក្រសួងអប់រំ យុវជន និងកីឡា ដើម្បីលើកកម្ពស់ការស្រាវជ្រាវ និងពង្រឹងភាពជាអ្នកដឹកនាំ និងការគ្រប់គ្រងរបស់បុគ្គលិកអប់រំគ្រប់លំដាប់ថ្នាក់។ ដូច្នេះ ការស្រាវជ្រាវនេះ មានគោលបំណងស្វែងយល់អំពីអាកប្បកិរិយារបស់បុគ្គលិកអប់រំលើការអនុវត្តការស្រាវជ្រាវប្រតិបត្តិ។ ការស្រាវជ្រាវនេះរួមបញ្ចូលបុគ្គលិកអប់រំចំនួន៣៣នាក់មកពី ១៧ការិយាល័យផែនការនៃមន្ទីរអប់រំ យុវជន និងកីឡាស្ថិតក្នុងខេត្ត/ក្រុងចំនួន១៧ នៃព្រះរាជាណាចក្រកម្ពុជា។ បុគ្គលិកអប់រំទាំងនោះត្រូវបានអញ្ជើញឱ្យបំពេញនូវតេស្តដើមគ្រា និងចុងគ្រាមុន និងបន្ទាប់ពីបានចូលរួមកម្មវិធីបណ្តុះបណ្តាលលើការស្រាវជ្រាវប្រតិបត្តិចំនួន ៣ថ្ងៃ។ តេស្តទាំងនោះមានអថេរចំនួន៣២ ដែលត្រូវបានចាត់ចូលជា៥បណ្តុំអថេរធំៗ រួមមាន ប្រយោជន៍នៃការស្រាវជ្រាវសម្រាប់ការងារ សេចក្តីបារម្ភពីការស្រាវជ្រាវ អាកប្បកិរិយាវិជ្ជមានលើការស្រាវជ្រាវប្រតិបត្តិ ភាពពាក់ព័ន្ធនឹងជីវិតប្រចាំថ្ងៃ និងការលំបាកនៃការស្រាវជ្រាវប្រតិបត្តិ។ តេស្តលើភាពជឿជាក់ ការវិភាគបែប Independent Sample T-Test និងការវិភាគស្ថិតិបែបពិពណ៌នាត្រូវបានប្រើប្រាស់ដើម្បីវិភាគទិន្នន័យ។ លទ្ធផលស្រាវជ្រាវបានបង្ហាញឱ្យឃើញថា ទោះបីជា បុគ្គលិកអប់រំ មានអាកប្បកិរិយាវិជ្ជមានលើការអនុវត្តការស្រាវជ្រាវប្រតិបត្តិក៏ដោយ ពួកគេហាក់ដូចជាមានការព្រួយបារម្ភខ្ពស់ និងការលំបាកខ្លាំងក្នុងការអនុវត្តការស្រាវជ្រាវប្រតិបត្តិ។ លទ្ធផលស្រាវជ្រាវទាំងនេះនឹងត្រូវបានពិភាក្សាស៊ីជម្រៅ ជាមួយនឹងការអំពាវនាវឱ្យមានយុទ្ធសាស្ត្រ និងគោលនយោបាយរឹងមាំក្នុងការជម្រុញចំណាប់អារម្មណ៍ និងការចូលរួមលើការស្រាវជ្រាវប្រតិបត្តិឱ្យកាន់តែច្រើនឡើងពីបុគ្គលិកអប់រំគ្រប់លំដាប់ថ្នាក់។

ពាក្យគន្លឹះ៖ ការស្រាវជ្រាវប្រតិបត្តិ បុគ្គលិកអប់រំ ការអភិវឌ្ឍសមត្ថភាពស្រាវជ្រាវ ភាពជាអ្នកដឹកនាំប្រទេសកម្ពុជា

អត្ថបទទី៣៖ ការអនុវត្តគោលវិធីសិស្សមជ្ឈមណ្ឌលក្នុងប្រទេសកម្ពុជា

សង្ខិត្តន័យ

ដើម្បីរៀបចំកសាងធនធានមនុស្សសម្រាប់កម្លាំងពលកម្មក្នុងសតវត្សទី២១នេះ និងស្របតាមផែនការយុទ្ធសាស្ត្រអប់រំ ឆ្នាំ២០១៩-២០២៣ ការគិតគូរពីគុណភាពនៃការបង្រៀនបានក្លាយជាផែនការអាទិភាពក្នុងដំណើរការអភិវឌ្ឍការអប់រំនៅកម្ពុជា។ វិធីសាស្ត្របង្រៀន និងគោលវិធីបង្រៀនគឺជាកត្តាដែលត្រូវយកចិត្តទុកដាក់នៅតាមបណ្តាគ្រឹះស្ថានសាធារណៈ។ ដើម្បីពង្រឹងគុណភាពនៃការអប់រំការយល់ដឹងយ៉ាងទូលំទូលាយលើវិធីសាស្ត្របង្រៀន និងគោលវិធីបង្រៀនដែលបានប្រព្រឹត្តទៅតាមរយៈគោលនយោបាយយុទ្ធសាស្ត្រអប់រំគឺមានសារៈសំខាន់ណាស់សម្រាប់គ្រូបង្រៀន និងភាគីដែលពាក់ព័ន្ធដើម្បីរៀនសូត្របន្ថែម។ ហេតុដូច្នេះ អត្ថបទសំយោគនេះមានគោលបំណងផ្តល់នូវខ្លឹមសារសង្ខេប និងការពិភាក្សាស៊ីជម្រៅទៅលើការបញ្ចូលគោលវិធីសិស្សមជ្ឈមណ្ឌលទៅក្នុងវិធីសាស្ត្របង្រៀន និងគោលនយោបាយអប់រំ។ ទិន្នន័យនៃការស្រាវជ្រាវនេះត្រូវបានវិភាគតាមបែប Content Analysis។ ទិន្នន័យដែលយកមកវិភាគក្នុងអត្ថបទនេះរួមមានអត្ថបទគោលនយោបាយ និងអត្ថបទស្រាវជ្រាវនានា។ ការសិក្សានេះបានផ្តល់នូវខ្លឹមសារគោលនៃប្រវត្តិ និងការអភិវឌ្ឍនៃរបៀបដែលគោលវិធីសិស្សមជ្ឈមណ្ឌលបាននាំមក និងបញ្ចូលទៅក្នុងវិធីសាស្ត្របង្រៀន។ លទ្ធផលនៃការសិក្សាបានបង្ហាញពីភាពខ្វះចន្លោះក្នុងការអនុវត្តគោលវិធីនេះ និងលទ្ធផលជាវិជ្ជមានក្នុងការអនុវត្តកម្មវិធីសិក្សាផ្សេងៗ។ ទន្ទឹមនឹងនេះលទ្ធផលក៏បានបង្ហាញពីភាពលំបាករបស់គ្រូបង្រៀនដូចជា កម្រិតនៃការយល់ដឹងរបស់គ្រូបង្រៀនទៅលើវិធីសាស្ត្រសិស្សមជ្ឈមណ្ឌល និងកង្វះខាតនៃការត្រួតពិនិត្យការបង្រៀននៅតាមសាលារៀនដែលមានលក្ខណៈជាប្រព័ន្ធ។

ពាក្យគន្លឹះ៖ គោលវិធីសិស្សមជ្ឈមណ្ឌល គោលនយោបាយអប់រំ គ្រូបង្រៀន គុណភាពបង្រៀន ប្រទេសកម្ពុជា

អត្ថបទទី៤៖ កត្តាដែលជះឥទ្ធិពលលើការលើកទឹកចិត្ត និងលទ្ធផលសិក្សារបស់សិស្សនៅកម្រិតមធ្យមសិក្សាបឋមភូមិក្នុងប្រទេសកម្ពុជា

សង្ខិត្តន័យ

ការស្រាវជ្រាវបែបចម្រុះនេះមានគោលបំណងអង្កេតទៅលើផលជះនៃភេទ ទីតាំងសាលារៀន និងរចនាសម្ព័ន្ធគ្រួសារទៅលើការលើកទឹកចិត្ត និងលទ្ធផលសិក្សារបស់សិស្ស។ កម្រងសំណួរស្ទង់មតិ និងកម្រងសំណួរសម្ភាសន៍ត្រូវបានប្រើប្រាស់ជាឧបករណ៍ក្នុងការប្រមូលទិន្នន័យ។ ការសិក្សានេះបានជ្រើសរើសដោយចៃដន្យនូវសិស្សថ្នាក់ទី៧ចំនួន៩៧៨នាក់ ដើម្បីបំពេញកម្រងសំណួរ និងធ្វើការសម្ភាសន៍ ។ លទ្ធផលបានបង្ហាញថា លទ្ធផលសិក្សារបស់សិស្សប្រែប្រួលទៅតាមភេទរបស់សិស្ស និងទីតាំងសាលារៀន។ រីឯ រចនាសម្ព័ន្ធគ្រួសារមិនមានផលជះទៅលើលទ្ធផលសិក្សារបស់សិស្សនោះទេ ប៉ុន្តែ រចនាសម្ព័ន្ធគ្រួសារបានធ្វើឱ្យសិស្សបាត់បង់ការលើកទឹកចិត្តក្នុងការរៀនសូត្រ។ លើសពីនេះទៅទៀតការគាំទ្រផ្នែកសមត្ថភាពចំណេះដឹង និងស្វ័យសិក្សាមានទំនាក់ទំនងជាវិជ្ជមានជាមួយលទ្ធផលសិក្សារបស់សិស្សទោះបីការណែនាំ និងផ្តល់ប្រឹក្សាពីលោកគ្រូអ្នកគ្រូកើតឡើងមិនញឹកញាប់ក៏ដោយ។ ក្របខណ្ឌគោលនយោបាយដើម្បីពង្រឹងការលើកទឹកចិត្ត និងលទ្ធផលសិក្សារបស់សិស្សានុសិស្សក៏ត្រូវបានលើកយកមកពិភាក្សាផងដែរ។

ពាក្យគន្លឹះ៖ ការលើកទឹកចិត្ត ការគាំទ្រផ្លូវចិត្ត សមត្ថភាពសិក្សា សិស្សកម្រិតមធ្យមសិក្សាបឋមភូមិ ប្រទេសកម្ពុជា

អត្ថបទទី៥៖ ការសិក្សាអំពីសមត្ថភាពសំណេររបស់សិស្សគថ្លង់ក្នុងប្រទេសកម្ពុជា

សង្ខិត្តន័យ

ឱកាសនៃការទទួលបានការអប់រំសម្រាប់សិស្ស ដែលឈានដល់វ័យសិក្សាមិនទាន់មានភាពប្រសើរឡើងនៅឡើយ ជាពិសេសបើពិនិត្យមើលអំពីសិស្សដែលមានតម្រូវការពិសេស។ សិស្សគថ្លង់មានចំនួនជាងច្រើនជាងគេ ក្នុងចំណោមសិស្សដែលស្ថិតក្នុងតម្រូវការពិសេស ដែលបាននឹងកំពុងសិក្សានៅតាមសាលាអប់រំបរិយាបន្នសាធារណៈនៅក្នុងប្រទេសកម្ពុជា។ សមត្ថភាពសំណេរភាសាខ្មែររបស់សិស្សគថ្លង់ នៅមិនទាន់បានសិក្សានៅឡើយសម្រាប់សិស្សដែលកំពុងសិក្សានៅក្នុងថ្នាក់បរិយាបន្នទាំងនោះ។ ដូច្នេះ ការសិក្សាមួយនេះគឺត្រូវបានធ្វើឡើងដើម្បីស្វែងយល់អំពីសមត្ថភាពសំណេរភាសាខ្មែររបស់ពួកគេ។ លទ្ធផលតេស្តភាសាខ្មែរសម្រាប់សិស្សគថ្លង់ថ្នាក់ទី៦ ដែលកំពុងសិក្សានៅក្នុងថ្នាក់អប់រំបរិយាបន្នតាមសាលាសាធារណៈទាំងនោះបង្ហាញឱ្យឃើញថា សិស្សគថ្លង់ពុំមានសមត្ថភាពគ្រប់គ្រាន់លើផ្នែកសំណេរភាសាខ្មែរនៅឡើយ។ លទ្ធផលបង្ហាញឱ្យឃើញតាមរយៈលទ្ធផលតេស្តសំណេរភាសាខ្មែរដោយមានលក្ខណៈខុសគ្នាគួរឱ្យកត់សម្គាល់រវាងសិស្សគថ្លង់ និងសិស្សធម្មតានៅសាលាអប់រំបរិយាបន្នសាធារណៈដែលត្រូវបានសិក្សា ($M = 82.70$; $t(75) = 4.98$, $p<.001$) និងកម្រិតខុសគ្នារហូតដល់ 20.89 ពិន្ទុនៃពិន្ទុសរុបរបស់តេស្ត 125។ សិស្សគថ្លង់ប្រហែល 67 ភាគរយទទួលបានពិន្ទុត្រឹមជាប់ ឬក្រោមធ្យមភាគ ពោលគឺកម្រិតសំណេរធម្មតាដោយមានការប្រើប្រាស់ត្រឹម តែកម្រិតចងចាំ និងយល់តែប៉ុណ្ណោះ។ សិស្សគថ្លង់មានការលំបាកជាពិសេសផ្នែកវេយ្យាករណ៍ និងរាជស័ព្ទ។ លោកគ្រូអ្នកគ្រូនៅតាមសាលាបរិយាបន្នសាធារណៈមានទស្សនៈយល់ថា សិស្សគថ្លង់មិនអាចមានសមត្ថភាពសរសេរដូចសិស្សធម្មតាបានឡើយ និងពួកគាត់មិនទទួលបានការគាំទ្រគ្រប់គ្រាន់នៅឡើយសម្រាប់ការបង្រៀនសិស្សគថ្លង់លើផ្នែកសំណេរភាសាខ្មែរ។ លើលសពីនោះទៅទៀត សិស្សគថ្លង់ប្រាប់ថាពួកគេពិតជាមានភាពខ្សោយលើសំណេរភាសាខ្មែរ។ ពួកគេគ្រាន់តែត្រូវបានគ្រូដាក់កិច្ចការសំណេរងាយៗដូចជាគ្រាន់តែចម្លងមេរៀន និងកែរពាក្យខុសខ្លះៗ។ ពួកគេបានសម្តែងកង្វល់ថា ការដែលពុំមានសមត្ថភាពផ្នែកសំណេរគ្រប់គ្រាន់ ពិតជាមានផលប៉ះពាល់ជាអវិជ្ជមានដល់ការសិក្សាលើមុខវិជ្ជាសិក្សាផ្សេងៗទៀត។ ឆ្លងតាមរយៈលទ្ធផលសិក្សានេះ លោកគ្រូអ្នកគ្រូដែលបង្រៀនតាមសាលាបរិយាបន្នសាធារណៈគួរតែត្រូវទទួលបានការបណ្តុះបណ្តាលបន្ថែមទៀត ពិសេសលើចំណេះដឹង និងការស្វែងយល់អំពីការអភិវឌ្ឍផ្នែកភាសារបស់សិស្សគថ្លង់ និងលើវិធីសាស្ត្របង្រៀនដែលគាំទ្រដល់ការរៀនរបស់ពួកគេ។ ទស្សនៈចំពោះសិស្សគថ្លង់នឹងមិនមានការកែរប្រែឡើយ ប្រសិនបើលោកគ្រូអ្នកគ្រូពុំមានចំណេះដឹងគ្រប់គ្រាន់សម្រាប់ការបង្រៀនសិស្សដែលមានតម្រូវការពិសេសបាន។

ពាក្យគន្លឹះ៖ សិស្សគថ្លង់ សមត្ថភាពសំណេរ ការបង្រៀនសំណេរ ទស្សនៈយល់ឃើញ សំណេរភាសាខ្មែរ

ISSN: 2758-1985

Editorial

Progress of Educational Development in Cambodia

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The Royal Government of Cambodia (RGC) and the Ministry of Education, Youth, and Sport (MoEYS) have laid out various educational strategies and policies to boost the mass production of human capital with skill and knowledge to accelerate the country's economy (see RGC, 2007; RGC, 2015, 2019). One of the main endeavours of the RGC is to transform Cambodia from a lower-middle-income country to an upper-middle-income country by 2030. To achieve their goals and visions, the RGC and MoEYS have developed and adopted national and international development agenda for the education system as stated in the Education Strategic Plan 2019–2023 (ESP 2019–2023) and towards 2030. The ESP 2019–2023 comprises two main key education policies, including (1) ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all and (2) ensuring effective leadership and management of education officials at all levels (MoEYS, 2019).

To date, it has been observed that Cambodian education has experienced significant progress in line with the development goals and visions of the RGC and MoEYS. Despite the remarkable progress, it has been found that there were various emerging challenges intervening in the progress of the education development in Cambodia. The progress and challenges of educational development were discussed in-depth in a recent national education congress held on April 25 to 27, 2022 in Cambodia (see MoEYS, 2022). The national education congress was deemed as a crucial mid-term review and evaluation of the ESP 2019–2023 and especially reflection of challenges perpetuated by the COVID-19 pandemic (see MoEYS, 2022).

Therefore, the current special issue entitled "Progress of Educational Development in Cambodia" discusses various education development issues that Cambodia has encountered from the adaptation of SDG4 to the implementation of ESP 2019–2023. It provides policy and

practical insights to educational stakeholders, especially policymakers, through research findings that were useful for project and policy reform and intervention.

The first article, written by Sovath Seng, orients readers to understand what the best practices of award-winning primary school principals are. They were the awardees from 2013 to 2019 in Cambodia. It has become a good mirror for other school principals to learn and conform to enhance their leadership and management. The second article, contributed by Sokunrith Pov, explores how educational staff perceive action research in the context of Cambodia. Action research is deemed as a new education reform agenda that aims to instil research concepts into all educational staff. This study explores how educational staff perceive action research in terms of research useful for the profession, research anxiety, positive attitudes towards action research, relevance to life, and research difficulty. The third article, written by Sreypouv Ouch, is considered a crucial review piece that looks into how student-centre approach has been integrated into various new education development agendas and models. It offers a comprehensive insight on positive changes and challenges that teachers continue facing in implementing student-centre approach in the classrooms. The fourth article, contributed by Ponleak Yat, depicts empirical evidence on factors influencing students' motivation and academic performance at lower secondary schools in Cambodia. This study concerns students' academic motivation and achievement that refrain them from doing well at school. Lastly, the article, written by Samuth Chea, discusses the deaf and hard-of-hearing students' Khmer language writing performance at public schools in Cambodia. This study directly addresses the SDG4 notion of how inclusive education has been implemented and whether teaching practices respond to the special educational needs of students at Cambodian public schools.

