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Contents

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Policy Paper

The Risk and Vulnerability of Pupils at Primary Schools in Cambodia and the Key Mitigation Measure

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Key Messages

- Pupils at primary schools remained seriously affected by dangers and threats of floods, drought, storms, and epidemic diseases. Various reasons were causing their vulnerabilities, but geographical areas and socio-economic conditions were the main factors.
- The disaster risk reduction in education has become a long-term investment of both the Royal Government of Cambodia, development partners, and Non-governmental Organizations (NGOs) to ensure pupils at primary schools are safe for learning and teaching.
- Disaster risk reduction in education is a significant program to improve the capacity of teachers and principals and pupils for a better understanding of school safety plan or disaster risk reduction action plan related to safe school for disaster risk reduction, incidents, and violations.
- Safe school programs help to build the capacity of principals and teachers in safe schools. Therefore, the Disaster Management Secretariat of the Ministry of Education Youth and

Sports (MoEYS) should continue working with the NGOs partner and PoE to ensure their implementation throughout its agents at sub-national levels.

- As one of the national policies adopted by the MoEYS, the Ministry should consider allocating a budget for some activities or expenditures for schools to carry out disaster risk reduction activities or some key activities to support the safe school framework.

Key Word: Disaster risk reduction, safe school program, hazard, primary school, education continuity, Cambodia

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1. Introduction

Education is believed to support Cambodia's ambition to transition from a lower-middle-income country to an upper-middle-income country by 2030 and a developed country by 2050 (MoEYS, 2014). The Rectangular Strategy Phase IV has prioritized human resource development, and the Ministry of Education, Youth and Sport (MoEYS) is committed to accomplishing the objectives of quality education, science, and technology (RGoC, 2018). The MoEYS is responsible for the education sector, and basic education contains two levels: (1) primary and (2) secondary education. The primary level covers the first six years, from grades 1 to 6, and the secondary level includes grades 7 to 12 (Khut, 2021). The Education Strategic Plan (2019-2023) was formulated in 2019 to promote the education sector in Cambodia. The ESP has focused on five pillars: (1) Pillar 1: Implementation of the Teacher Policy Action Plan, (2) Pillar 2: Review curriculum and textbooks and improve learning environments, (3) Pillar 3: Enforcement of inspection, (4) Pillar 4: Improve learning evaluation to meet national, regional and international levels; and (5) Pillar 5: Higher education reform (MoEYS, 2021a).

According to the MoEYS (2021), there were 14,522 schools across the country in the 2018-19 school year, including 13,300 public and 1,222 private schools. Approximately 80% of the public schools (994) were located in urban areas. Out of the total 13,300 public schools, 11,529 were primary level, and the rest were secondary level (1,771) (MoEYS, 2021b). Cambodia has achieved an adult literacy rate (15-Above) of 87.8%; the target was 84.8%. However, primary education remained a concern when female enrollment was still off-tracked, and male enrollment in any form of Early Childhood Education Program was constrained.

Primary Education is one of the most direct effects of natural hazards. Flood is a common occurrence and usually causes much more damage than droughts in the education sector. Over the last decades, floods in 2000, 2011, and 2013 are considered the most severe floods. Floods suffered hundreds of human deaths and thousands of animal deaths and damaged a thousand hectares of crops and schools. Thousands of students have disrupted their schooling or could not attend classes with the regular school calendar (MoEYS, 2014a). In late 2013, the MoEYS recorded 1,280 schools were affected by floods. Over 155 schools were suspended for one to nine weeks, preventing at least 50,000 children from starting in 2013. The loss and damage in the education sector from floods in 2013 were estimated to cost $15 million (MoEYS, 2013).

In the past, the report on affected schools by flood or other events was unavailable except for the 2009 (typhoon Ketsana), 2011, and 2013 floods which affected 1,169, 1,200, and 1,242 schools, respectively (MoEYS, 2014b). It should be noted that there was a severe drought in 2015-16, but there was no official report on the total drought impact except the exert from the media. Among the many studies on these climatic hazards in Cambodia, few focus on the impacts of drought and flood on students, especially education and protection. The study aims to generate and take stock of knowledge to support the accomplishment of school safety programs in terms of equal opportunity for the participation of girls and boys, promotion of leadership and involvement, and challenges of girls in disaster risk management in Cambodia.

