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## How Educational Personnel Perceive Action Research in Cambodia

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### **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, Aness, 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 ( $\alpha$ )	Post-test ( $\alpha$ )
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		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
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, Ekiz (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; Ekiz, 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.

## References

- Ancess, J. (2000). The reciprocal influence of teacher learning, teaching practice, school restructuring, and student learning outcomes. *Teachers College Record*, 102(3), 590-619.
- CER. (2022). Home. Retrieved from <http://cer.dopomoeys.com/>
- CJBAR. (2022). About CJBAR. Retrieved from <http://www.rupp.edu.kh/CJBAR/>
- CJED. (2022). About CJED. Retrieved from <https://cjed.hiroshima-u.ac.jp/index.html>
- CJIHSS. (2022). CJIHSS Vol.1 Issue 1. April 2022. Retrieved from <https://rac.gov.kh/researchs-categories/12/researchs#main-container>
- CJSER. (2022). Cambodian Journal of STEM and Education Research. Retrieved from <https://cjser-dsrmoey.com/>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.): Hillsdale, NJ: Lawrence Earlbaum Associates.
- Declaro-Ruedas, M. Y. A., & Ruedas, E. G. (2020). Public School Teachers' Attitude towards Action Research in Magsaysay, Occidental Mindoro. *Asian Journal of Education and Social Studies*, 11-16.
- Department of Policy. (2020). *Sub-National Level Capacity Building on Action Research and Guidebook Dissemination Plan*. Retrieved from
- Ekiz, D. (2006). Primary School Teachers' Attitudes towards Educational Research. *Educational Sciences: Theory & Practice*, 6(2).

- Georgiou, M., & Kyriakides, L. (2012). The impact of teacher and principal interpersonal behaviour on student learning outcomes: a large scale study in secondary schools of cyprus. In *Interpersonal Relationships in Education* (pp. 119-135): Brill Sense.
- Heng, K., Hamid, M. O., & Khan, A. (2022a). Academics' conceptions of research and the research-teaching nexus: Insights from Cambodia. *International Journal of Educational Development, 90*, 102569.
- Heng, K., Hamid, M. O., & Khan, A. (2022b). Research engagement of academics in the Global South: the case of Cambodian academics. *Globalisation, Societies and Education*, 1-16.
- Heng, K., & Sol, K. (2021). Academic research in Cambodia: Progress, challenges, and ways forward. *Cambodian Journal of Educational Research, 1*(2), 6-23.
- Khan, M. F., Ahmad, S., & Ali, I. (2011). The impact of school management trainings and principals attitude on students learning outcomes. *African Journal of Business Management, 5*(7), 2668-2678.
- Long, S. C. (2008). Similarities and differences between the key elements identified by faculty and administrators leading to successful implementation of student learning outcomes. *Journal of Applied Research in the Community College, 15*(2), 21-26.
- Maravilla, M. A. (2020). Teachers' Attitudes Towards Research at Palawan State University–Puerto Princesa. *IOER International Multidisciplinary Research Journal, 2*(1).
- MoEYS. (2008). *Secondary Resource Schools Policy*. Phnom Penh, Cambodia
- MoEYS. (2016a). *Plicy Guidelines for New Generation Schools: For Basic Education in Cambodia*. Retrieved from Phnom Penh, Cambodia:
- MoEYS. (2016b). *Secondary Education Improvement Project (SEIP) in Cambodia: Resettlement Policy Framework*. Phnom Penh, Cambodia
- MoEYS. (2017). *Policy on Career Professional Development for Educational Staffs* Phnom Penh.
- MoEYS. (2018). *Teache Career Pathway*. Phnom Penh: MoEYS.
- MoEYS. (2019). *Euducation Strategic Plan 2019-2023*. Phnom Penh, Cambodia.
- MoEYS. (2020). *Action Research Technique: Do-It-Yourself Guide*. Phnom Pehn, Cambodia.
- MoEYS. (2021). *Public Education Statistics and Indicators 2020-2021*. Retrieved from Phnom Pehn, Cambodia:
- MoEYS. (2022). *Master Plan on Upgrading Professionalism of Educational Staffs 2021-2025* Phnom Penh: MoEYS.
- Papanastasiou, E. C. (2005). Factor structure of the attitudes toward research scale. *Statistics education research journal, 4*(1), 16-26.

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- Royal Government of Cambodia. (2015). *Cambodia Industrial Development Policy 2015 – 2025* Retrieved from Phnom Penh:
- Sebastian, J., & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational administration quarterly*, 48(4), 626-663.
- Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *International Journal of Qualitative Studies in Education*, 11(4), 559-577.
- Tandogan, M. N. (1991). Educational research in developing countries. *Educational Technology Research and Development*, 107-110.
- UNESCO Institute for Statistics. (2021a). Educational personnel. In.
- UNESCO Institute for Statistics. (2021b). *Research and development expenditure (% of GDP) - Cambodia*.