Taken together, these five pieces provide useful evidence for improved leadership and management and students' learning outcomes, including students with special educational needs. Those are deemed as valid cross-check indicators for the implementation of SDG4 and ESP 2019–2023 respectively.

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What Are the Best Practices of Award-Winning Primary School Principals in Cambodia?

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Received: December 22, 2021/ Accepted: May 08, 2022

Abstract

This multiple-case study aimed to explore the best practices among award-winning primary school principals in Cambodia. This study purposively selected five award-winning primary school principals to participate in an in-depth semi-structure interview. They received award-wining titles from the Ministry of Education, Youth and Sport (MoEYS) between 2013 and 2019. Thematic analysis was utilized to analyse the data. The findings revealed that the award-winning primary school principals possessed unique best practices to lead schools successfully, including setting a shared vision, developing capacity for teachers and other staff, establishing effective partnership and relationship, leading teaching and learning, earning trust, linking policy to practice, and leading with personal quality. The findings discussed practical insights and solid policy implications for improved management and leadership of school principals in Cambodia.

Keywords: Primary school; School principal; Best practice; Leadership; Award-winning; Cambodia

1. Introduction

To date, the Royal Government of Cambodia (RGC) and Ministry of Education, Youth and Sport (MoEYS) have strongly emphasised the effectiveness of leadership and management of educational staffs to achieve the Sustainable Development Goal 4 (SDG 4) and its Education Strategic Plan 2019-2023 (ESP 2019-2023) and toward 2030. As indicated in the SDG 4 target 4.c, one of its indicative strategies is to strengthen school leadership to improve teaching and learning at schools (UNESCO, 2015, pp. 35, 37). Moreover, the SDG 4 target 4.1 implied that:

> to ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes, it needs to strengthen the efficiency and effectiveness of institutions, school leadership and governance through greater involvement of communities, including young people and parents, in the management of schools. (p. 35, 37)

To align with the SDG 4, MoEYS has set the second key policy in ESP 2019-2023 and toward 2030 on ensuring effective leadership and management of educational staffs at all levels (MoEYS, 2019). To ensure the effective leadership and management, MoEYS has adopted the School Based Management (SBM) approach into various school reform models in Cambodia for a last decade. Emerging school models have adopted and implemented SBM in different fashions at secondary education. Those school models are commonly known as the Secondary Resource Schools (SRS), Secondary Education Improvement Project (SEIP) schools, and New Generation Schools (NGS). For instance, SEIP focuses on strengthening educational system for SBM, enhancing effective teaching, and promoting community's participation in accountability and autonomy (MoEYS, 2018b). SEIP schools currently increased to 130 (lower secondary) consuming approximately 130 000 students in 25 municipality and provinces (MoEYS, 2018b).

Moreover, NGS concerns about the standard of teaching and learning in science, technology, engineering, and mathematics (STEM) at secondary education. It also aims at enhancing school administration system as an autonomous school (MoEYS, 2016b). However, NGS schools have been somewhat established for the last few years. The last report said there were seven NGS schools which have the capacity to consume only more than five thousand students (MoEYS, 2022a). This number is still small if it compares to the number of students in the whole country that also need the education quality. Furthermore, SRS is the exemplary school in leading the teaching and learning activities at the secondary education level through research study, pedagogical teaching and learning innovation, being able to produce supplementary teaching materials which are available in the local communities. SRS commit to share experiences and cooperate with broader educational community to continue teaching and learning and make the whole school change and improve (MoEYS, 2008). Even though, the number of SRS schools were very limited to 50 only around the country. Interestingly, the common aspect of the three school models above was the transformation. The normal public schools were selected and equipped with extra programs, infrastructures, and facilities to

become one model rather than creating a new separated school. School leadership and management of each model was changed while the infrastructure and school programs were also improved.

The review showed that primary education is the basic of education and public schools more than 53% provided primary education services (MoEYS, 2022b). However, the educational reform program for the last decade seemed to primarily focus on secondary education through developing various educational improvement projects. Therefore, there is a severe lack of research ground on school leadership and management at primary education level in the phases of educational reform. The practical experiences and best practices of school leadership and management are not well-addressed and documented. It has been found that to date, a few studies have been conducted on the system of educational leadership context and leadership in the post conflict Cambodia (see Kheang, O'Donoghue, & Clarke, 2018), school leadership training (see Morefield, 2012), school leadership the exercise of legitimate power in Cambodia (see Sorm & Gunbayi, 2018), the role of school principal for school development (see SOKENG, 2020). Furthermore, a recent study of Om (2022) indicated two important roles of school principals: 1) leading school and 2) managing schools. Directorship of being school leader was the core element that enabled the school principals to affectively play the two main roles, adding by principals' qualification and ability to translate theories, policies and best practices to actual practices in school leadership and management (see Om, 2022). Therefore, to fill this gap, the present study aims to explore the best practices of leadership and management among outstanding and awarded primary school principals in Cambodia.

2. Literature review

2.1 School leadership practices in the global context

For over the last two decades, research on school leadership practices of successful school principals has remarkably and increasingly deliberated. It has been viewed as a dominant factor of successful schooling. Researchers, policymakers and other relevant stakeholders in the field of educational leadership have discussed the best practices of successful school leaders and tried to put forward common prototypes (e.g., Day & Leithwood, 2007; Hallinger, 2003; Leithwood, 2005; Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Leithwood, Harris, & Hopkins, 2008a; Leithwood & Riehl, 2003). Despite its prominent growth, there is no single or universal components of best practices of successful school principals.

According to Leithwood and Riehl (2003) and Leithwood (2005) there are three fundamental elements of successful school leadership practices, including setting vision, developing people, and developing organization. These findings were added another vital component termed "managing the teaching and learning program" by groups of authors (see Day & Leithwood, 2007; Day & Sammons, 2016; Leithwood et al., 2006; Leithwood, Harris, & Hopkins, 2008b). It has been observed that four common components of core practices of successful school leadership include building vision and setting direction, understanding and developing people, designing the organization, and managing the teaching and learning program (see Leithwood, Harris, & Hopkins, 2020).

Moreover, a large volume of literature has shown that studies from different contexts have attempted to understand the best practices of successful school principals, including Europe (Møller et al., 2005; Pashiardis, Savvides, Lytra, & Angelidou, 2011), Africa (Steyn, 2014), America (Crum, Sherman, & Myran, 2010; Leigh Sanzo, Sherman, & Clayton, 2011), Australia (Drysdale, Goode, & Gurr, 2009; Drysdale & Gurr, 2011; Wang, Gurr, & Drysdale, 2016), Southeast Asia (Noman, Hashim, & Shaik-Abdullah, 2017; Raihani, 2008; Wang et al., 2016). For instance, the best practices of successful school leadership require several critical quality, including defining school vison and value, improving teaching and learning conditions, redesigning the organization, focusing on curriculum and teaching quality, building relationship inside and outside community, and focusing on value (Day & Sammons, 2013). Gurr (2015) believed that there are four core practices of successful principals, including setting direction, developing people, leading change, and improving teaching and learning. However, there are also other components, including such as strategic problem solving, building truth and visible presence in the school, building safe and secure environment, introducing productive forms of instruction to staffs, and the promoting equity, care, and achievement.

In the context of Australia, Gurr, Drysdale, and Mulford (2006) showed that school principals could improve students' learning outcomes by improving teaching and learning quality in accordance to their values and school's visons and missions, building school capacity through personal, professional, organizational, and school-community involvement, working closely within the school context, and using evidence-based information to monitor and reflect for change and transformation.

Drysdale et al. (2009) claimed that the four main components of Leithwood et al. (2006) remain important to the success of school leadership. However, some conditions have been

proposed to take school performance to a higher level, including a change in school direction, various leadership approaches, and new improvement strategies (Drysdale et al., 2009). Moreover, it is important to have a devoted and skilful principal to overcome the challenges (Drysdale et al., 2009). Furthermore, Drysdale and Gurr (2011) discussed three factors crucial for successful school leadership, including outcome-teaching and learning, school capacity building, and other influences driven by the school context such as vision, mission, culture, structure, people, and process, which are intervened by the personal qualities and competency of the school principals.

In the United States (US), Crum et al. (2010) found five central components that made school principals become successful, including leadership with data, honesty and relationship, fostering of ownership and collaboration, recognition and development of leadership, and instructional awareness and involvement. Similarly, the common practices in the US middle schools that helped school principals to lead effectively were found as sharing leadership, facilitating professional development, leading with instructional orientation, and acting openly and honestly (Leigh Sanzo et al., 2011).

Furthermore, it has been found that there are some unique and noticeable characteristics of school leadership practices in Asian countries. For instance, in China, school principals are required to understand the school system and a good decision maker following a top-down decision-making approach (Wong, 2007). Moreover, the Indonesian school principals are to embrace Muslim values and cultural values (Raihani, 2008). Previous studies have shown that the success of school leadership rely on the different contexts and individual school climates.

According to a case study by Noman et al. (2017), outstanding school principals in Malaysia were found to hold five components of school leadership practices, including giving specific goals and targets, improving academic achievement, developing teacher and staff members, creating meaningful coalition, and creating a positive, and conducive school climate responding to specific school context. Another reflection from school principals in Singapore also showed that the success of school principals was determined by their personal quality, beliefs, and values. School principals could improve school capacity by redesigning school structure, promoting professional capacity for both teaching and non-teaching staffs, developing partnership with stakeholders, including internal and external school community, and growing their leadership based on the legacy from the previous principals (Wang et al., 2016).

In some other contexts, successful school principals need to adhere to their cultural beliefs and values that guide school leadership and strategies, including the ability to fully develop school vision, set up school strategies, build capacity, and establish an extensive network to foster school improvement (Raihani, 2008).

Overall, the components determining successful school leadership practices in different parts of the world appear to very in common although the contexts of the schools might slightly or majorly differ.

2.2 Awarding system for outstanding school principals in Cambodia

In Cambodia, to strengthen effective school leadership, MoEYS has issued various policies and projects to support school principals. For example, school leadership training program for upper-secondary school principal (MoEYS, 2018a), standard of school principal (MoEYS, 2017), and various school principal training packages (MoEYS, 2009) have been deemed as crucial means for effective educational leadership development. Especially, a remarkable initiative of MoEYS was the development of awarding system for outstanding school principals, which was established in 2013. It aims to ultimately promote effective school leadership and management at the school level in line with the second key education policy 2019-2023 (MoEYS, 2016a). Awardees were selected based on a complete set of specific criteria.

The awarding system consists of ten core evaluation indicators, including basic qualification, working skills, ability of planning, leading teaching and learning, professional development, school-based management, ensuring school accountability, communication with communities, professional code of conduct, and result-based management. Each indicator is measured by the evaluation criteria consisting of sixty elements. The result of the evaluation is ranged from the top to the lower in five different stages by different committees, including school-cluster committee, district committee, provincial committee, and national committee. The processes of selection are started at the individual school of the candidate. Even though, each committee is invited to visit the candidates' schools accordingly and thoroughly check based on their evaluation tool. After receiving the report on the result of evaluation and selection from provincial committee, the national committee will double check on the result by visiting the field and meeting directly with individual candidate. The awardees are acknowledged by the minister's announcement.

For the last decade, it has been observed that the awarded outstanding school principals has become well-known and acknowledged among educators, leaders, principals, and relevant stakeholder as great successful school leaders. However, the model of best practices of those school principals has never been documented or shared widely among practitioners, policymakers, and relevant stakeholders.

3. Methodology

This study employed a multiple case study approach by focusing on the emergence of an in-depth description and analysis of each case as suggested by Creswell (2013). It aimed to explain the current phenomenon and how or why a social phenomenon works (Yin, 2018). A case study emphasised the "detailed inquiry of a unit of analysis as a bounded system (the case) over time within its context" (Harrison, Birks, Franklin, & Mills, 2017). Therefore, the current study explained the core values of best practices and how it worked among outstanding school principals in the context of Cambodia.

3.1 Samples

Five out of twelve primary school principal awardees were purposively selected to participate in the study. The participants were recruited from a group of primary school principals who have received awards as outstanding primary school principals between 2013 and 2019. They represented five different public primary schools from different municipalities and provinces in Cambodia. Three of them were from three primary schools located in three rural districts of three different provinces. Moreover, one of them was from a primary school located in an urban area, and the last one was from a primary school located in Phnom Penh. To comply with the confidentiality, their names were given as pseudonyms. The participant in this study were named as participant from school 1, participant from school 2, participant from school 3, participant from school 4, and participant from school 5.

3.2 Instrumentation

To collect the data, an interview guide was developed. The interview guide was carefully designed for a face-to-face interview through semi-structure interview method at the five selected primary schools. The interview guide was widely discussed and developed under the light of previous studies, especially the elements related to the core practices of successful school leadership by Leithwood et al. (2006). The interview questions were grouped into four

main themes, namely setting direction, developing people, redesigning the organization, and managing the instructional program.

3.3 Procedure

The current study sought for official approval from MoEYS to collect data from the five selected awarded school principals in the five different provinces and cities in Cambodia. After the approval was granted, the data collection was conducted twice. The first field visit was in May 2018. The researcher interviewed an awarded school principal to have a comprehensive understanding of the topic and pilot the interview guide. Based on the first field visit, the questionnaire was minorly revised for the second field visit. The second data collection was conducted with four awarded school principals in January 2019 respectively.

This study employed thematic analysis to analyse the data from the interview with four main themes indicated in the section above. The completed interview guides were recorded and transcribed. With thematic analysis method, the patterns were systematically identified, analysed, and described within a data set (Braun & Clarke, 2012). Therefore, the data of this study were synthesised and analysed by generating the initial codes and categories to develop the emergent themes. The data analysis process involved five steps. Firstly, the researcher repeatedly read the data to familiarize its contents. Secondly, the codes were highlighted to indicate the data patterns. Thirdly, integrating codes and shorting the themes were conducted. Next, the researcher reviewed the sorted themes whether they were relevant to initial themes, namely setting a shared vison, developing teachers and staff, establishing effective partnership and relationship, leading teaching, and learning programmes, earning trust, recognizing policy and context, and leading with high personal quality. Lastly, each of the emerging themes was presented and discussed in the following sections.

4. Findings and discussions

4.1 Setting a shared vision

The current study found that principals recognized the school goals, school capacity, and the needs of local communities in their children's education. All educational staffs at schools bared responsibilities to represent and provoke the common interest, challenges, responsibilities, and relevant stakeholders of the communities. Beyond the school, the award-winning school principals knew that the effort of parents and communities had a significant influence on school development and their children's education. Active participation of all

community members played a crucial role to solve common problems and enable schools to provide quality education to children.

In line with those findings, it reflected that a shared vison of award-winning school principals in this context referred to a vision that school principals and other educational staffs communally established and accomplished it as part of their schools' endeavours. Leading schools with a shared vision was commented as a crucial leadership aspect to lead their schools to achieve the country's educational goals and visions. A shared vison was not set by only principals. It required all school-community members' voices and decisions. For instance, a participant from the school 1 said that 'we need a shared vision… I conduct meetings with committees, so we use shared ideas… because we need to solve them out together…'.

A shared vision was defined as a clear vision for schools within its contexts. When a shared vision was set, everyone would work hard to collectively achieve it. School principals were the good listeners for all members of the school communities, teachers, parents, students, and other relevant stakeholders. The principals led them to share their ideas and encouraged them to participate in all school activities, especially a school development plan. At the beginning of every academic year, school principals conducted meetings teachers, other educational staff, parents, and school supporting committees (SSC). Most of school activities, for example school development plan, were proposed and discussed in-depth. As a result, school visions and goals were set. The achievements and outcomes set school goals and visions resulted from and belonged to every member of schools and communities, not only for school principals.

On the other hand, it was found that a good decision-making in leading and setting a share vision was significantly influenced by school principals' knowledge, experiences, and their own educational philosophy as a participant from the school 5 said '…leadership was based on specific point of views, missions, and plans used as a leading path'. Basically, a shared vison was found to be more likely influenced by school principals' philosophy that was consistent with what Bennis (2009) pointed out that 'leadership without perspectives and point of views isn't leadership—and of course it must be your own perspectives, your own point of views'. Moreover, the findings also denoted that school achievements depended on the strength and involvement of teachers, other educational staff, students, and local communities.

Therefore, setting a shared vision has been deemed as one of the essential leadership and management aspects that need integrating into school principals' practices. A participant

from the school 3 illustrated that "first of all, we need to have a specific vision, … shared vision, if I am not here, others will proceed with our work and ensure sustainability of our school…". This finding was also maintained by a few international and local studies by Day (2011); Leithwood et al. (2006); Leithwood et al. (2008a); Leithwood and Riehl (2003); Noman et al. (2017).

4.2 Developing capacity for teachers and other staff

To build a healthy and strong school foundation, it is impossible to avoid developing the quality and capacity of teachers and other educational staff so that they are productive in their tasks. Teachers have a direct influence on students' learning outcomes. This study found that the award-wining school principals always considered taking care of staff's well-being and promoting their career professional development. The school principals in this study created an effective working environment to ensure an opportunity for their teachers and staff to upgrade their knowledge and skills. Teachers and staff were encouraged to upgrade their qualification to higher level. A principal from the school 4 maintained that 'We always meet and encourage our staff to pursue their study and build working capacity…. The quality of our student depends on the quality of teachers. They can teach students with better quality'. The influence of technological advancement also forced teachers to update skills for solving current students' leaning issues. A school principal from the school 4 added that 'All of my staff went to a university to get a degree and extra skills such as IT, English language…. Nobody stops learning here. I play as a role model… before, I was a teacher in Teacher Cadre C, but now I am in A category'.