Today, floods and droughts have placed increased pressure and threats on students regarding health concerns such as malaria, diarrhea, undernutrition and social stability, and children's welfare (UNICEF, 2008). The disasters affect unique conditions of physical, cognitive, and physiological immaturity of the children (Save the Children, 2009). Every year floods delay classes and damage schools located in flood-prone areas. Due to bad road conditions, students have problems travelling to schools during the flood. In most cases, students are not safe to travel across rivers. At the same time, parents also hesitate to allow their children to go to school during the flood because children take a long time and have higher costs to reach schools. As a result, students, especially from low-income families, turn to a high absenteeism rate at the beginning of each academic year. Moreover, schools are used as emergency shelters during floods, damaging school structures, especially the school floor (ADPC, 2008).

In this policy paper, we determine the risk faced by pupils at primary school and the positive contribution of safe school programs for pupils' safety. The paper addresses upon (1)

risk and hazard facing by pupils, (2) disaster risk reduction intervention, and (3) impact of safe school program on pupils' education at primary level.

2. Research Methodology

This policy paper was written based on primary and secondary data and information collected at 34 primary schools in in Stung Treng province. Both pupils and teacher's teachers in grades 4, 5, and 6 were contacted for the interviews by using structured questionnaires for quantitative data. Qualitative data was also collected through key informants and in-depth interviews with relevant officers, local authorities, school principals, teachers, school support committee members, and pupils. The survey was carried out with 798 pupils and 173 teachers by two structured questionnaires at 34 primary schools of four districts of Stung Treng Province such as; Siem Pang, Siem Bouk, Borey O'svay Senchey, and Thalaborivath.

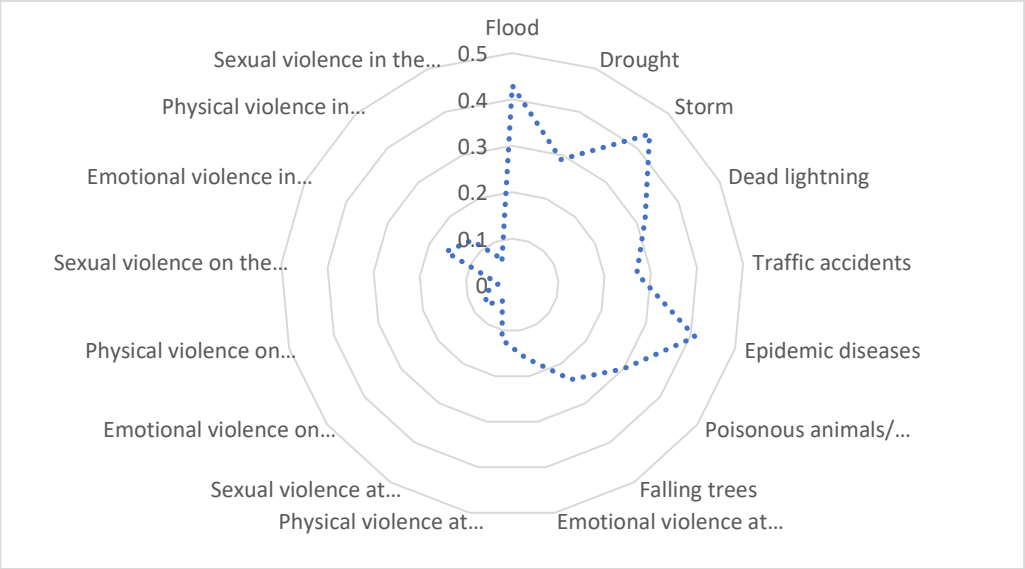
3. Result of Finding

3.1 The risk and hazard facing by pupils at primary school

Overall, pupils rated a moderate vulnerability to flooding, storm, and epidemic diseases; other types of risks and hazards were assessed as low and very low degrees, as illustrated in (**Figure1**.). Pupils at study schools were more likely to more serious dangers and threats to floods, storms, and epidemic diseases. Various reasons were causing their vulnerabilities, but geographical areas and socio-economic conditions were the main factors. Hazards and incidents might happen among pupils at school or on the way to school/home if there are no supporting mechanisms. Schools need to have good physical infrastructure and services. Moreover, schools must work with all the key stakeholders [Key Informant Interview with School Director].

Furthermore, cooperation from parents was also essential; parents must follow up and regularly communicate with the school about their schools. When schools provide parents with information about disasters or their children's education, they have to support the school for their children's safety. Some parents did not cooperate with schools at all. While schools worked hard to reduce physical violations, their parents were violated, which was a wrong model for them. Some pupils were too young to walk alone to school or to travel by boat; parents may consider company them or letting them come with other pupils to reduce risk on the way to school/home [In depth interview with school support committee].

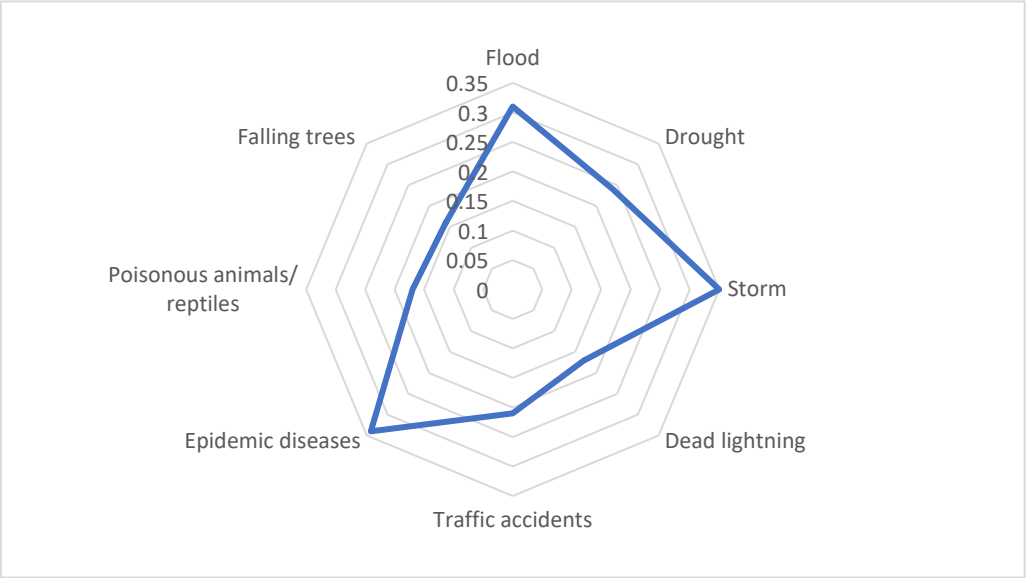
Figure 1. Degree of incidents experiencing by pupils



Note: WAI = weight average index measured on a five-point scale [Very low (VL) = 0.00–0.20, Low (L) = 0.21– 0.40, Moderate (M) = 0.41–0.60, High (H) = 0.61–0.80, Very high (VH) = 0.81–1.00]. OA = Overall assessment. Significance at the 0.05 level.

Overall, teachers rated a “very low” degree of effects by dead lighting, deadly diseases, and falling trees; they assessed a “low” degree of impact by flood, drought, storm, traffic accidents, and epidemic disease. According to Plan International, Non-governmental Organizations for example Child Rights Foundation (CRF) selected to work at high-risk schools where pupils were vulnerable [NGO-KII]. Teachers at high-risk schools claimed that their schools were high risk due to their geographical location and capacity to cope with threats to, hazards, and vulnerabilities [FGD with teacher]. Pupils at Onlong Svay "Kor" Primary School confirm that their schools were not ed by natural hazards, but rain caused them much trouble with their studies. However, traveling during heavy rain was not very safe [FGD with children council]. However, the school was not covered by water, but the communities were full of water. Teachers always advised pupils not to come to school if the water level was high. Teachers time cared for pupils’ safety and worked with parents and local authorities [FGD with teacher]