There were different ways of promoting staff's capacity such as pursuing a degree at a university, learning from their peers in technical working groups, taking specific training courses, joining training and workshop, and conducting field-visit for research. Most teachers in their schools went to public and private universities and registered for their specialised subjects. A principal from the school 5 claimed that '... we cannot stay the same, while the other countries in the region get their teachers 'capacity higher. …now 90% of my teachers and staff are holding bachelor's degrees. And, next year, this number will be increased to 100%.'

Moreover, the award-wining school principals developed an internal mechanism to promote teachers' capacity to improve teaching and learning by sharing their knowledge and experience. For instance, they were requested to regularly lead technical-working-group

meeting in schools. This working groups provided an opportunity for teachers to help and share knowledge, experiences, and best practices with their peers. All the five school principals in this study were claimed to establish a supportive learning environment for teachers and staff. Furthermore, the school principals played a role as a mediator to coordinate and harmonize educational staff's communication by developing a good relationship among teachers and staff. The school principals created positive environment for staff of schools to work closely together and mainly focus on students' learning outcomes. A school principals maintained that

> Before I start my principal job here, …the school had problems among the staff. … different groups and challenge each other. …conflict occurred. …now I try to facilitate and get them to work together. The main strategies for solving conflict depended on my sacrifice, energy, understanding, communication, and transparency… (A school principal from the school 4)

All award-winning school principals were reported to comprehensively know their staff's profile and care more about staffs' needs in the workplace. A school principal from the school 4 continued in the conversation that 'we care about our staff, as example, when they have problems, we always support them in terms of material and finance depending on what we can do for them'. Furthermore, knowing teachers and other staff well was beneficial for school principals to assign tasks effectively in line with their potential.

Previous studies on successful school principals emphasized on developing staff as one of key factors for successful school leadership (e.g. Leithwood et al., 2008a; Leithwood & Riehl, 2003; Noman et al., 2017). School principals need to work collaboratively with teachers and other staff to empower them to make a decision in an interconnected manner (Leigh Sanzo et al., 2011).

4.3 Establishing effective partnership and relationship

The award-wining principals in the study knew that building good relationship with different partners was a key factor helping them to promote school improvement. The school principals used various strategies to develop good relationship among school communities through communication with relevant stakeholders such as teachers, parents, monks, school support communities, and local authorities to support school activities. The school principals believed that the sustainable school development did not rely only on schools or support from the government, but it largely depended on the contribution and involvement from local

communities and relevant stakeholders. They maintained that school development could not be separated from local communities, authority, donors, and NGOs. A school principal from the school 1 mentioned that 'this success is not from only me. I am only a leader here, but it was from the participation of all relevant stakeholders such as local authorities, parents, communities, and our teachers…'. Most of award-winning school principals relied on their relationship to promote education quality of their schools. However, they struggled to get all relevant stakeholders involving in their activities.

> …First, I got challenge with parents and communities, but now it is okay… they participate. My strategy is to make them believe and trust in my leading. Firstly, they trust in my effort for their students' learning…. second, they saw the achievement in school. They see they children become good students, good school environment… and principal was awarded then they started to come with us…. school support committee always support my activities in the school (A school principal from the school 3).

All school principals defined the main features of school partnership for sustainable school development as a three-side relationship: schools (principals, teachers, other staff, and students), local community members (parents, school support committees, religious organizations, donors, and NGOs), and local authorities (local administration and offices of education). The strong connection among these stakeholders would make schools ensure better students' learning outcomes. A school principal from the school 5 explained that

> My education strategy is called VPS strategy; it means that Village, Pagoda and School. Village, who are in village? community, families, parents.…. School, who are in the school? teachers, directors, students…Pagoda, represent religious units. all religion educates people to be good and they also support school education, too (A school principal from the school 5).

These findings were consistent with Day (2011)who mentioned that school principals were supposed to strengthen community by creating links and collaborate the whole school community to promote collective responsibility and contribute to the quality education service.

4.4 Leading teaching and learning programs

A significant role in school leadership and management is to promote students learning outcomes to meet the goals set by MoEYS. The findings showed that the award-winning principals were engaged in two main practices to promote student's learning outcomes. First,

they focused on curriculum implementation and development. They developed flexible curriculum by integrating local contents, including work skills, foreign languages, ICT, and life skills that might be helpful for students in their livelihood. Extracurricular activities were also added to the main course outline. It depended on the requirement of each local area. For example, the schools located in tourism sites might need to learn more on different foreign languages. Second, it was about improving quality of teachers and teaching by encouraging career professional development, conducting regular inspection on teaching practices, giving feedbacks, and holding regular technical meetings. This study found that a school principal from the school 3 claimed that '…we work hard with technical work by providing technical meetings, sharing teaching practices, classroom management skills, experiment… we learn new teaching methods and apply with our students…'

The school principals needed to strengthen effective teaching methods with new teaching methods and textbooks. For example, a school principal started to guide teachers to integrate new technology into their teaching such as utilizing slide presentations, doing research, and upgrading their knowledge and teaching techniques by using social media. This finding strongly supported by various studies on successful principals (e.g. Drysdale et al., 2009; Gurr, 2015; Leigh Sanzo et al., 2011; Leithwood et al., 2006; Noman et al., 2017; Wang et al., 2016). However, this practice was found to contrast to Morefield (2012). It was found that by adopting this practice, it was hard for Cambodian school principals to think as they were considered as instructional leaders with very little knowledge and skills to share with teachers in terms of teaching and learning methods.

4.5 Earning trust

Trust in Khmer (Cambodian language) is called "*tom nuk chhet*", which was commonly used by the school principals participated in this study. To become a successful school principal, he/she needed to primarily earn trust from people around them. The findings showed that the award-wining school principals in the current study started to build trust among relevant stakeholders if they resumed management position, including their own family, teachers, other staff, parents, and members of communities. All school principals maintained similarly that earning trust was the main root of support and participation generating from school community members, especially parents. However, they denoted that changing people mind believing in their new ways of leading was tough. A school principal from the school 5 mentioned that 'changing traditional ways of leading was not easy…. thousands of problems, I meet before, I

earn trust (*tom nuk chhet*) from the school communities….'.

According to the findings, the award-winning school principals used different strategies to earn trust and belief from people around. It required school principals' great effort and scarify. The school principals spent almost all their time to work for schools. The school principal used all their potential to lead their schools with fairness, transparency, carefulness, good communication, accountability, participation, and opening to all relevant stakeholders.

Moreover, the findings showed that to earn trust, it started from the principals scarified for public interest and school benefits that make them the best models to attract teachers, students, parents, and the communities to involve in school development. The school principals were found to believe that trust was a strong bridge for building both external and internal relationship between school members and local community members. When communities were connected and worked together, the school performance was promoted, and it provided more benefits to students' learning outcomes. Each school principal was reported to have different strategies to build trust. A school principal noted that

> My strategy is to make them believe and trust in my leading. Firstly, they trust in my effort for the children's learning… second, they saw the achievement in school… see their children got good result, good school environment…. principal got some award then they start to come with us. They always support my activities in the school (A school principal from the school 3).

Moreover, the findings revealed that it required a long time for school principals to promote the understanding among school leaders, communities, parents, teachers, other staff, and relevant stakeholders. Many attempts were fails, but the school principals reported to never give up.

> ….We need a long time to understand each other not just one time or short time. …then to build trust (tom nuk chhet) we need time. I need to take it step by step before they believe and trust in my leadership.….. I sacrify all my time...I serve as a good model (A school principal from the school 2).

Earning trusting represented a viral element of successful school principals. It has been deemed as the hardest task for school principals. These findings were also in line with some previous studies such as Leithwood and Riehl (2003), Ramalho, Garza, and Merchant (2010) and Day (2011) who found that trust was a part of successful school leadership.

4.6 Linking policy to practice

To improve the leadership to respond to the new education reform agenda, the school principals were required to transform their schools by linking policy goals and vision to actual practices. The findings showed that although the changes were important, there were two significant aspects that ensured the success implementation. The award-winning principals were primarily required to be capable of understanding and translating educational policies and guidelines for practices. A school principal from the school 5 maintained that '…we need to understand the educational policies, laws, regulations, and guidelines of the Provincial Department of Education (PoE) …. then we develop our own school development plan so that we can implement it successfully". In this sense, award-winning principals accepted that the policy guidelines were quite broad and sometimes not flexible for an effective implementation at school level. It was risky for the school principals to decide without fully understanding the implications and applications of educational policies. A school principal from the school 5 admitted that

> I met four storms…my first storm was the challenge to education offices (PoE).…on our way, we did not follow their guidance, but we also archived the goals. They needed... you understand that…they were not happy? The second storm was my staff who were not happy with my new reform…The third storm was parents who never understand the new ways of teaching their children receive…and the fourth storm was my wife who was not happy with my scarify and workload.

The school principals acknowledged that school characteristics were not the same in terms of size (e.g., number of teachers, staff, students) and locations (e.g., rural, urban area or town/city). Outside of the schools, there were parents and local communities that the school principals needed to be aware such as their socioeconomic and culture. The school principals could effectively implement the policy and weight between the needs of the schools and local communities. The effective implementation relied on the school principals' flexibility. For instance, all school principals maintained that schools could not make any fundraising activities directly from students or parents. Instead, the role of SSCs was crucial to mobilize resources from the communities to support schools.

A school principal from the school 1 claimed that 'they (parents) help and support our school, but some from poor family also complain. …but we talk with them. We never force

them to participate. It is voluntarily… we understand about that (family living condition) ...'. There was a little difference from schools located in the city where most of the family had a better understanding of their children's education. This finding was also consistent with Leithwood (2005). It was explained that crucial external factors that may influence on successful school principals was locations, school sizes, and school status.

4.7 Leading with personal quality

An important key indicator influencing successful leadership practices was the personal quality of school principals. The award-winning principals' characteristics were shaped through their hardship that they experienced throughout their lives. They led their schools with strong commitment, values, honesty, patience, hard-work, self-confidence, care for the public interest, and especially ownership. All award-winning school principals described their leading and managing job as a time-consuming job that required them to stay in schools for a long hour on regular basis. They were the highly committed persons and worked hard to fulfil country's educational goals and visions. A school principal expressed his commitment as 'here, there are many challenges, but we need a strong will and commitment. ...whatever we decide to do, we will make it happen. We will never change …'.

The findings showed that school principals' characteristic was one of the key successes of school principals' job. Previous studies maintained that the characteristics of successful school principals were related to their personal qualities, beliefs, and values which determined their leadership practices (Gurr et al., 2006; Ng, 2016; Noman et al., 2017; Wang et al., 2016; Wendel, Hoke, & Joekel, 1993).

5. Conclusion

Overall, with the seven key best practice quality of primary school principals, including setting a shared vision, developing capacity for teachers and other staff, establishing effective partnership and relationship, leading teaching, and learning, earning trust, linking policy to practice, and leading with personal quality. The school principals are required to identify the specific situation of teachers, staff, parents, local community, socio economic contexts, culture and even policy and/or political aspects before applying new concepts or introducing reform. Building a strong school community and good partnership with local people were to ensure sustainable school development. Even though, the award-winning primary principals were highly considered to be different from other organizational leaders as they needed to have extra

ability in leading teaching and learning programs directly. School principals play a central role in creating the strong belief and trust among the school communities. The successful practices consist of trust from the school community through empowering teacher, staff, and local people to cooperate and participate in school activities. The last aspect of the best practices was influenced by personal quality of the principals who come up with values, belief, strong commitment, sacrifice, patience, and independence. These exceptional characteristics influenced teachers, staff, and the school communities, which result in the achievement of the school goals. These findings would be the basic information for policymaker, practitioners, and relevant stakeholders to improve and implement policies in educational leadership including sharing the best practices with all school principals.

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How Educational Personnel Perceive Action Research in Cambodia

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Received: December 22, 2021/ Accepted: May 08, 2022

Abstract

To date, action research is highly anticipated as an education reform agenda for the Cambodian Ministry of Education, Youth and Sport to promote research and enhance leadership and management of educational personnel at all levels. Thus, this study aims to investigate the attitude of educational personnel towards action research. It included 33 educational personnel from the planning office of the Provincial Office of Education from 17 cities and provinces in Cambodia. Selected participants were invited to complete a pre-test and a post-test before and after a three-day intensive training on action research. The tests consisted of 32 variables which were grouped into five constructs, including research usefulness for the profession, research anxiety, positive attitudes towards action research, relevance to life, and research difficulty. A reliability test, Independent Sample T-Test and descriptive statistics were used to analyze the data. The findings revealed that although Cambodian educational personnel had highly positive attitudes towards action research, they also had relatively high research anxiety and research difficulty when conducting action research. The findings were discussed in-depth with a call for solid strategies and policy implications to stimulate research interest and participation among Cambodian educational personnel.

Keywords: Action research; Educational personnel; Research capacity development; Leadership; Cambodia

1. Introduction

The terms 'educational staff or personnel' and 'action research' have been defined differently in different countries and education systems. There is no single universal definition of each term. Likewise, to understand in-depth about their implications in the context of Cambodia, it is necessary to define these terms. According to the UNESCO Institute for Statistics (2021a),

educational personnel refers to teaching staff, other pedagogical and administrative personnel and support personnel. This definition is deemed accurate to depict the roles of educational personnel at both national and sub-national levels in Cambodia. Thus, the terms educational personnel and educational staff will be used interchangeably throughout this paper. According to the latest statistic of the Educational Management Information System (EMIS) in 2021 (MoEYS, 2021), the total number of educational personnel in Cambodia was 118,103 (100 percent), including educational staff of 2,181 (1.84 percent) at the Provincial Office of Education (POE), 2,452 (2.06 percent) at the District Office of Education (DOE), 93,956 (79.09 percent) as teaching staff at schools, and 20,214 (17.01 percent) as non-teaching staff at schools.

Moreover, according to an action research guidebook entitled 'Action Research Technique: Do-It-Yourself Guide' which was developed in 2020 by the Ministry of Education, Youth and Sport (MoEYS), action research has been defined as 'a small-scale study for any individuals, groups or organizations wishing to explore workplace issues in-depth in order to make positive changes based on research evidence' (MoEYS, 2020, p. 1). Action research is considered a new trend for the education reform agenda that MoEYS aims to promote the effectiveness and efficiency of leadership and management for educational personnel. This endeavor is aligned with the second key policy priority stated in the Educational Strategic Plan 2019-2023 (ESP 2019-2023), which aims to ensure effective leadership and management of educational personnel at all levels (see MoEYS, 2019). In this regard, it has been observed that there are various plans and policy frameworks established to support this endeavor by promoting the continuous professionalism of educational staff such as the Master Plan of Upgrading Professionalism of Educational Staff 2021-2025 (see MoEYS, 2022) and the Policy on Career Professional Development for Educational Staff (see MoEYS, 2017). Research has been strongly emphasized in those plans and policies. In specific terms, MoEYS aims to utilize action research to enhance the capacity of educational personnel in planning, decision, management, and individual and institutional capacity development (MoEYS, 2020).

To promote school leadership and management, MoEYS and development partners have collaborated closely to develop various school reform models to raise students learning outcomes. For example, the New Generation School (NGS), Secondary Resource School (SRS), and Secondary Education Improvement Project (SEIP) are the three well-recognized and distinctive school models which focus mainly on better school leadership and management and promotion of school autonomy (see, for example, MoEYS, 2008; MoEYS, 2016a, 2016b).

Although these school models have been initiated by different organizations, a common endeavor and strategy in improving leadership and management centralize equipping and utilizing action research for school development and reform as one of the vital school reform agendas.

Although action research has been deemed a crucial means for education reform, especially school reform, it has been found that a large body of literature tends to focus primarily on action research for teacher's capacity development initiatives (see, for example, Ancess, 2000; Georgiou & Kyriakides, 2012; Khan, Ahmad, & Ali, 2011; Long, 2008; Sebastian & Allensworth, 2012). To the best of my/our knowledge, no studies have been found to focus on action research and capacity development initiatives for other groups of educational staff such as school administrators, school principals, and educational staff at POE or DOE in the context of Cambodia and other developing countries in the Global South. According to MoEYS (2020b), the second key education policy priority aims to promote leadership and management of all educational staff at all levels, not only teachers. Therefore, the current study aimed to fill this knowledge gap by examining how educational staff/personnel perceive action research before and after receiving comprehensive training on action research. The appropriate policy interventions and capacity development strategies will be introduced to strengthen the capacity of educational staff in leadership and management through action research in Cambodia.

2. Literature review

2.1 Progress of educational research in Cambodia

In recent years, the Royal Government of Cambodia (RGC) has set out development policies on the National Strategic Development Plan (NSDP) 2019-2023 and the Industrial Development Policy (IDP) 2015-2025. The central endeavor of implementing NSDP 2019-2023 and IDP 2015-2025 is to transform the country from a lower-middle-income country to an upper-middle-income country by 2030 and a high-income country by 2050. In this regard, the RGC aims to transform Cambodia's economy from depending on the agricultural sector to relying on the industrial sector for speedy economic growth to realize its visions and catch up with other countries in the region. Hence, research and development have become the backbone of its transformational success.

In developing countries, educational research has been generally perceived as basic (Tandogan, 1991). Cambodia is no exception. The novelty of the research concept remains a

critical challenge. As the term "research" is pronounced and heard, it is often regarded and conceptualized as a task for researchers and academicians at the higher education levels in Cambodia. Although the RGC seems to have a strong commitment to promoting research and development in Cambodia in all sectors, the research culture remains rudimentary due to its novelty and limited expenditure on the research and development sector compared to other countries in the region(Heng, Hamid, & Khan, 2022b). According to the UNESCO Institute for Statistics (2021b), Cambodia spent only about 0.11 percent of the total Growth Domestic Product (GDP) in 2015 on research and development, which was very low compared to some other countries in the region, for instance, Vietnam (0.44 percent), Thailand (0.62 percent), Malaysia (1.28 percent), and Japan (3.28 percent).

To date, it has been observed that educational research seems to become more popular in Cambodia over the last five years through the emerging development of various journals in the field of education. For instance, MoEYS developed Cambodia Education Review (CER) in 2017 (see CER, 2022), Teacher Career Pathway with a focus on action research in 2018 (see MoEYS, 2018), and innovation research grant projects for researchers in the field of education, and Education Research Council in 2017. It has been observed that in the last five years, there has been a rapid growth of new major journals in the field of education in Cambodia. The six journals listed below are peer-reviewed journals in the field of education in Cambodia.

(1). Cambodian Journal of Educational Development (CJED): This journal was established in 2019 by the alumni of Hiroshima University in Japan. It publishes one volume annually (CJED, 2022).

(2). Cambodia Education Review (CER): The CER was established in 2017 by MoEYS. Currently, it is managed by the Department of Policy under MoEYS (see CER, 2022)

(3). Cambodian Journal of Basic and Applied Research (CJBAR): The CJBAR was launched in 2019 by the Royal University of Phnom Penh (see CJBAR, 2022).

(4). Cambodian Journal of Educational Research (CJER): This journal was launched in 2021 (see Heng & Sol, 2021).

(5). Cambodian Journal of Humanities and Social Sciences (CJIHSS): The CJIHSS was launched in 2022 and established by the Royal Academy of Cambodia (see CJIHSS, 2022).

(6). Cambodian Journal of STEM and Education Research (CJSER): This journal was launched in mid-2022. It was established and managed by the Department of Scientific Research under MoEYS (see CJSER, 2022).

The constant growth of journals in the field of education has provided an opportunity for local researchers to earn experience in publishing papers in peer-review journals and basically strengthen the research notion in higher education institutes in Cambodia. This tendency has marked a strong commitment of academic society in Cambodia to be involved with the government in producing human resources with skills and knowledge about research. It helps the government achieving the IDP in 2025 and the vision of transforming Cambodia into an upper-middle-income country by 2030 respectively.

Furthermore, despite promoting education research through journal development, the introduction of action research through the development of the action research guidebook and training for all sub-national levels has been deemed the remarkable emerging education reform in the history of educational development in Cambodia for the last four decades. It has become a novel optimism for the competition of education in regional and global contexts. The detail of action research development and implementation is discussed below.

2.2 Action research guidebook development and training

In Cambodia, action research has been initiated and officially introduced to concerned educational stakeholders at the end of 2020 by MoEYS through the development of an action research guidebook entitled "Action Research Technique: Do-It-Yourself Guide". This guidebook was developed in early 2020 by the Department of Policy of MoEYS and received endorsement in December 2020. The development of this guidebook aims to instill action research concepts into educational personnel at all sub-national levels. They have been encouraged to utilize action research as a tool to enhance their capacity in planning, decision-making, management, and leadership, aligned with the second key-policy priority stated in the ESP 2019-2023 (MoEYS, 2020). After the development of this guidebook, the Department of Policy has set medium-term training programs for educational personnel at all sub-national levels, especially for educational personnel at POE, DOE, and schools, particularly school principals and head teachers (Department of Policy, 2020). The training was provided to random educational staff, school principals, and teachers. It was in the form of a one-off training that participants did not receive any credits for the course completion.

This guidebook has been developed by local and international experts with simplified and localized contents which are closely related to the context of Cambodian educational development. Likewise, learners with less knowledge of research or action research will feel confident to use it as a guide for self-study and evaluation based on evidence. This guidebook

has been divided into four main chapters. Chapter 1 introduces the definition, essential components, objectives, and scope of action research. Chapter 2 briefly explains the steps and processes with examples of how to conduct action research in the context of Cambodia. Chapter 3 provides a unique insight into the five ethical aspects of doing research. Chapter 4 gives a brief overview of action research along with research areas to be considered in the context of Cambodia, a template for writing action research, a consent form, and a sample budget plan for conducting action research (see MoEYS, 2020).

3. Methodology

3.1 Samples

The current study is a part of MoEYS's capacity development project for educational personnel at sub-national levels, including POEs, DOEs and schools. For the first phase, the training targeted educational personnel at POE. At the same time, the Voluntary Service Overseas (VSO) also provided the same training to educational personnel at eight POEs in eight provinces in Cambodia. To avoid the duplicated effort, the training conducted by the Department of Policy of MoEYS was provided to educational personnel at 17 other POEs in 17 provinces which were not the targets of VSO. Therefore, a total of 34 participants from 17 POEs of 17 provinces were randomly recruited and required to complete a pre-test and a post-test accordingly. Due to a missing response from a participant for the post-test, one case was dropped for both the pre-test and post-test. Thus, the current study included valid data from 33 participants for the analysis respectively.

3.2 Instrument

The present study adopted an instrument consisting of attitudes towards research scales from Papanastasiou (2005) to measure the attitudes of Cambodian educational personnel towards action research. It consists of 32 variables which are grouped into five constructs, including research useful for the profession, research anxiety, positive attitudes towards research, relevance to life, and research difficulty. Each variable has a seven-point Likert scale ranging from (1) Strongly Disagree to (7) Strongly Agree. Among the 32 variables, variables 10 to 17 and 28 to 32 were in the form of negative statements. Likewise, they were reversely recoded after the data were collected and cleaned.

To ensure that the current test was reliable to use in the current study, a reliability test was conducted. As shown in Table 1, the results of the reliability test showed that for the pre-

test, Cronbach's Alpha value was $\alpha = 0.94$ for research useful for the profession, $\alpha = 0.81$ for research anxiety, $\alpha = 0.90$ for positive attitudes towards research, $\alpha = 0.81$ for relevance to life, and $\alpha = 0.70$ for research difficulty. For the post-test, the Cronbach's Alpha value was $\alpha = 0.94$ for research useful for the profession, $\alpha = 0.87$ for research anxiety, $\alpha = 0.90$ for positive attitudes towards research, $\alpha = 0.70$ for relevance to life, and $\alpha = 0.71$ for research difficulty. All constructs of both pre-test and post-test had values of $\alpha > 0.70$, which indicated that the adopted test was reliable enough to use for the present study.

Table 1. Results of reliability test on Research useful for the profession, Research anxiety, Positive attitudes towards research, Relevance to life, and Research difficulty (n = 33).

Constructs	Pre-test (α)	Post-test (α)
Research useful for the profession	0.94	0.94
Research anxiety	0.81	0.87
Positive attitudes towards action research	0.90	0.90
Relevance to life	0.81	0.70
Research difficulty	0.70	0.71

3.3 Data collection procedure

Data collection happened two times at the selected 17 POEs. Before the face-to-face training on action research, the pre-test on attitudes towards action research was disseminated to prospective participants who were randomly selected from each POE. A total of 33 participants were directly contacted to be informed about the training procedure and guided to complete a pre-test. After completing the pre-test, they were required to fully join the actual training consisting of theory and practices related to action research for three days. The training was designed to ensure that each participant learnt the theory and at the same time, was involved in practice in the classroom. After the end of the training, participants were guided to complete a post-test accordingly.

3.4. Data analysis

The present study utilized descriptive statistics, a reliability test (Cronbach's Alpha) and an Independent Sample T-Test for analysis. First, the data were cleaned to ensure the adequacy of validity of the data for analysis. Then, the five constructs were tested to confirm sufficient reliability to use for the current study. Next, the Mean (*M*) and Standard Deviation (*SD*) of the

five constructs were calculated. The Mean scores of both tests were compared to see whether attitudes towards action research of the educational personnel varied. The Mean scores were presented in the form of a table (see Table 2). To ensure variability of attitudes towards action research, an Independent Sample T-Test was computed. Lastly, the effect size (*Cohen's d*) was calculated for each construct to reveal whether the significant differences were small, medium or large (see Cohen, 1988).

4. Results

The results from the descriptive statistics revealed that among the 33 participants, 93 percent of them responded that they used to hear about action research, while approximately 54.4 percent knew about its process. As shown in Table 2, for the pre-test, the participants tended to have high average scores of all five constructs ranging from 4.60 (M = 4.06, SD = 0.709) for Research difficulty to 5.49 (M = 5.49, SD = 0.721) for Research useful for the profession. For the post-test, the average scores of all constructs seemed to be relatively high and higher than the pre-test results ranging from 4.79 (M = 4.79, SD = 0.799) for Research difficulty to 5.72 (M = 5.72, SD = 0.793) for Research useful for the profession. Table 2 also showed that the average score of the post-test on Research useful for the profession was 0.23 higher than the pre-test. For Research anxiety, the average score of the post-test was higher than the pre-test with a mean difference of 0.59. For Positive attitudes towards research, the average score of the post-test was greater than the pre-test with a mean difference of 0.33. For Relevance to life, the post-test average score was larger than the pre-test with a mean difference of 0.25. Lastly, for Research difficulty, the post-test average score was better than the pre-test, with a mean difference of 0.73.

To explain in-depth the variability of the five constructs for the pre-test and the post-test towards action research, an Independent Sample T-Test was computed as shown in Table 2. The results showed that the pre-test and the post-test results were significantly different on Research anxiety, Positive attitudes towards research and Research difficulty, whereas there were no significant differences between the pre-test and the post-test results on Research useful for the profession and Relevance to life.

Table 2 showed that educational personnel had significantly higher research anxiety for the post-test compared to the pre-test results (t = -3.465, df = 64, p = 0.001). Inspection of the two group means showed that the average score of the pre-test (5.49) was lower than the score of the post-test (5.72). The difference between the means was 0.23 on a seven-point scale. Its

effect size (d = .89) was considered a large effect according to Cohen (1988). Moreover, the educational personnel were found to have significantly higher and more positive attitudes towards research (t = -2.452, df = 64, p = 0.017) after receiving action research training. The mean difference was 0.33. Its effect size (d = 0.61) was considered a medium effect. It was also found that the score on research difficulty was significantly higher in the post-test compared to the pre-test (t = -3.912, df = 64, p = 0.000) with an extremely large effect size (d = 1.17).

Table 2. The pre-test and post-test results on attitudes of Cambodian educational personnel towards action research (n = 33).

Constructs	Pre-test		Post-test		t	d
	M	*SD*	*M*	*SD*		
Research useful for the profession	5.49	0.721	5.72	0.793	-1.209	0.30
Research anxiety	4.33	0.573	4.92	0.745	-3.465**	0.89
Positive attitudes towards action research	5.17	0.496	5.50	0.592	-2.452*	0.61
Relevance to life	4.80	0.630	5.05	0.792	-1.420	0.35
Research difficulty	4.06	0.709	4.79	0.799	-3.912***	1.17

Note: *p < .05
**p < .01
***p < .001

5. Discussion

The results clearly indicated that although all five constructs were increasingly varied for the pre-test and the post-test as shown in Table 2, the results from an Independent Sample T-Test showed that only three constructs–Research anxiety, Positive attitudes towards research and Research difficulty–were found to have significant differences for the pre-test and the post-test results with medium to large effect sizes. Although Cambodian educational staff had positive attitudes towards action research and perceived it as a crucial means of strengthening their leadership and management, they also possessed remarkably high anxiety towards its implementation. Action research has been considered a difficult additional task.

5.1 Positive attitudes towards action research

The current study found that educational staff perceived very positive attitudes towards action research. The positive attitudes enable them to utilize action research as a valid tool to enhance their management and leadership. This finding responds to the second key policy priority as stated in the ESP 2019-2023 which aims to ensure effective leadership and management of educational personnel at all levels (see MoEYS, 2019). These findings were in line with previous studies by Heng, Hamid, and Khan (2022a) in Cambodia, Ekız (2006) in Turkey, Maravilla (2020) and Declaro-Ruedas and Ruedas (2020) in the Philippines, and Shkedi (1998) in Israel.

For instance, a study in Turkey on primary school teachers' attitudes towards educational research found that teachers had positive attitudes and a good understanding of research. They believed that research was a useful tool in developing their teaching. However, it was claimed that teachers also needed to not only understand research concepts but also must become active researchers. It could be done through a close collaboration between teachers and academicians. Teachers needed close guidance to undertake research and learn to do it independently. The findings of this study strongly emphasized the necessary training on research to ensure that educational personnel independently managed to do future research.

Moreover, in Israel, Shkedi (1998) strongly claimed that educational research provided teachers with a potential opportunity to express their professional sphere. Teachers needed the research training during both pre-service and in-service training programs. It enabled them to increase their professional levels and strengthen their status as professionals in the field. Furthermore, in the Philippines, Declaro-Ruedas and Ruedas (2020) found that public school teachers had average research self-efficacy and positive attitudes towards action research. However, their attitudes were found to be intervened by various factors, including overload workload, lack of practical training and experience in action research, lack of research centers, and lack of research specialists in schools.

5.1.1 Implications for attitudes towards action research

According to the previous studies mentioned above, it has been observed that it is very common that most educational staff, especially teachers, have been found to possess positive attitudes towards action research whenever its concept is newly introduced into the education system. It has been generally done through intensive training and practice. However, the training was in the form of a one-off paradigm without monitoring and evaluation system to ensure the

sustainability of the action research promotion (see for example Declaro-Ruedas & Ruedas, 2020; Ekız, 2006; Maravilla, 2020; Shkedi, 1998).

Therefore, in line with those previous findings, this study strongly suggests that the introduction of the action research concept in Cambodia should be enacted with a comprehensive monitoring and evaluation model rather than a one-off training. The budget support from the development partners or MoEYS should be split for the actual training, monitoring and evaluation activities. Especially, it should support the continuous activities that enable and encourage participants to continue conducting action research and use the results to improve their practices. The relevant departments create an annual plan for an action research project with target schools. The plan must be approved by target school committees. Such a paradigm helps support schools to produce practical evidence to inform their own practices. It also enables participants to produce research reports for publication in local journals in either Khmer (Cambodian language) or English languages. Currently, there are new journals that accept manuscripts in Khmer in Cambodia, for instance, the CJSER (see CJSER, 2022).

5.2 Research anxiety and difficulty

To date, the research concept remains very rudimentary in Cambodia. Research is also considered a difficult additional task for educational personnel, especially at the sub-national levels. There is a critical gap in their educational background. The findings of the current study showed that despite positive attitudes towards action research, the participants were found to have significantly high anxiety and concern about the difficulty of conducting action research. These findings were strongly correlated with the claim of Declaro-Ruedas and Ruedas (2020) and Tandogan (1991). For instance, Tandogan (1991) claimed that the research concept in developing countries was generally regarded as basic due to various factors. Researchers in developing countries were found to have limited knowledge about research methodology, especially on measurements. They were most likely to have poor knowledge of measurements and measurement tools. They tended to collect the data without calculating the validity and reliability levels of the instruments.

Moreover, Declaro-Ruedas and Ruedas (2020) maintained that although their participants were found to have positive attitudes towards action research, they were likely to become anxious about carrying it out to improve their work. It was found that the participants felt that they had a severe lack of knowledge of action research methodology that allowed them to conduct successful research. They also claimed that they did not receive sufficient training

on action research, making them feel that action research was too difficult for them. This finding is consistent with what was found in the Philippines where there was a severe lack of research centers and specialists that could guide or provide training in action research to educational staff as a capacity-building program at schools, especially for teachers (Declaro-Ruedas & Ruedas, 2020). Declaro-Ruedas and Ruedas (2020) also argued that their participants perceived action research as a heavy additional workload for them in addition to their current workload. Therefore, they were so concerned and anxious about adding action research as their daily practice to reflect on and improve their work.

5.2.1 Implications for research anxiety and difficulty

The present study has various implications for encouraging educational staff to utilize and integrate action research to improve their practice. Because the action research concept is relatively new for educational staff in Cambodia due to its recent introduction, there should be more action research training that has a systematic paradigm with a good monitoring and evaluation mechanism. It might be done by recruiting representatives of particular groups of educational staff from the provincial to school levels. Those selected participants might be trained to become trainers for their local working sphere. They are responsible for passing the training to their colleagues quarterly or annually with technical and financial support from the development partners and/or MoEYS.

Therefore, as suggested above, the budget plan for action research training should be carefully split to ensure the continuity and sustainability of the training. The training plan should focus on quality, continuity, and sustainability rather than quantity. The more training that educational staff have received, the less anxious they perceived about action research. Moreover, there should be an emphasis on action research for educational staff's career professional development as stated in and required by the policy on Teacher Career Pathway (see MoEYS, 2018). The emphasis on this aspect will encourage more educational staff to learn about action research and reduce their anxiety to use it on a regular basis. Gradually, it will become a norm of using scientific evidence to solve a problem and decision-making among educational staff. It creates a strong foundation for building a research-based society and contributing to economic development.

6. Conclusion

Overall, it has been observed that the introduction of action research into education system is a welcome initiative and has a significant influence on the education reform in the context of

Cambodia. It helps to equip educational staff with research skills for effective leadership, management, and especially decision-making. Therefore, it produces skilled human resources that can compete in the job market in the region and the world. In particular, it consequentially helps the government to achieve the Cambodia Industry Development Policy 2015-2025 (see Royal Government of Cambodia, 2015). The findings of the current study revealed that despite positive attitudes towards action research, educational staff at the provincial level seemed to perceive relatively high anxiety and difficulty to integrate action research into their daily tasks. These findings are not surprisingly new for a developing country like Cambodia because the research concept in developing countries is often found very basic due to the country's economy (Heng et al., 2022b; Tandogan, 1991). This initiative denotes a positive and effective education reform paradigm to create a research-based society for sustainable development. Likewise, there should be a continuous provision of action research to the educational staff at all levels, especially teachers.

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Implementation of A Student-Center Approach in Cambodia

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Received: December 22, 2021/ Accepted: May 08, 2022

Abstract

To prepare human resources for the 21st-century workforce and to be aligned with the Education Strategic Plan (ESP) 2019–2023, teaching quality has become the prior endeavor of educational development for Cambodia. Teaching methods and approaches are the major concerns at public schools. To strengthen teaching quality, a comprehensive understanding of teaching methods and approaches that are currently implemented through various education strategies and policies is crucial for teachers and relevant stakeholders to note and learn. Therefore, this review paper aimed to discuss in-depth the adoption of the student-center approach as a teaching approach which embedded in strategies, practices and emerging education policies in the teacher reform era in Cambodia. Content analysis was utilized to analyze the data. The data consisted of policy documents and published research papers. This study offered core insights into the history and development of how the student-center approach has been introduced and integrated into teaching practices in Cambodian schools. The findings revealed a gap in its implementation and acknowledge some positive changes in terms of the initiative of the school curriculum. It also revealed some challenges that teachers have been facing, including teachers' understanding of the approach and the lack of systematic monitoring of teachers' practices at the school level.