Figure 2. Degree of incidents experiencing at schools viewed by teacher



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Teachers rated "very low" and "low" degrees of (1) facilitation for students' travel home by water, crossing river, (2) identification of escape routes for students' evacuation from school or classrooms, (3) preparing lane for disabled students, and (4) regular monitoring and maintenance of lane and exit respectively. Additionally, students considered low-level traffic measures like installing traffic signs and barriers to facilitate students' travel home as well as facilitation for students' travel home on foot. They also assessed a very low degree of facilitation for students' travel home by water, crossing rivers, and preparing lanes for handicapped students. However, they did order stronger traffic control measures, such traffic signs and barriers, to make it easier for students to get home (**Figure 3 and Figure 4**). An incident of ferry collapse carrying students between 12 and 14 years old has drawn more attention from the public, practices, planners, policymakers, and on the safe school program. On 14 October 2022, eleven students drowned after a river ferry capsized after returning from an English class. Only four people, including two students and two of the boat's crew, were rescued after the accident at 7 pm on the Mekong River south-east of Phnom Penh[1]. According to key informants with school principals and group discussions among teachers and pupils, the school did not have sufficient facilities to support disabled students, and pupils were not yet

[1] See detail at https://www.aljazeera.com/news/2022/10/14/at-least-9-students-drown-after-ferry-boat-capsizes-in-cambodia

entirely safe on the way to school or back home by water and land. Some schools were located along the national roads; vehicles were driving fast. However, schools have prepared traffic signs and carried measures to facilitate pupils' travel, especially on land; pupils remained unsafe without close follow-up. Pupils at O'svay Primary School described how difficult they faced if they traveled by boat. Some parents did not allow them to travel to schools for safety reasons. Some pupils were absent from classes during heavy rain, storm, and flood if required to travel by boat [FGD with pupils].

Figure 3. Degree of access to facilities to facilitate pupils' transportation by teacher

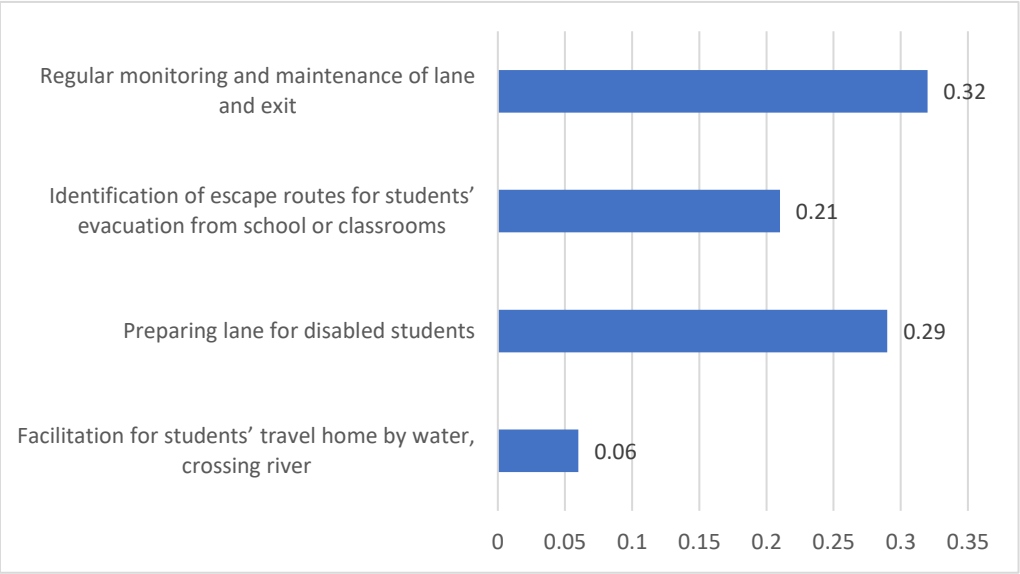
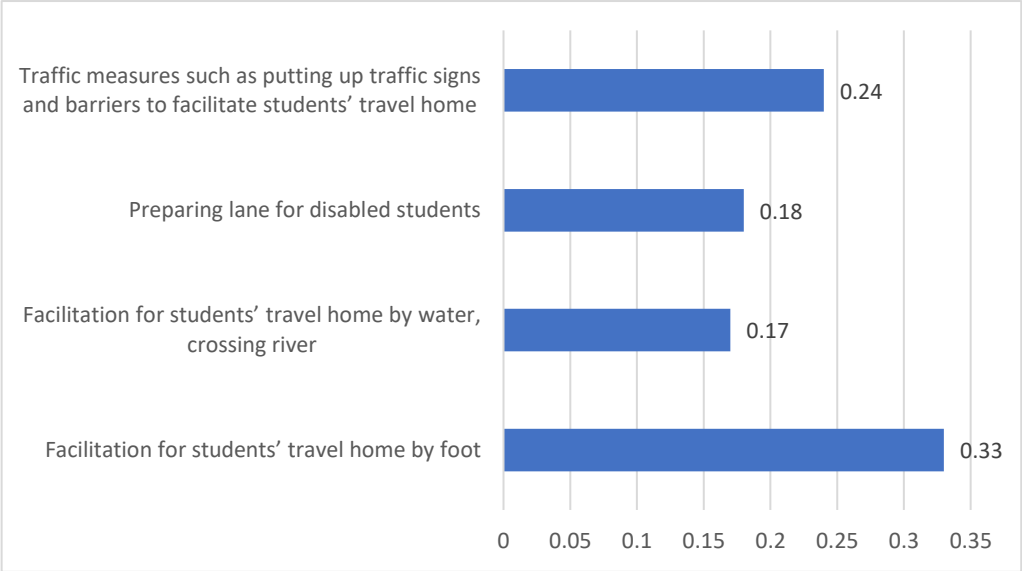