Keywords: Student-center approach; Education policy; Teacher; Teaching quality, Cambodia

1. Background

Cambodia is located in Southeast Asia and is bordered by Thailand, Vietnam, and Laos. It is considered one of the least urbanized countries in Southeast Asia with rich history and culture. The Cambodian population is 16.4 million with three-quarters living in the countryside. The economy is mainly based on agriculture, garment manufacturing, tourism, and investment. It

has produced a nominal gross domestic product (GDP) of 27.0 billion dollars by 2022 (ADB, 2022). With this rapid growth, Cambodia has built school buildings and increased the number of teachers throughout the country. There are 4563 kindergarten schools, 7306 primary schools, 1253 lower secondary schools, and 559 upper secondary schools based on the statistic report by MoEYS for the schooling year 2021-2022. The schooling from kindergarten up to upper secondary school is free and supported by the government fund. Up to present the total number of teachers who are currently teaching at school is notable. There are 5934 preschool teachers, 58 040 primary school teachers, 33 386 lower secondary school teachers, and 18 189 upper secondary school teachers (MoEYS, 2021a). However, before reaching this movement, Cambodia had passed through several political regimes which affected its education structure and practices.

During the Khmer Rouge regime (1975–1979), most of the educational infrastructures and approximately three million people, including educated people such as teachers and professors, and students were killed (Collins, 2009). That regime turned schools into prisons and storage sheds. The teaching and training were completely shut down everywhere (Ayres, 2000). In the post-Khmer rouge regime from the 1980s, the country had to make a fresh start and developed from scratches with whatever remained from the genocidal regime and civil war in all sectors to rebuild the country, especially in education and economy.

Due to the instability of the country's politics, a significant rebalance of education started in 1993 after the first national election was successfully implemented with the support of the United Nation. From 1979 to 1986, Cambodia implemented a ten-year education system by dividing its education into four years for primary education, three years for lower secondary education, and three years for upper secondary education. From 1986 to 1996, it transformed its primary education from four to five years, whereas other educational levels remained. In 1996, the education system structure was again transformed into a 12-year education system with six years of primary education (grades 1–6), three years of lower secondary education (grades 7–9), and three years of upper secondary education (grades 9–12). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) framework and the Education Law of Cambodia, all children should have completed at least a basic education, which consists of nine years of schooling. It shall be free and supported by the government (Dy & Ninomiya, 2003).

2. The origin of the student-center approach in Cambodian education

In 1993, the Ministry of Education, Youth, and Sport (MoEYS) piloted the Child-Friendly School (CFS) program for the first time. The Child-friendly schools were the school that implemented child-center approach or student-center approach. The implementation was supported by the United Nations International Children's Emergency Fund (UNICEF), Save the Children Norway (SCN), and Kampuchea Action to Promote Education (KAPE).

The concept of CFS focuses on the school that recognizes and nurtures the achievement of children's basic rights. This school framework is based on six dimensions such as (1) all children have access to schooling, (2) effective learning, (3) health, safety, and protection of children, (4) gender responsiveness, (5) the participation of their children, family, and community for running their school, and (6) the national education system support and encourage the school to become more child-friendly. According second dimension, it was the first time that Cambodia started implementing a child-center approach to elementary education. The program was implemented in Kampong Thom, Kampong Speu, Prey Veng, Svay Rieng, Steong Treng, Oudor Meanchey, Siem Reap, Kampong Chnang, Kampong Cham, Pursat, Preah Vihear, and Phnom Penh.

The CFS aimed to create effective learning by developing teachers' proficiency so that they had both theoretical and practical knowledge to conduct and promote a child-center approach in classrooms. The child-center approach was characterized by teaching and learning through creative ideas, participation and cooperative learning, research, analysis critical thinking, problem-solving, and innovation and encouragement of creative ideas. This approach covered a bunch of activities in the classroom which are grounded in the Constructivist theory of learning-that to say is consistent with the constructivist teaching approach (Matthews, 2003). This program applied to the cluster schools, which were created by six to nine elementary schools nearby. Every Thursday, the teachers held a cluster-level meeting by sharing the problem and improving teachers' capacity. However, this pilot program could reach only some elementary cluster schools in 11 provinces due to its limitations, including a lack of trained teachers in the child-center approach and budget support.

Moreover, the first trial of conducting a CFS was found to be more effective in school construction and school allocation than some changes in teaching practices (Wheeler, 1998). In 2001, MoEYS expanded the CFS program nationwide at lower secondary schools. By 2007, a pilot program attached 37 lower secondary schools to random elementary CFS across

Cambodia. After the expansion of the CFS pilot program, MoEYS established a national CFS policy in 2007. The policy was revisited and updated in 2011. The policy has become a crucial means to improve teaching and learning. Consequently, the student-center approach has been introduced nationwide at elementary and lower secondary levels in 2007. Then, the promotion of a student-center approach has become a prioritized key for improving teaching and learning quality in Cambodia especially in science education as indicated in the Education Strategic Plan 2019-2023, and other related policies (Stage 4 Rectangle Strategies 2018-2023, Roadmap for Cambodia Education Year 2030). Because, student-center approach implementation relies heavily on the quality of teachers it is deemed a vital current education reform agenda as stated in the Teacher Policy Action Plan (TPAP) (MoEYS, 2015). The government has implemented the TPAP policy and action plan from 2015 to 2020 which uses a budget of about 2,945 million dollars under collaboration with JICA, UNESCO, UNICEF, World Bank, EU, and SIDA. One priority activity in The TPAP matrix was indicated about the improvement of teacher professional development (ensure pre-service and in-service teacher training) and the related factor which enhances teachers' practice of student-center approach at the school level. However, there is little known from the other policy documents or other relevant documents about to what extent Cambodian teachers get familiar with this approach and how the student-center approach has been implemented in teaching and learning at the secondary level.

3. Methods

To have a rigorous understanding of the current state of the student-center approach implementation and teachers' challenges in practicing this approach, this review needs to look back at the previous literature and research studies on this certain topic, especially the local literature. Therefore, the selection of documents for this review taps into three criteria:

3.1 Document type and scope of content

The selected documents for this review were generated from government policy documents, international partners' reports in the education sector, and certain research articles published on the topic of the "student-center approach in Cambodia".

That would provide a comprehensive review and in-depth discussion of the adoption of the student-center approach and how it is integrated into teaching practices with various support strategies, projects, and policies. Moreover, it could provide historical insights on the development and the current progress of the implementation of the student-center approach at school levels. Those documents provided relevant perspectives for critical synthesis about the

implementation of the student-center approach in the context of Cambodia. The majority of the documents were policy-oriented on perspectives, practices, and training on the student-center approach. The sources of the selected documents were from various active educational stakeholders, including JICA, VVOB, ADB, WB, and UNESCO. These educational partners play a major role in education reform in Cambodia and contribute continuously to the projects from baseline to the evaluation of the project. The findings from their studies enable the current study to have an in-depth discussion on the status of student-center approach implementation and a call for solid policy practices to promote it.

3.2 Timeline of publishing

All the documents ranged from 1996 up to the present. This determination is based on the education structure of Cambodia started 12 years of the education system in 1996, which was the time of pioneering the student-center approach in Cambodia as well.

3.3 Free access from the website

The author didn't choose the document which cannot access online, all the documents were able to be accessed from the MoEYS website, the JICA website, and other educational websites. The author got four government documents, international partner report 1 which covers three different stages of the project, and two research studies written in journal articles as illustrated in Table 1.

3.4 Data analysis

Content analysis was employed to analyze the data. Specifically, rational content analysis was used to analyze the texts extracted from the selected documents that were indexed into three main themes (prior structural themes) which were confirmed before reading the content of the reviewed document. Those themes were 1) teacher training on the student-center approach, 2) supported school policy on the student-center approach, and 3) research on the student-center approach implementation. The concepts or units related to the coded initial referential units were explored and gathered by allocating them to the three themes mentioned above. The referential units represented the three main concepts or units and were used for the discussions in this study. The sub-themes would determine after the actual reading of the contents of each document.

Table 1. Summary of the selected documents.

Author and years of publication	Criteria/Title	Document types	Scope of contents	Samples
JICA (2005, 2012, 2016)	STEPSAM 1-2-3	Report (Baseline survey)	Developing science teaching manual/ inquiry-based learning/lesson study	Science secondary school teachers/ Teacher trainers/educators
MoEYS (2008)	Secondary Resource School	Book	Educational policy	Secondary education
USAID (2010)	Active-Learning Pedagogies as a Reform Initiative: The Case of Cambodia	Report	Progress of promotion student-center in education reform	Public Education
VVOB and MoEYS (2012)	SEAL	Manual	Analogy/Education Game/scientific method Chemistry/Biology Physics/Earth environment	Pre-service science secondary school teachers/teacher trainers
Song (2015)	Cambodian teachers' responses to child-centered instructional policies	Research article	Student-center practice belief and practice	Elementary school teachers
Song (2015)	Cambodian teachers' responses to child-centered instructional policies	Research article	Student-center practice belief and practice	Elementary school teachers
MoEYS (2016)	New Generation School	Book	Educational policy	Primary/Secondary education
King (2018)	CFS policy and Cambodian teacher education and training	Research article	Educational policy implementation	Primary school teachers
MoEYS (2021)	Teacher Career Pathway	Book	Systematic in-service training	All educators
MoEYS (2021)	Professional Learning Communities	Book	Teaching strategies guiding	Elementary/secondary school teachers
King (2021)	Translating policy into practice: Cambodian primary schoolteachers' sense-making of the Child-Friendly Schools policy	Research article	Child-friendly policy practice	Primary school teachers

4. Results and discussions

In the last two decades, the Cambodian government has cooperated with national and international stakeholders to strengthen the quality of public education, especially aiming to increase students' learning achievements. Teachers play a critical role in educational development and reform through their teaching practices. It was found that policies and action plans have been initiated to improve teachers' quality. It has been conducted in the form of short- and long-term training programs, seminars, workshops, and conferences. The sections below corresponded to the main questions "how is the student-center approach introduced for Cambodian teachers and "To what extent is the challenge for teachers to implement the student-center approach?". Responding to the first question, the findings illustrated a snapshot of students-center approach training and supported projects/policies at the school level. The second question corresponded with the findings from research studies of student-center approach implementation at the school level.

4.1 A snapshot of the type of teachers' training regarding the student-center approach

According to the public statistics and indicators for the academic year 2021-2022 (MoEYS, 2021c), the total number of teachers who were currently teaching in public schools was 94, 718 of which 72, 093 of them working in rural areas. Among those teachers, there was no clear single source indicating how many teachers were involved in student-center approach training or what level of student-center approach they had implemented in their teaching. However, there were some indicators illustrating some practical training that involved a large number of teacher educators, teacher trainers, pre-service teachers, and in-service teachers. The training was generally supported by the development partners such as the Japan International Cooperation Association (JICA), the Flemish Association for Development Cooperation and Technical Assistance (VVOB), and others.

4.1.1 STEPSAM

The Secondary School Teacher Training Project in Science and Mathematics (STEPSAM) project has been implemented in Cambodia in three phases: STEPSAM 1 from 2000 to 2005, STEPSAM 2 from 2009 to 2012, and STEPSAM 3 from 2013 to 2016. Each project phase had different objectives for implementation. However, the overall and common goal was to improve science teachers' quality and science teaching practices in secondary education in Cambodia. From 2000 to 2005, the project targeted science and mathematics teachers at the National Institute of Education (NIE). The core aim of the training was to enhance science and

mathematics teachers' capacity, provided training for in-service teachers, and distributed science and mathematics manuals. From 2009 to 2012, the second round of the project introduced the Lesson Study (LS) and Inquiry-Based Learning (IBL) to all pre-service teachers at all Regional Teacher Training Centers (RTTCs) and other 18 Provincial Teacher Training Centers (PTTCs). From 2013 to 2016, the project shifted the focus to developing teachers' guides in science and mathematics from grades 7 to 9 and provided training for teachers' trainers in six RTTCs. The training provided a training course to strengthen content knowledge, scientific skills, and teaching methods such as problem-solving, Inquiry-based learning (IBL), interactive learning, and concept mapping by using a student-center approach in classrooms. It also encouraged teacher trainers to share knowledge that they gained from the training with in-service teachers in their areas. If there was a possibility that the teacher trainers could carry out the training for lower secondary school teachers, the trainers should guide in-service teachers to have a better understanding of using teachers' guidebooks. This guidance should include three important suggestions, namely (1) emphasize how to develop lesson plans and teaching materials for science experiments, and (2) encourage the teacher to include an assessment from teachers' guidebooks into examination to change students' learning norm from memorizing to higher order thinking and solving-problem, and (3) implement lesson study or inquiry-based learning in teaching practices to promote a student-center approach (JICA, 2005, 2016).

4.1.2 The SEAL projects

The pre-service teacher training program for improved teaching and learning of Science Education, ***E***nvironmental education, and ***A***gricultural ***L***ife skills in basic education (SEAL) project through the VVOB program was run from 2008 to 2013. It focused on building and stimulating a learner-centered approach to science education in Cambodia. The SEAL project trained pre-service teachers in Teacher Training Center (TTCs) and four other attached primary- and lower-secondary-school teachers in Kandal province. Attached primary schools refer to the primary school that are in the cluster with TTCs, the students' teachers from TTCs would do practicum in those attached primary schools. With this project, the selected both pre-service and in-service teachers were given a chance to improve their understanding of the learner-center approach, how to conduct low-cost experiments, and how to stimulate problem-solving skills. The program aimed to develop six manuals, including (1) reading and writing skills in science lessons, (2) science reasoning skills, (3) teaching the scientific methods, (4) conceptual science teaching, (5) model and analogies, and (6) educational games. The project conducted the workshop and introduced all of these manuals to teacher trainers. All contents

were illustrated in Chemistry, Physics, Biology, and Earth Science for the secondary education level. It was expected that they tried out and delivered this knowledge to pre-service teachers at their schools and encouraged them to share it with other teachers of their attached schools (MoEYS, 2013).

4.1.3 Professional development course in teaching methodology

There was a two-month program training course conducted at the National Institute of Education (NIE) and the Nanyang Technological University in Singapore in line with the memorandum of understanding between MoEYS and NIE of Singapore. The training program selected 40 teacher trainers and science teachers to train on various topics in promoting student-center practices, including science inquiry-based teaching methods, social science inquiry-based teaching methods, and concept-based curriculum development. The program provided participants with the knowledge of writing a lesson plan following the IBL concept. Although in-service teachers were trained with these types of content, there are some emerging gaps in its efficiency. The contents of the training might not fulfill the need of the participants. It has been observed that the training was conducted by different development partners with distinct objectives and contents. Most trainings were not well-designed to meet teachers' needs to use in their actual teaching within variations of classroom contexts.

Despite the training on a student-center approach, there have been other initiatives such as policies and the development of teaching manuals that aim to enhance the quality of teaching and learning and promote a constructivist approach. For instance, under the support of the Belgium Development and Cooperation project and the support of the Government of Flanders, the Teacher Training Department of MoEYS has developed science teaching manuals to guide teachers to teach science lessons effectively. The book aims to help science teachers to be able to conduct science lessons following the IBL. A sample lesson plan for Chemistry and Physics lessons is provided in the book along with an explanation of the scientific method (MoEYS, 2016b). Moreover, MoEYS established the Professional Learning Communities (PLC) and Teacher Career Pathway policy in 2021. The PLC aims to create various groups of teachers in teacher training centers, secondary schools, and elementary schools to share their skills and knowledge to improve their teaching. These groups of teachers could develop their career professional development plan by conducting regular meetings upon their agreed schedules. For example, teachers at elementary school can conduct a meeting every Thursday for about three hours, face-to-face or online. The meeting aims to share effective strategies or solutions

to the problems that they have been facing in teaching at schools. It can be the class observation that novice teachers teach and their peers with better teaching experience observe to give practical feedback. It is not limited to only new teachers' class observation. The teaching demonstration can involve experts or experienced teachers who have good teaching experience to share their teaching practices with the other teachers in the same communities, especially on teaching strategies in implementing a student-center approach in public school classrooms. The Teacher Career Pathway policy (MoEYS, 2018)is one of the significant career professional developments that encourage teachers to improve their teaching practices for better student learning outcomes. Students' involvement is always a central focus. Through this policy, teachers or other educational staff are given incentives and extra benefits if they can create a friendly and positive learning environment for learners and generate a high-level learning outcome that meets the country's development goals and visions.

The snapshot of various teacher training on the student-center approach in this review has approached in-service, pre-service teachers, and teachers' trainers on the topic of the student-center approach. Drawing from various training as described above, two critical points of the training can be highlighted 1) content and 2) consistency of each training. The "content" of each training provided the understanding of various teaching strategies and the development of teachers' guidebooks, especially science manuals. Thus, the common teaching strategy that has been guided for Cambodian teachers was inquiry-based learning (IBL), which is incorporated through teacher training supported by government and international partners. While (Richardson, 2003)pointed out the necessity of understanding concisely of constructivism theory and its mechanism first before getting into the various teaching strategies such as IBL, problem-based learning, etc. Because understanding the inside of constructivism theory provides the nuance of mechanism which allow the teacher to apply the various teaching strategies according to their classroom context and culture rather than focus only on one specific teaching strategy. The procedure of training regardless of the content of various teaching strategies or developing manuals should be consistent to endure the quality of the implementation of the training. While most of the professional development or teacher training for Cambodian teachers from international partners could only be conducted in specific projects.

4.2 Supported policies on student-center approach at the school level

Building a high-quality education system requires a strong foundation of teaching quality at the classroom level. In the 21st century, education emphasizes leading students to think and learn rather than only receiving information or knowledge from teachers as the means of learning. Following this mechanism, the constructivism approach ensures that students think and solve problems, leading them to construct essential skills such as critical thinking, problem-solving, cooperative learning, creative, and analytical skills. Therefore, the MoEYS has put a strong effort to develop various types of schools and policies to achieve these visions.

4.2.1 Secondary Resource School Policy (SRS)

MoEYS established a policy on Secondary Resource Schools in 2008. The Secondary Resource Schools (SRS) have been regarded as a school model for other schools in Cambodia. They are defined as schools equipped with a laboratory, library, computer room, and source of electricity and water. Besides the dominant development of the infrastructure, SRS plays an important role in promoting professional development for teachers. They include sharing experiences of teaching and learning, strengthening leadership and management, and developing teacher competency amongst school networks in the communities (MoEYS, 2008). This has been advised and supported by the Asia Development Bank (ADB) through the Upper Secondary Education Sector Development Project (USESDP) I and II. One of the main goals of SRS is to adopt powerful teaching and learning methodologies and approaches, specifically the constructivist approach. Because SRS is supposed to conduct demonstration classes and micro-teaching classes on specific topics in their network schools, they help teachers not only from SRS but also from network schools to learn about simple experiments and be able to use the local or supporting materials to do experiments for science classes. A report from the USESDP II (ADB, 2019) showed that the number of SRS has reached 137 schools where 50 schools are SRS and other 87 schools are the network schools.

4.2.2 New Generation School Policy (NGS)

The New Generation Schools (NGS) are a type of school that were developed in line with the Child-Friendly School with a higher standard and focus on a student-center approach. NGS is a nascent initiative and the Cambodian equivalent of charter school in the United State. The Cambodian government has thought to build the autonomous public schools that flexible enough to equip students with the quality education. The NGS was established through the establishment of the NGS policy developed in 2016 (MoEYS, 2016a). There have been 11

schools that have been transformed into NGS across the country. Seven schools are located in rural areas, namely Svay Pro Hout Primary School in Svay Rieng province, Kauk Pring Lower Secondary School in Svay Rieng province, Samdach Chea Sim Prek Anchanh High School in Kandal province, Angkor Ban Primary School in Kampong Cham province, Hun Sen Peam Chi Kang High School in Kampong Cham province, Bun Rany Hun Sen Ampor Voan Upper Secondary School in Thbong Khmum province, and Preah Reach Akeakmohesei Primary School in Kampong Speu province. The other four schools are located in urban areas such as Preah Sisovath High School and Prek Leap High School in Phnom Penh and Hun Sen kampong Cham Primary School and Hun Sen Kampong Cham High School in Kampong Cham province.

A primary objective of the establishment of NGS is to improve teaching standards by adopting new teaching and learning approaches. For instance, a problem-based learning methodology has been integrated with new educational software for teaching and learning science subjects, for example, a 3D classroom. According to Grobler (2015), NGS allow each class to reduce the number of students so that it increases the opportunity for individual student's learning activities and involvement in the teaching and learning process. The smaller class size provides an advantage to both students and teachers to wander around the assigned tasks effectively (Jones, 2007). They also enable teachers to keep tracking each student's learning. It allows students to have a chance to speak and listen to their peers. Moreover, NGS aims to ensure increasing the number of hours of instruction for students to 40 hours per week for the secondary level and 34 hours for the primary level. Teachers in NGS are required to be well-prepared for the lessons and ensure that teachers do not require students to pay for any handouts or documents. The most distinctive and unique feature of SRS is the abolishment of private torturing classes that are commonly practiced in Cambodian public schools (Nhem & Kobakhidze, 2022). Moreover, teachers receive an extra budget in addition to their regular monthly salary. The support budget is supported by the government, development partners, international organizations, and especially the communities (such as parents).

That was a positive change in the effort of improving student-center practice at the school level in Cambodia through the initiation of the NGS policy and SRS policy. These policies were drawn from the school-Based Management compliance (MoEYS, 2021b), which aims to improve education at the school level through decentralization, autonomy, leadership, capacity, and accountability. However, the number of NGS schools is still limited and the assessment of outcome still needs to investigate.

4.3 Research on student-center approach implementation at the school level

Besides implementing policies and practicing a student-center approach at public schools, the government has collaborated with relevant stakeholders in the education sector to establish more support initiatives to ensure that a student-center approach is practically implemented. Those initiatives are in the form of research, project monitoring and evaluation, and assessments. The following sections highlight some findings from previous research on student-center-approach practices in the context of Cambodia.

A study by Song (2015) denoted that primary school teachers from two districts in Cambodia who were interviewed about their beliefs and the implementation of a student-center approach in their teaching believed that the student-center approach and teacher-center approach benefited students in different ways. The findings of the study reported that although a student-center approach was claimed to be used in the classrooms, a teacher approach was found to be commonly employed in engaging students in teaching and learning activities. For example, in mathematics lessons, the common activities were in the form of solving the computational exercises on the blackboard. Moreover, teachers tended to ask students to only memorize the rules, while other activities, including working in a small group, solving and discussing with peers, making a conjecture, and posing a problem were not commonly initiated. Therefore, the study claimed that the implementation of a student-center approach in primary education did not exist. Although teachers had a strong belief in the effectiveness of the approach, their instruction mostly followed the conventional approach. It was denoted that this issue happened due to several constraints, including variations in students' ability, large classes, scarcity of teaching resources, and the disproportionate contents of the curriculum.

Moreover, the study of student-center-approach implementation in secondary education has been revealed in the study of (Khieng & Dahles, 2015). They commonly found that students' skills and knowledge did not meet the needs of the 21st-century-job market such as critical thinking skills, teamwork skills, and problem-solving skills. These results significantly marked that the teaching quality, the implementation of a student-center approach, and guidance on critical thinking and problem-solving skills were inadequate. Furthermore, some teachers in the King's (2018) study claimed that they had uncertainty about how to teach his/her students using a student-center approach. He/she elaborated "I am not sure how to teach, and I want to learn more about new methodology". I think "I lack the knowledge and skills to teach and I need further training on the student-center approach. A recent study by (E. King, 2021) has revealed how Cambodian primary school teachers connect CFS to their teaching

practice-that to say they constructed the student-center approach (child-friendly approach) within the framework of their prior knowledge, pedagogical knowledge, and worldview. For example, some teachers in the study said that "I use the old methodology in my lessons", or "calling some students to the front to write on the chalk", and sometimes "I face difficulties to perform the experiment, especially in science subjects".

To some extent the research on student-center implementation in Cambodia is not yet resourceful to draw solid perspectives and challenges, however, from these main reviewed local articles, there were few points to consider. First, the challenge of implementing a student-center approach has been placed on elementary teachers. They have to deal with many subjects teaching and require much understanding of various subject matter knowledge (Richardson, 2003), and the teachers at the secondary level still expressed their low self-esteem of performing this approach and concern about the right way of doing it (Nith et al., 2010).

5. Conclusions and recommendations

It has been observed that the improvement in teacher quality has become a central focus of the government, especially on teaching methods and approaches. There are various positive changes to teaching practices that are often regarded as traditional and a teacher-center cornerstone. With the initiatives in the form of trainings and policy support, Cambodian teachers were found to become familiar with the student-center approach with a specific understanding to some teaching approaches such as IBL, and problem-based learning and have a strong belief in its applications.

However, it remains many challenges remain in the actual teaching practices in schools, especially with regard to the teachers' capacity and attitudes toward the student-center approach. Some teachers expressed their low confidence in integrating and implementing this approach because they did not have sufficient knowledge and skills. In this regard, the government, through MoEYS should set out appropriate interventions that encourage and enable teachers to effectively adopt and use the student-center approach in their teaching practices. It can be done by strengthening related education policies through project activities, developing teaching manuals and guidebooks by integrating student-center support activities and tasks in each lesson, and providing more training that mainly emphasizes teaching methods with a cornerstone of the student-center approach. It is advised that cooperation and collaboration with school principals are crucial to monitoring teachers' teaching practices. This study suggests that there should be more empirical studies at the school level on student-center

implementation with a strong focus on how teachers of different subject areas both science and social studies manage to implement this approach. In particular, a study on best practices of the student-center approach at all levels is deemed an important mirror for other teachers.

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Factors Influencing Students' Motivation and Academic Performance at the Lower Secondary Schools in Cambodia

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Received: December 22, 2021/ Accepted: May 08, 2022

Abstract

This mixed-method study aimed to investigate the influence of gender, school location, and family structures on students' motivation and academic performance. A questionnaire and interviews guides were utilized to as research instruments to collect data. This study randomly selected 978 grade seven students at lower secondary education to complete the questionnaire and involve in semi-structured interviews. The results revealed that their academic performance varied by gender and school locations. Family structure did not have a significant effect on their academic performance despite its significant effect on academic amotivation. Moreover, the competence and autonomy support correlated positively and significantly with their academic performance despite the rare occurrence of supervision and guidance from their teachers. Policy implications to strengthen students' motivation and academic performance were also discussed.

Keywords: Motivation; Psychological support; Academic performance; Lower secondary school students; Cambodia

1. Introduction

With the ambition of moving Cambodia from a lower-middle-income to an upper-middle-income country by 2030 and a developed country by 2050, the Royal Government of Cambodia (RGC) has strongly emphasized the importance of education sector as stated in the National Strategic Development Plan 2019-2023 (MoEYS, 2014; RGC, 2020). According to the Article four of the Education Law (2007), it highlights the transformation of the individuals to become the valuable assets for themselves, their families, their communities, the nation, and the world. The education sector aims to develop learners physically, mentally, and spiritually with the sets of knowledge and skills to enable them to compete in the local, regional, and global job market.

As a result, the Ministry of Education, Youth and Sport (MOEYS) has engaged various stakeholders in education sectors to take initiative to increase students' enrolment rates and reduce the dropouts in the past few years. However, it has been observed that completion rates at high school remains low compared to the enrollment rates. According to Hang-Chuon (2017a), the enrolment rates was at 97 percent, while the completion rates was 79.9 percent at the primary school level, 42.6 percent at lower secondary school level, and 20.2 percent at the upper secondary school respectively.

Furthermore, the results of national assessments of three subject areas_ Mathematics, Khmer and Physics of grade eight revealed that 5, 092 students (54.5 percent female) achieved 55.6 percent for Khmer test, 44.0 percent for Mathematics test, and 52.8 percent for Physics test in the academic year 2013-2014. In addition, the national assessments of Khmer and Mathematics for grade six showed that 5939 students (54.6 percent female) achieved 52.1 percent for Khmer test and 48.3 percent for Mathematics test (MoEYS, 2017). These results showed that students' achievement were very low, especially for Mathematics, that was lower than the average scores. Thus, the current study aimed to investigate the influence of various factors that might have significantly influenced students' motivation and especially academic achievement at lower secondary schools in the context of Cambodia. There were specific variables related to students' academic motivation, academic achievement and its determinants included in this study, including academic amotivation, gender, family status, and their institutional construct of motivation regarding the basic psychological need support (relatedness support, competence support, and autonomy support) and their school. There were three research questions as follows.

1. Did gender and school location affect grade seven students' academic performance?
2. Did family structure affect grade seven students' academic amotivation and academic performance?
3. To what extent are school locations and the provision of social-contextual supports (relatedness support, competence support, and autonomy support) were associated with grade seven students' academic performance?

2. Review of literature

Motivation has been defined in relation to the concentrative movements and direction. And it is analyzed both quantitatively and qualitatively. The quantitative notion of motivation is

regarded by the attention and effort of individuals in initiating and sustaining their activities, whereas its qualitative point of view focuses on the types or sources of motivation which can be intrinsically or extrinsically oriented (Dörnyei, 2001, p.7, King & McInerney, 2016, p.275). In addition, Deci and Ryan (2002) claims that another individuals' state of actions relies on the lack of intention to act or to act passively (p. 17).

According to self-determination theory, motivation consists of all the characteristics of activation and intention that includes dynamism, path, determination and equifinality (Ryan & Deci, 2000). Theoretically, students' motivation can be originated from the innate tendency to seek out novelty and challenges, spread and exercise their competence, discover, and learn. This kind of enthusiasm is called intrinsic motivation. However, through the principal motive, students originally participate in the activities because they want to attain some separable outcomes. It is called the extrinsic motivation (Ryan & Deci, 2000). Students are sometimes neither intrinsically motivated nor extrinsically motivated. It is what Ryan and Deci (2002) called amotivation. In addition, Ryan and Deci (2000) also claim that students' choices of action and behavior are encouraged, displayed, or appreciated by other people to whom they feel committed or interrelated. Therefore, the emotion of relatedness, the need to feel belongingness and the connection with others are centrally significant to inspire or initiate the inner composite of motivation.

In consistence with Ryan and Deci (2000), Seifert and Sutton (2009) point out that students' motivations or motivations to learn come from some sort of inner needs that influence their choices and activities. Furthermore, Deci and Ryan (2000, 2002) have developed a framework of self-determination theory (SDT) which is based on the notions of students' basic psychological needs and integrate perspective of organismic dialectal assumptions. According to Seifert and Sutton (2009), SDT proclaims the importance of intrinsic motivation (p. 126). In contrast, in reaching self-determined emotional form of motivation, students' contextual environment must fulfill individual leaners' basic psychological needs (Seifert & Sutton, 2009). The notion of SDT possesses quality of natural growth of the students' personality, well-being, and learners' integration in the society through the provision of contextual social supports basic psychological need, including needs for competence, relatedness, and autonomy support. These need supports generate students' aspirations to learn within their own contexts (Ryan & Deci, 2000, 2002). Therefore, motivation given by teachers, parents, and their peers crucially contributes to increasing students' self-determination. Teachers are the key catalysts to support students to meet their basic needs without being interfered by school rules and

regulations or teachers' leadership (Seifert & Sutton, 2009). In addition, students' parents or guidance and peers are also the prominent catalysts in supporting and encouraging students to learn efficiently and effectively.

3. Methodology

This research employed a mixed-method approach (see Bryman, 2012, p.628, Creswell, 2005, p.510) to investigate whether students' academic motivation and academic performance were influenced by various factors, including gender, school locations, and family related factors. According to Bryman (2012), the contemporary social researchers are increasingly favorable a mixed method research to fill the research methodology gaps. A mixed-method approach helps reduce the drawbacks of biases of each research method and make much more robust data (Bryman, 2012).

The current study was conducted at lower secondary school level from five purposively selected high schools with twenty-seven different classes in Banteay Meanchey Province to the Northwest of Cambodia. The study randomly selected 978 grade seven students at lower secondary school level of the high schools, in Banteay Meanchey province. In Cambodia, a high school can be a school providing only an upper secondary school or both lower and upper secondary education. The student-teacher ratio varied from 39 to 55, with an average of 47.16. The selected students aged from 11 to 20 years old (M = 13.42; SD = .98). For quantitative part, there were 520 were females (53.17 percent) and 458 were males (46.83 percent) completing the survey questionnaire. For qualitative part, a semi-structured interview was conducted with 14 males and 15 females as well as seven female teachers and six male teachers.

To collect the data, the survey questionnaire was developed. It consisted of three parts. including Academic Amotivation Inventory (AAI), Interpersonal Behaviour Questionnaire (IBQ), and grade seven students' personal background. The AAI was adapted from Legault, Green-Demers, and Pelletier (2006). It consisted of four main constructs, including value of the task, ability beliefs, task characteristics, and effort belief. There were 16 items of the four constructs. The internal consistency of the overall academic amotivation of 16 items accounted for, $\alpha = 0.85$. The IBQ was adapted from Rocchi, Pelletier, Cheung, Baxter, and Beaudry (2017). It consisted of level of basic psychological need support in terms of autonomy support, competent support, and relatedness support from teachers. Academic performance was measured with the average grade scores of the first semester result. The average grade scores were range from 0.00 to 50.00 and were classified into four scales ranging from 1=0.00-24.99

for poor performance level, 2 = 25.00-32.49 for satisfactory performance level, 3=32.50-39.99 for fairly good performance level, and 4= 40.00-50.00 for good performance level, in line with the Cambodian grading system. Students' academic performance average scores were used as dependent variables in the analytical models in the current study accordingly.

To collect the qualitative data, this study employed a semi-structured interview and developed two interview guides for teachers and students separately. The interview questions for teachers and student*s* were developed in line with the questionnaire in order for an in-depth analysis through both teachers and students' perspective.

4. Results

4.1 Reliability test

A reliability test was conducted to determine the reliability of academic amotivation, relatedness support, competent support, and autonomy support. The result showed that the values of Cronbach's Alpha of all constructs accounted above. It was α = 0.84 for academic amotivation, α = 0.80 for relatedness support, α=0.80 for competent support, and α = 0.71 for autonomy support.

Table 1. The overall internal consistencies of the four constructs.

Constructs	Number of items	Cronbach's alpha (α)
Academic Amotivation	16 items	0.84
Relatedness Support	4 items	0.80
Competence Support	4 items	0.80
Autonomy Support	3 items	0.71

4.2 Gender, school location, and the academic performance of the high school students

In order to investigate the influence of school locations and gender on students' academic performance, the Independent-Samples T-tests were computed. Table 2 showed there was significant difference in students' academic performance by school locations (t = 4.41, p = 0.000). Inspection of the two group means indicated that the average academic performance for students in the urban area was (M = 2.39, SD = 0.85), which was significantly higher than the average academic performance of students in the rural area (M = 2.14, SD = .90). The difference between mean was 0.25 on a four-point scale.

Table 2. Influence of school locations on students' academic performance.

Variables	*M*	*SD*	*t*	*df*	*p*	*d*
Academic Performance			4.41	976	.000	.29
Urban	2.39	.86				
Rural	2.14	.90				

Note: 1. Academic performance 1 = 0.00-24.99, 2 = 25.00-32.49, 3= 32.50-39.99, 4 = 40.00-50.00; 2. School location: 0= urban, 1 = rural

Table 3 showed the variation in students' performance by gender. It was found that there was a statistically significant difference in students' performance by gender ($t = -9.54$, $p = 0.000$). Female students were found to significantly outperform their male counter parts. Moreover, the results of the interview also indicated that not paying much attention to learning, the lack of hard-working, unpreparedness for the next lessons, and their peer academic resistance to their learning appeared to be the major barriers to male students' low academic performance.