Figure 4. Degree of access to facilities to facilitate pupils' transportation by pupils



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3.2 Disaster risk reduction intervention at primary school

The majority of the teachers (71.7%) maintained school materials and documents during disasters; more than half of them prepared an education continuity plan that is inclusive, free from abuse and violence (60.1%), putting up warning signs at dangerous places (55.5%), document development or slogans for risks deduction in school (54.3%), development of safety signs (53.8%), preparation of emergency materials in responding to disasters (53.2%), Establishment of the committee for disaster management (53.2%), establishment of inclusive, gender-sensitive committee for disaster management (51.4%), development of school safety plan or disaster risk reduction action plan (51.4%), practice and improve simulation drills in school to respond to the disaster (50.3%), identification of roles and responsibilities for the committee for disaster management (50.3%), assessment of risks, hazards. Some of the teachers are also involved in vulnerability and capacity inside and outside school (49.1%) and the development of early warning systems for disasters (41.6%) **(Figure 5).**

Figure 5. Activities carried out by teachers to support Disaster management at school

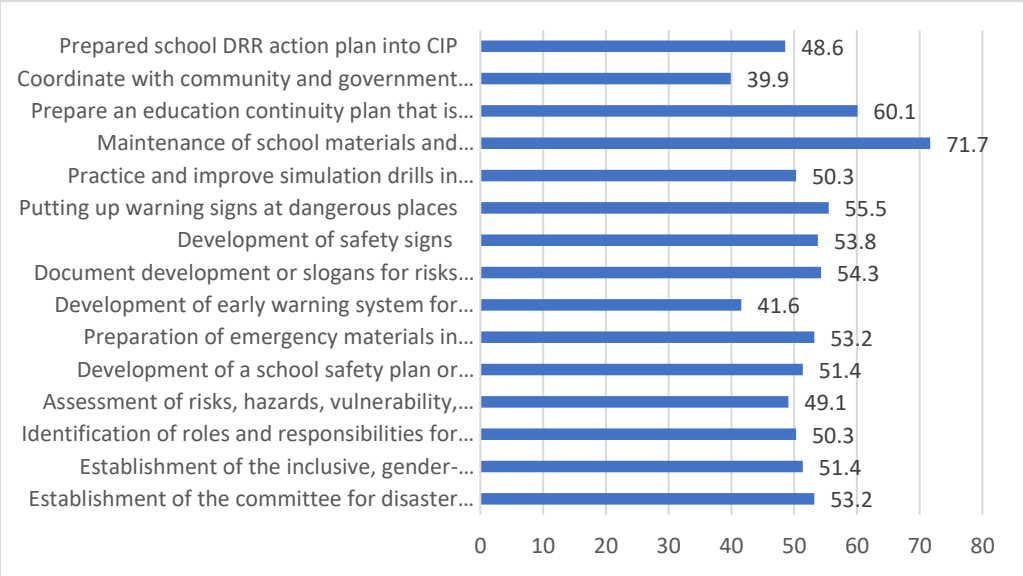
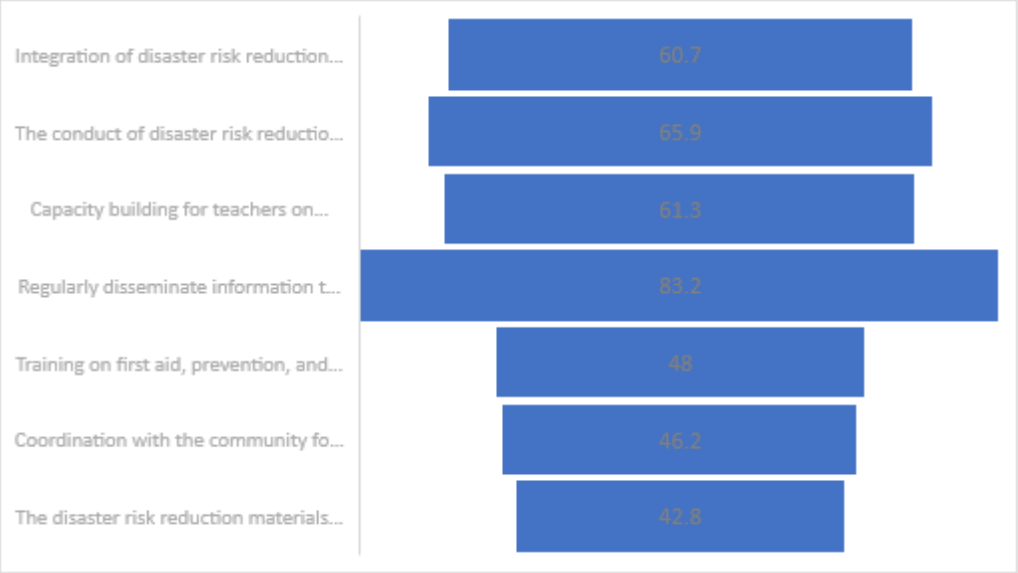


Figure 6. Activities carried out by teachers to support disaster risk reduction education at school