Table 3. Gender and students' academic performance.

Variables	*M*	*SD*	*t*	*df*	*p*	*d*
Academic Performance			-9.54[a]	973	0.000	0.61
Male	1.98	0.82				
Female	2.50[a]	0.88				

Note: The ***M, t*** and ***df*** were adjusted because variances were not equal.
1. Academic performance 1 = 0.00-24.99, 2 = 25.00-32.49, 3= 32.50-39.99, 4 = 40.00-50.00; 2. Gender: 0= Male, 1 = Female

A male student reported that most male students were found to be careless during classes and usually spent free time doing nonacademic tasks with their classmates.

> …they pay more attention to their learning than I do. I don't pay much attention to my learning during the class. During the break, the female mostly spend time playing with their friends or learning in the class, while I like going out to play football or something. At home, I rarely review my lessons. (H5S2M22)

In line with this finding, one of their teachers also reported that young female students tended to spend their free times such as staying inside the classrooms, playing simple games, or reviewing their lessons for the next classes. In contrast, male students tended to going outside the classroom and spending their time playing sports or even skipped the class. It could be

concluded that female students usually prepared well for the next classes, while the male students were mostly unprepared for classes.

4.3 Family structure of students, academic performance, and academic amotivation

In order to investigate the impact of family structure on students' academic performance and amotivation, the One-Way ANOVA tests were computed as shown in the table below. The result revealed that there was a non-significant main effect of family structure on students' academic performance ($F(2, 972) = 0.93$, $p = 0.39 > 0.05$) as shown in Table 4. Although the findings from quantitative data revealed that family structure did not significantly affect students' academic performance, the result from qualitative data exhibited some contrastive perspectives. According to the result from the interview with teachers and students indicated that only female students maintained that their academic performance was not affected by having parents working abroad,

> …they encourage me to try my best in my learning. They go to work in Thailand because they want to help me and they hope I have a good future. So, I must try my best". (H1S3F22)

In addition, there was a significant influence of family structure on students' academic amotivation as shown in Table 4, $F(2, 972) = 4.63$, $p = 0.010$. The result indicated that the students living with their parents and having parents working abroad differed significantly in the academic amotivation. On the other hand, there were no significant differences of academic

Table 4. The results of the One-way ANOVA of family structure on students' academic performance.

Source	*df*	*SS*	*MS*	*F*	*p*
Academic Performance				0.93	0.39
Between groups	2	1.48	0.74		
Within groups	972	767.39	0.79		
Total	974	768.87			
Academic Amotivation				4.63	0.01
Between groups	2	1.94	0.97		
Within groups	972	203.88	0.21		
Total	974	205.83			

amotivation between students living with parents and those having dead or divorced parents (p = 0.44). Likewise, there also no significant differences in terms of academic amotivation between students having parents working abroad and those having dead or divorced parents (p = 0.78).

4.4 School locations, provision of social-contextual support, and students' academic performance

To explain to what extent school locations and the provision of social-contextual support from teachers in terms of relatedness support, competent support, and autonomy support were correlated with students' academic performance, the Pearson Correlation was computed. Table 5 showed that there were significantly negative correlations between students' academic performance and their school locations ($r = -0.140$, $p < 0.01$). It means that students from rural area tended to perform lower than students from the urban areas. On the other hand, relatedness support did not correlate significantly with students' academic performance ($r = -0.002$, $p = 0.946$). This result reflected that the feeling of attachment to their teachers did not directly contribute to students' learning outcomes.

Table 5. Correlations between for school location, basic psychological need support variables, and academic performance.

Variables	1	2	3	4	5	*M*	*SD*
1. Academic performance	1					2.26	.89
2. School location	−.140**	1				1.54	.50
3. Relatedness support	−.002	−.054	1			3.25	.83
4. Competence support	.155**	−.050	.581**	1		3.81	.70
5. Autonomy support	.067*	−.096**	.586**	.569**	1	3.32	.71

**p < .05; ** p < .01*

Note: 1. Academic performance 1= 0.00-24.99, 2=25.00-32.49, 3=32.50-39.99, 4=40.00-50.00; 2. School location: 0= urban, 1 = rural

However, the findings from qualitative data revealed that the female students were found to have the better relationship with their female teachers compared to the male students. Thus, better teacher-student interaction could possibly offer female students a better access to their female teachers, especially more opportunities to seek for assistance or advice and

guidance on their academic difficulties and challenges. One of the female teachers stated about her better relationship with female students as follows.

> …I think I have a close relationship with the 7 grade students, especially female students. I can say it because I usually take my small kid to school everyday. When I arrive at school, they usually come to help me to take my kid and carry all my teaching materials…(H5T1F1)

Furthermore, there were a significant and positive correlation between students' academic performance and the basic psychological need supports of competence supports (r = 0.155, $p < 0.01$), and autonomy supports (r = 0.067, $p < 0.05$). The higher competence and autonomy supports, the better they contributed to the higher students' academic performance. Autonomy support significantly displayed its positive association with students' academic performance. Additionally, school locations were significantly and negatively correlated with the autonomy supports ($r = -0.096$, $p < 0.01$). The locations were not correlated significantly with relatedness support and competence support. Students at the rural high schools seemed to receive less autonomy support from their teachers compared to students from the urban schools. In addition, the results showed that relatedness support was strongly and positively correlated with competence support ($r = 0.581$, $p < 0.01$); and relatedness autonomy supports ($r = 0.586$, $p < 0.01$). Lastly, there was a strongly positive correlation between competence supports and autonomy supports ($r = 0.569$, $p < 0.01$). The effect sizes were from moderate to strong effect sizes (Caldwell, 2010).

5. Discussions and conclusions

Overall, the findings of the current study showed that gender was a crucial factor contributing to students' academic performance. Female students were found to outperformed their male counterparts. Similar to this research finding, numerous empirical studies revealed similar results that female students generally perform significantly better than male students do (see Farooq et al., 2011; King, 2015; Koestner & Zuckerman, 1994; Kusurka et al., 2013; Ratelle et al., 2007; Vansteenkiste et al., 2009; Vecchione et al., 2014; Vecchione et al., 2016). In contrast, in the case of mathematics, Chhinh (2003) empirically found that male grade four students scored significantly higher than did female students in Cambodia. As a result, the findings revealed that variation in gender led to disparities in students' academic performance, and reflected the facts that female students did not always performed better than their male counterparts. Moreover, empirical studies on the effects of academic amotivation revealed that

such result were also contributed by behavior problems (see Allison & Furstenburge, 2012; Legault et al., 2006; Murdock, 1999), emotional distress and isolation (see Murdock, 1999; Smeekens et al., 2012), poor health conditions (see Nathamonkolchai, 2011), and intention of dropping out (see Legault et al., 2006; No et al., 2016; Vallerand & Ratelle, 2002). Additionally, the chance of interactions between the teachers and their students seemed to be less, especially with male teachers. However, relationships with their teachers were found to contribute to students' higher academic performance (see Furrer, 2003; King, 2015; Lee, 2012), better school well-being (see King, 2015), and engagement (King, 2015), while the feeling of ignorance by their teachers resulted in poor academic performance (Furrer, 2003). Additionally, a higher proximity to teachers resulted in better students' academic achievement (Brok et al., 2004; Maulana et al., 2011; Wubbels et al., 2006 as cited in Maulana et al., 2013).

As a result, the current study found that students are learning within an educational context with little basic psychological need supports of relatedness supports and autonomy supports as their teachers emphasized primarily on support of competence and finishing their lessons rather than other forms of support. The supervision, guidance, and scaffolding were found to rarely occur within the classrooms.

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A Study on Deaf and Hard-of-Hearing Students' Khmer Language Writing Performance at Public Schools in Cambodia

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Received: December 22, 2021/ Accepted: May 08, 2022

Abstract

Access to education among the school-age population has yet to improve in Cambodia, especially for students with special needs. Deaf and hard-of-hearing (D/HH) students comprise the largest proportion of students with special needs in inclusive public schools. Khmer language writing has not yet been studied on D/HH students. The current sequential mixed-method research study investigated the Khmer language writing performance by D/HH students in inclusive public schools in Cambodia. Results from the writing test revealed a significant difference between D/HH students (M = 61.81) and hearing students (M = 82.70), $t(75)= 4.98$, $p<.001$; a difference of 20.89 points on a 125-point test. Approximately 67% of D/HH students performed below average. The students exhibited difficulties in all aspects of Khmer language writing, especially vocabulary and grammar. The teachers did not think D/HH students could have good writing abilities, and they did not do enough to support students' writing performance. Similarly, students reported poor writing abilities. They just performed simple writing tasks and perceived their poor writing to have negatively impacted their studies. Having a good understanding of the learning process, language development and effective teaching strategies are crucial for teachers to enhance the wring abilities of D/HH students. Teachers' perceptions would change with proper training and support from peers and other professionals.

Keywords: D/HH students; Writing performance; Writing instruction; Perceptions; Khmer language writing

1. Introduction

There is a growing trend in education research emphasizing equity and inclusiveness in education. Although access to education has improved for the general school-age population in Cambodia in recent years, it remains underreported for students with special needs, whose school performance is often overlooked by the educational system. In the Cambodian context, students with special needs include individuals with disabilities that require additional support, such as specific learning and teaching methods, in a school setting (MoEYS, 2018e; UNESCO, 2018b). By 2018, the Ministry of Education, Youth and Sport (MoEYS) has taken ownership of education for students with special needs. Currently, there are three available educational systems for students with special needs in Cambodia: special schools, progressive/inclusive schools, and inter-graded classes (MoEYS, 2008, 2018e). Lack of teacher support and training is one of the major challenges to inclusive education in Cambodia, while the curriculum goes without sufficient modifications and accommodations. The negative perceptions toward students with special needs exist even from the teachers and school administrators (Kuroda et al., 2016.; MoEYS, 2018a)

Deaf and hard-of-hearing (D/HH) students comprise the largest proportion of students with special needs in inclusive public schools in Cambodia. Having recently assumed the charge of inclusive education in Cambodia, MoEYS has managed to provide inclusive education for students with special needs only partially due to a lack of resources and proper teacher training. Even though the learning performance of D/HH students is not known to the public, previous research studies, have shown evidence of increased dropout and high illiteracy rates among D/HH children and adults (see, e.g., Kalyanpur, 2011; Harrelson, 2019; UNESCO, 2018a). …

2. Literature review

Scant literature is available on deaf education in Cambodia. No deaf community was studied, nor was sign language recognized as a common medium of communication by D/HH people in Cambodia through the early 1990s. This comes as no surprise, as this developing nation has gone through decades of chaos with many civil wars and conflicts that have affected millions of people, not just D/HH individuals. Most of the D/HH individuals have been isolated or marginalized in society, causing them to lose their identity and fail to develop their language skills (Melamed, 2005; Harrelson, 2019). The term “D/HH” is used to describe varying levels of deafness that has an impact on individuals’ hearing abilities to have full access to spoken

language (Development Assistance Committee [DAC], 2003). Historically marginalized and socially neglected, deaf people's stories and identities have been brought to the attention of the public mostly through the work of non-governmental organizations (NGOs) raising awareness and conducting fundraising campaigns. For example, deaf people used to be referred to as people "without language" in Cambodia (see Harrelson, 2019). NGOs are crucial partners for post-conflict rehabilitation and nation-building in Cambodia. This is the case for the social and educational development of the D/HH people in Cambodia.

Krousar Thmey (KT) is one of the key NGOs that has made a great effort to integrate education for the special needs of deaf or blind students into Cambodia's formal educational system. Established in 1991 in a refugee camp along the Cambodian-Thai border, KT initially provided education for blind students and later expanded to offer education for D/HH students soon after it was repatriated into Cambodia in 1996. KT operated five special schools for D/HH students throughout Cambodia and supported many other segregated classes until 2017 when MoEYS took full responsibility for the education of students with special needs. By 2017, there were 514 D/HH students enrolled in KT's special schools, which included 66 specialized teachers. Additionally, there were 77 D/HH students attending public integrated classes with the support of KT (Hayes & Bulat, 2018; MoEYS, 2017, 2018b). The curriculum for these schools is the same as that of general public schools, with only a few modifications to cater to the students' special needs for sign language translation of some school textbooks, conducted by a special sign language committee. In the absence of a common formal national sign language, KT introduced American Sign Language (ASL) in 1997 for visual-based instruction in special schools, while working toward developing Khmer-based signs in the long term (Hayes & Bulat, 2018). KT released its first version of Khmer Sign Language (KSL) in 2008 and was later renamed Cambodian Sign Language (CSL).

The Deaf Development Program (DDP) is another key NGO operating in Cambodia that provides basic non-formal education to D/HH individuals aged 16 and older. Initially, the DDP was a project of Maryknoll Cambodia, a US-based Catholic organization working in 35 countries (Harrelson, 2019; Hayes & Bulat, 2018). The first year of basic education (though not referred to as basic education by MoEYS) of the two-year program is mainly for teaching and learning CSL, while the second year is for basic literacy classes. In 2017, 67 students were enrolled in the DDP's segregated classes attached to public schools in three locations in Cambodia. Additionally, the DDP provides free sign language lessons to parents within the community.

Language plays an important role in mediating learning both inside and outside school. Hence, having a completely developed first language is a predictor of successful schooling experiences. This is also the case for D/HH children who have a firm foundation in ASL. For example, their literacy development is comparable to that of their peers. Humans use language as a means to experience the surrounding world, which leads to personal development (Easterbrooks, 2011; Luckner et al., 2012; Mayberry & Lock, 2003). Understanding language development is a foundation for teaching D/HH students. The normal development of language, for D/HH, and hearing children, is centered around early language fluency (in both home and classroom settings), supported by social and cognitive development and further language development. While it has been suggested that D/HH children with deaf parents have the same milestones of language development order and rate as hearing children, less exposure to fluent language means fewer opportunities for incidental language learning, which plays a major role in language acquisition. This development is simplified with language acquisition in the critical period hypothesis (Briggle, 2005; Emmorey, 2002; Marschark & Hauser, 2012). Studies on deafness have also revealed that D/HH children learn about writing before formal instruction. The term "emergence literacy" refers to both reading and writing development that enables preschool and kindergarten D/HH students to understand written language even before the acquisition of conventional writing. Children with hearing disabilities develop their (sign) language in a manner similar to that of hearing children developing their (spoken) language within language-rich settings (Teal & Sulzby, 1986, as cited in Briggle, 2005; Lederberg et al., 2013; Marschark & Spencer, 2003).

With the absence or lack of spoken language, written language is the most reliable means of communication between D/HH and hearing people. Many studies have found that D/HH students experience difficulty in written language, and that their writing is relatively poor, compared with that of their peers (Kluwin & Kelly, 1990; Knoors & Marschark, 2014; Marschark & Hauser, 2012; Morere & Allen, 2012; Traxler, 2000). The writing of D/HH students differs from that of their hearing peers in many respects. D/HH students have problems with written expressions and develop weaknesses in syntax and vocabulary. They produce inaccurate sentence structures, incorrect verb tenses, incorrect plural forms, and incorrect pronouns. Relatively short and simple sentences are common among D/HH students (Antia, 2005). This involves the reciprocal process of possessing and expressing knowledge (Moores & Martin, 2006). Having knowledge or being able to solve problems in mathematics, for instance, is not sufficient; they should be able to explain the process of solving these problems

to reflect their knowledge and thoughts. Writing has become even more important in our technology-driven era, in which D/HH learners can enjoy more extensive access to knowledge and establish points of convergence with the hearing world in terms of communication (Mayer, 2016).

Writing is generally considered a learned process. This happens in a formal and structured manner that can only be explained through cognitive and social process theories. Working memory, for instance, is widely studied and is proven to be a cognitive process essential for writing (Flower & Hayes, 1981). This has implications for effective classroom practice in process writing. Understanding writing can also be perceived from the socio-environmental factors that define the meaning of our activities (Hayes, 2006).

On the one hand, there has been a call for a process approach to writing from many researchers, while the practice of writing instructions varies widely worldwide. On the other hand, there are still common practices in writing assessment, namely direct assessment methods that focus more on language properties (Luckner & Isaacson, 1990). Writing lays the foundations for oral language use and strengthens language structure with grammar and vocabulary (Weigle, 2002). For example, Graham and Rijlaarsdam(2016) found that teachers' beliefs and practices in writing education played an important role in promoting effective writing education.

Most of the existing studies on the writing ability of D/HH students have been conducted in developed countries with a long history of inclusive education and practices and that have English as their main language (see, e.g., Antia, 2005; Reed et al., 2008; Traxler, 2000). The overall writing ability of D/HH students in inclusive public schools is relatively low, with limited vocabulary size and common syntax and composition errors. Cambodia is no exception. Thus, a study of Cambodian D/HH students' writing ability in the Khmer language is warranted. Students' underperformance in the Khmer language, especially in writing, has been a lingering concern for the quality of learning and teaching. However, there are few studies on this issue (e.g., …), which justifies the need for the present study. Existing theories and studies have suggested common characteristics of language acquisition and literacy processes in D/HH and hearing students. Hence, studying the writing skills of D/HH students will support all students in inclusive classrooms.

Academically, Khmer language classes serve as the main medium of instruction in reading and writing, enabling students to study other school subjects. In light of the national

core curriculum framework, MoEYS also states some of the expected learning outcomes for the Khmer language subject for the primary education level. From the early grades of primary education, students are expected to manage their writing movements with clear calligraphy. Gradually, they develop their basic knowledge of lexical convention and abilities to form letters or characters and write words and phrases. By the end of the primary education level, students will be able to produce short and simple paragraphs to describe things and events in their daily lives. They will also be able to use their writing abilities to learn other things. They can use writing to take notes in class, pose questions, give presentations, and solve problems (MoEYS, 2016, 2018a).

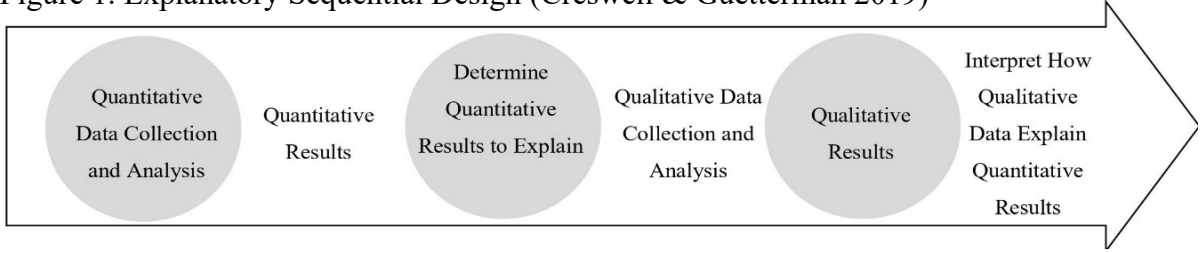
The purpose of the current study was to examine the Khmer language writing performance of D/HH students from inclusive public schools in Cambodia. To achieve this purpose, an explanatory sequential mixed-method design was conducted to answer the following three research questions:

1. How do D/HH students perform in Khmer language writing?
2. How do D/HH students perceive their Khmer language writing performance?
3. How do students' perceptions of their Khmer language writing performance differ from their teachers' perceptions of their performance?

3. Methodology

The purpose of this study is to examine how D/HH students from inclusive public schools in Cambodia perform in Khmer language writing. To achieve this purpose, this study employed an explanatory sequential mixed-method design. Figure 1 illustrates the explanatory sequential mixed-method design. First, it collected quantitative data; second, it gathered qualitative data to explain the quantitative results (Creswell & Guetterman, 2019; Gay et al., 2009). Quantitative data was obtained from the Khmer language writing test performance as well as from a survey questionnaire for teachers. Qualitative semi-structured interview data from a smaller sample of teachers and students were used to contextualize and explain students' Khmer language writing performance.

Figure 1. Explanatory Sequential Design (Creswell & Guetterman 2019)



3.1 Research sites and participants

Based on the school profiles provided by MoEYS, a dozen inclusive public schools were attended by students with special education needs across the country. However, only four schools reported that their special education required services for D/HH students. Therefore, four inclusive public schools from four different provinces in Cambodia were purposively selected.

In the Khmer language test, the participants were 76 sixth grade students from four inclusive public schools (37 D/HH students). The demographic information of the students is shown in Table 1. While the sample of D/HH student participants was small and was purposively selected, hearing participants were randomly selected using the student lists provided by the school administrators to ensure equal group sample sizes.

3.2 Instruments

3.2.1 The Khmer language writing test

The Khmer language writing achievement test was developed by the author, based on the objectives and expected learning outcomes illustrated in the detailed national curriculum of the Khmer language for sixth-grade students. The benchmark goal for sixth-grade students is to complete writing performance tasks that cover vocabulary building, simple sentence construction, and short paragraph writing. Students are also expected to use their knowledge and skills in writing for their studies and real-life communicative purposes, such as completing application forms, describing events, expressing themselves, taking notes, and writing letters (MoEYS, 2018c).

The Khmer language writing test is a 125-point test comprising three main sections: lexical content of vocabulary and spelling, syntactic content of grammar and sentence construction, and compositions. In addition to writing compositions, multiple-choice questions were designed to increase the accuracy of the test (Brown, 2003). The content was revised three times and evaluated by three experts in Khmer language, deaf education, and in teaching D/HH students. Content scoring was used to ensure scoring consistency for the subjective sections of the writing test.

3.2.2 Teacher survey

The researcher decided to develop and use a survey questionnaire for teachers. This decision was made because surveys and interviews are common tools used in mixed-methods studies, especially in educational research on perceptions and assessment. Additionally, teachers are well-suited to judge whether learning is taking place, given their privileged role in the class (see Harris & Brown, 2010.; Knoors & Marschark, 2014). Thus, a survey questionnaire was used to collect data from special and inclusive public education teachers. The questionnaire was aimed to gather data regarding teachers' overall perceptions of D/HH students' writing ability and classroom writing instruction practices. The questionnaire was divided into two parts. The first part collected participants' demographic information. The second part comprised 24 items adapted from previous studies on teachers' perceptions of the ability of the D/HH students and teachers' classroom writing instruction practices (Ferede et al., 2012; Olufemi & Emmanuel, 2015). The researcher adapted the questionnaire based on the literature review and the context of teaching writing in Cambodia. All items were scored on a 5-point Likert scale; they were used to examine teachers' perceptions and classroom practices. The reliability of the questionnaire was checked for internal consistency for each subscale in a pilot study.

3.2.3 Student interviews

Semi-structured interviews, which lasted 10–13 minutes, included various questions and prompted D/HH students to describe their perceptions regarding their Khmer language writing performance. The key features of the questions were challenges, practices, and support received from their teachers. Since the communication was via sign language and this is beyond the researcher's ability and to avoid bias in the interpretation, two experienced sign language teachers from different classes were asked to assist the researcher in the communication and interpretation. One teacher acted as a sign interpreter and the other as an observer.

3.2.4 Teacher interviews

Additionally, semi-structured interviews were conducted to collect teachers' data. A semi-structured interview protocol was developed based on both empirical and theoretical grounds regarding classroom practices in the subject matter: the preliminary results from the students' Khmer language writing test and the review of concepts related to effective teaching practices in inclusive classrooms, teacher self-efficacy, and evidence-based writing instruction strategies discussed in the literature. The interviews lasted for 15–20 minutes.

3.3 Validity and reliability

The validity of a research instrument is defined in terms of its appropriateness, correctness, meaningfulness, and usefulness (Fraenkel et al., 2012). The Khmer language writing test's content and construct validity have been assessed based on the guidelines for developing standardized tests for student learning assessment purposes, especially for Khmer language learning assessment. The national subject curriculum provides the overall content and test items. Feedback and suggestions from Khmer language teachers, inclusive teachers, and special education teachers guided the test development process. The results of the students' performance were analyzed (based on the concept of IF) to represent the percentage of items that were correctly answered by the students (Brown, 2003), while the concept of internal consistency reliability of the test items was represented by Cronbach's alpha. Internal consistency reliability values are acceptable when Cronbach's alpha is greater than 0.60 (Creswell & Guetterman, 2019; Morgan et al., 2011). The item difficulty values for the test were between 0.18 and 1.0. Brown (2003) defined appropriate test items as having an IF between 0.15 and 0.85. Regarding students' responses for objective multiple-choice test items and guided response items, the Cronbach's alpha was 0.67, indicating moderate reliability.

3.4 Data analysis

Before starting the data analysis, data cleaning was performed to identify any missing or invalid data. Numerical and categorical quantitative data obtained from the Khmer language writing test were analyzed descriptively. Descriptive data analysis produces summary data for interpretation based on these variables, while descriptive statistics reveal overall trends or tendencies in the data to obtain an understanding of how varied the scores are and how they compare to one another (Creswell & Guetterman, 2019).

In this study, students' writing performance was scored by three sixth-grade teachers from different public schools, using an adapted rubric (which they were previously taught how to use) for the composition writing section. Next, the results of the quantitative data were analyzed using SPSS software. Descriptive statistics were used to reveal the frequency and central tendency of the data. Additionally, an independent sample t-test (a commonly used statistical analysis tool) was used to compare the mean scores of the students from the two main groups (Morgan et al., 2011) as well as to compare the mean scores found in the teachers' survey.

Data obtained from the semi-structured interviews with the teachers and students were transcribed into themes and categories based on the analysis of the qualitative data. The qualitative data were first organized and prepared with transcriptions; subsequently, they were sorted into different types based on their sources. The researcher then read all the findings and manually coded them to generate themes for final interpretation (Creswell & Guetterman, 2019). The data were analyzed using a phenomenological approach, which allowed the researcher to gain insight into the perceptions, understanding, and feelings of people who have already experienced or lived in a particular phenomenon (Creswell & Creswell, 2018). Qualitative data were used to triangulate and contextualize the status of the D/HH students' writing performance.

4. Results and findings

1. How do D/HH students perform in their Khmer language writing?

With the results from students' Khmer language writing tests, an independent sample t-test was used and revealed a significant difference between D/HH students (M = 61.81) and hearing students (M = 82.70), $t(75)= 4.98$, $p<.001$; indicating a difference of 20.89 points on a 125-point test. Approximately 67% of D/HH students performed below average on the Khmer language writing test.

D/HH students exhibited difficulties in all aspects of the Khmer writing test, including vocabulary limitations, especially for abstract words and words with multiple meanings. In Vocabulary 7 ($p<.001$), for example, the means of the two groups indicates that the average score of D/HH students (M = 6.16) is lower than the score (M = 8.82) of hearing students. The difference between the means was 2.66 on a 10-point test. The effect size d of 0.78 is typically large (Cohen, 1988).

Additionally, the students did not know how to properly use sentence connectors to make their writing more cohesive. In Grammar 3, D/HH students did not perform well in an application-level task when they were asked to rewrite sentences by placing words in the correct grammatical order. The mean score (M = 4.46) of D/HH students was significantly lower than that of hearing students (M = 8.23). The difference between the means was 3.77 on a 10-point test. The effect size d of 1.09 was very large (Cohen, 1988).

2. How do the D/HH students perceive their Khmer language writing performance?

As described in the previous part on the student interviews, the main themes go around the challenges that the D/HH students are having in their studies, especially regarding the Khmer language writing, their teacher's instructions and supports, and perceptions of the communication with hearing peers and people at school.

Students reported that they did not have good enough writing abilities. They just managed to pass the exams. The public-school teachers did not know sign language, and the students often did not understand the writing instructions by the teachers. The D/HH students just performed simple writing tasks, and they needed good writing to communicate with the teachers and their hearing friends. They did not have enough support in the classroom, and they reported toughness in the classroom. The students reported that they did not have good vocabulary knowledge, either in signs or written forms, and in meanings. They also thought that they did not have a good memory.

Additionally, D/HH students experienced academic struggles in inclusive public schools. They had to deal with language and communication barriers. They felt the needs for writing in most lessons of different school subjects. They did not have as good vocabulary knowledge as that of their hearing peers and found it difficult to communicate with their teachers, even in writing. They were unable to understand teachers' writing or that of their hearing friends, while they reported that they did not have enough support in the classroom. Even in special schools, most lessons involved reviewing lessons or working on tasks assigned by inclusive public-school teachers. However, the students had a good perception of inclusive public schools. The following quotes illustrate this point:

> …my writing is manly about copying the lessons to my notebooks, from the board, textbooks, or even from my friends' notebooks, writing in by copying lessons from my friends. I can write some sentences on my own. I can do little. I can do little paragraph writing; my friends sometimes help me to write…. writing/copying lessons to the notebooks is fine. Performing other writing tasks is hard… (Student 2)

> …my studies go with many challenges at the inclusive public school. I get nothing listening to the teachers. The teachers do not use signs. This makes it hard for me to learn the lessons, such as science lessons. I can't discuss the lessons with other students or ask them questions from the lessons… (Student 1).

> …at the inclusive public school, I find it difficult. Math is difficult. I can hear very little. Khmer language is difficult; I can do little. For other subjects, my hearing friends help me to answer the questions... it is difficult to do exercises, to answer the questions. I can do little reading and little for writing… I use writing to communicate with the teachers. The teachers can understand some.... hearing friends help me, but very little. The teachers write a lot. For other subjects, the teachers talk a lot. I can't write fast enough to copy the lessons to the books... I work in groups… I help friends work on questions. My friends like me. I am pleased. (Student 6)

3. How different are the students' perceptions from the teachers' perceptions regarding the students' Khmer language writing performance?

The teachers thought that the D/HH students did not have good writing abilities. The teachers did not use enough strategies to support the students' writing performance, although the teachers could talk about the difficulties the students have in their writing. The students' poor wring ability has also impacted their studies of other subjects. The teachers reported that the D/HH students could not perform well in math tasks of problem-solving that require their explanation of language writing. Social studies were also challenging. Special schoolteachers seemed to use fewer variable strategies, as they did not think about the students' differences. Both special and inclusive teachers did believe that bilingualism was important for D/HH students. These findings revealed that students' perceptions were on par with the teachers' perceptions of the writing performance of their D/HH students. The teachers held a negative perception of the students' writing performance. Although the teachers were able to identify difficulties in teaching writing to D/HH students, as well as the difficulties the students faced in their writing, the teachers did not do enough to support students' learning. The teachers used no specific teaching strategies to cater to their students' different needs. Surprisingly, special teachers did not think there were differences between D/HH students. They reported using few strategies in teaching students' writing (Teachers 3, 5, and 7).

> …I do not know sign language. I just use writing to communicate with deaf and hard-of-hearing students and to tell them what they are expected to do. Often, they are unable to understand the writing. They usually perform writing tasks to find spelling and correct mistakes from an extract. (Teacher 1)

> …writing starts with vocabulary. Thus, having good knowledge of vocabulary, a good understanding of a particular topic, and sufficient information input are important aspects of writing. We do not really do that; we often have to rush to reach the tightly scheduled syllabus' goals. In the Khmer language subject, for example, there are many skills that students must work on—grammar, listening, writing, among others. (Teacher 2)

> …Personally, I think deaf and hard-of-hearing students attend inclusive public schools merely for social integration purposes; they learn better from special education schools. (Teacher 3)

5. Discussion

D/HH students did not perform well in Khmer language writing. Only 33% (compared to 90% of hearing students) exhibited average or above performance in Khmer language writing. This finding corroborates with Antia et al. (2005) who found that the writing scores of D/HH students were lower than those of their hearing counterparts. D/HH students' poor writing performance has also been reported in previous research (Geers, 2003; Malik, 2019; Marschark et al., 2002; Schirmer & McGough, 2005; Traxler, 2000). Students reported being unable to understand the teachers' written instructions.

Composition writing samples from D/HH students provided further evidence of writing performance beyond the lexical level, namely the syntactic level. D/HH students produced relatively short and simple sentences, which frequently contained syntactical errors. Additionally, they rarely used sentence connectors in their writing. Concerning this problem, Easterbrooks and Beal-Alvarez (2013) argued that there are wide gaps between functional and lexical vocabulary knowledge among hearing-impaired and hard-of-hearing learners. Additionally, Albertini and Schley (2011) analyzed D/HH students' writing, confirming that these students wrote shorter structures, compared with hearing students, and adding that they had a tendency to repeat words and phrases. A similar argument on low academic status of D/HH students in public schools in Cambodia is also supported by previous studies such as Long et al. (1991) and Reed et al. (2008).

5.1 Conclusion

The main objective of this study was to examine how deaf and hard-of-hearing students in inclusive public schools in Cambodia performed in Khmer language writing. The data revealed that 37 sixth-grade D/HH students from four inclusive public schools in Cambodia did not perform well in the Khmer language writing test. The writing performance of most D/HH students in inclusive public schools was below average. The students did not have sufficient vocabulary knowledge, while their sentence structures were relatively short, characterized by incoherent sentences using a few linguistic devices. Consequently, the students did not perform well in paragraph writing. They felt the need for writing in most lessons of different school subjects. While students have voiced their negative perceptions towards their writing performance, the teachers also expressed negative perceptions of the students' writing performance. Although the teachers were able to identify difficulties in teaching writing to D/HH students, as well as the difficulties the students faced in their writing; the teachers did not do enough to support students' learning.

Overall, the academic status of D/HH students attending inclusive public schools in the study was relatively low given their performance in the inclusive public schools, unless special references of assessment were considered for students with special needs. This has been perceived by the immediate stakeholders, such as teachers and students whose roles are directly involved in teaching and learning, that D/HH students were only average learners.

5.2 Limitations

This study has some limitations. First, the study explored how D/HH students performed in their Khmer language writing. However, it is possible that the results were affected by factors other than student's actual ability. While most of the students' demographic information was not accessible to outsiders, the demographics may have influenced the results. Second, the research was only conducted in four inclusive public schools in Cambodia; therefore, the results do not represent the population of D/HH students from other areas of Cambodia. Finally, students' writing performance could be affected by the level of difficulty of the test itself.

A more reliable research study on the writing abilities of D/HH students should be conducted by looking at other related data that can increase the validity and reliability of the results. Classroom observations may also provide better information and insight into students' performance. Students' portfolios should also be studied in future studies. Although this study

provides answers to the research questions, further research should be conducted in collaboration with classroom teachers to make the information more comprehensible.

5.3 Implications

Even though the study results were limited to some of the inclusive public schools in Cambodia, it is a good reflection of the classroom practices. Having good writing abilities is important for the whole population of students. teachers should have more training on teaching writing. Understanding the learning process and how language development either for hearing or D/HH learners works are crucial for effective teaching and learning adaptation, given the theoretical and practical implications in the context of inclusive settings in Cambodia. Teacher education institutions should, therefore, do more to offer students teachers with better preparation for inclusive classroom practices. Teachers will have a positive perception if they are well trained and enjoy support from peers and other professionals.

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Acknowledgment

We are thrilled to share with you the volume 2 of the Cambodian Journal of Educational Development (CJED). At the core of this achievement is commitment, patience, and resilience of the following dedicated individuals that we wish to show our sincere gratitude here. Without their invaluable contributions throughout the editorial process, this publication would not have been possible.

We would like take this opportunity to first of all express our heartfelt appreciation to Professor Kinya Shimizu and Associate Professor Takayoshi Maki of Graduate School of Humanities and Social Sciences, Hiroshima University, Japan. Their precious time and effort, enthusiastic support, and constant encouragement from the early stage until its present form has always been very much appreciated.

We also would like to gratefully acknowledge the Japanese International Cooperation Center (JICE) for their financial assistance, especially Mr. Morishita Taishi for his technical support all the way through from funding application preparation to submission and to approval. His clear guidance and prompt responses have made communication with JICE headquarter more smoothly and timely.

Our sincere gratitude is owed to all reviewers and co-editor from different institutions, countries, and disciplines for their constructive comments to ensure that the manuscripts are of good quality.

Profound thanks to all authors, who are willing to contribute their original work to the second volume of our journal. Without their multiple revisions, we could not possible to carry on further procedure.

Finally, further gratitude goes to CJED Editorial Team, all of whom have been working hard to achieve one common goal which is to create and nourish CJED together in promoting research culture in Cambodia. Their great efforts are very much appreciated for this success.

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