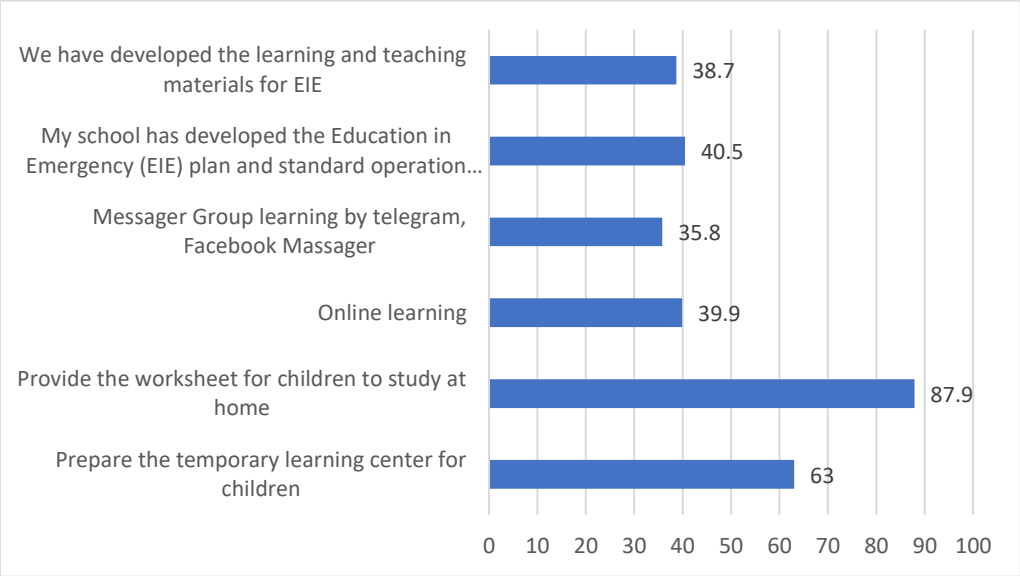


In supporting to the disaster risk reduction education to the children student, most teachers (83.2%) regularly transferred information to students about Dose and Don't to be safe during a catastrophe; it was as high as 95.0% of them at target schools (Figure 6). More than half of teachers conducted disaster risk reduction education in extracurricular activities (65.9%) and provided capacity building for teachers on disaster risk reduction (61.3%). Teachers also offered training on first aid, prevention, and response to disasters (48.0%) and coordinated with the community for common key messages on safe school (46.2%). The prepared disaster risk reduction materials in school are gender and culture-sensitive, e.g., using the local language. All pupils can play any role in the school disaster management committee regardless of gender (42.8%).

Most teachers (87.9%) provided the worksheet for children's study, followed by preparing the temporary learning center for children (63.0%). Teachers developed the Education in Emergency (EIE) plan and standard operation procedure (SOP) for children's continued learning (40.5%). They also carried out online knowledge (39.9%), developed the understanding and teaching materials for EIE (38.7%), and prepared Massager group learning by Telegram and Facebook Massager (35.8%) (**Figure7)**. The response to the COVID-19 pandemic has taught schools about other types of hazards, such as floods, heavy rain, and storm. Online has been one of the most effective and appropriate options for teaching and learning during the disaster [KII with School Director]. However, it has been difficult for schools to order online because teachers and pupils do not have sufficient access to smart devices and the internet. The entrance to EIE materials and posters may be accessible with the

distribution from NGOs, they have prepared various types of EIE to raise awareness about safe schools or DRR [KII with commune Council].

Figure 7. Activities carried out by teacher to support the pupil's education continuity during disaster



3.3 Impact of safe school program on pupils' education

Table 1 analyses the impact on safe school programs from a student perspective. Pupils confirm that the project impacted their knowledge regarding disaster risk reduction (DRR) management and safe school, but it did not change their mindset and actions during the disaster. The program did not address the gender transformative approach in the DRR task among students and girls' participation in disaster risk reduction tasks as leaders. The model reveals that teachers transferred what they earned from the program after participating in capacity-building-related activities. During the COVID-19 pandemic, program moved from face-to-face to online training and workshops because physical gathering was restricted. This pandemic did not affect the capacity building of teachers, but teachers could not carry out activities with pupils as planned. The MoEYS announced the reopening public and private schools nationwide on November 1, 2021. All schools must adhere strictly to the COVID-19 measures laid out by the Ministry of Health to prevent classroom infections while studying [KII with school director]. Pupils at Ou Trael Primary School learned safe school and disaster risk management from their teachers; they started to share among pupils when schools opened after the COVID-19 pandemic restriction [FGD with student].

Table 1. *Student perspective on the impact of the safe school program implemented*

Attribute (pupils)	B	SE	Odds ratio	*p*-value
Knowledge (disaster risk management)	0.488	0.176	1.629	**0.006**
Knowledge (Safe school)	0.885	0.159	2.423	**0.000**
Attitude (disaster risk management)	-0.186	0.154	.225	0.830
Practice (activities taken during disaster risk)	0.145	0.158	1.156	0.358
Practice (activities taken to support the safe school)	0.457	0.157	1.579	**0.004**
Addressing gender transformative approach in disaster risk reduction task among student	-0.091	0.189	0.913	0.629
Girls' participation in disaster risk reduction tasks as leaders.	0.122	0.163	1.129	0.455
Constant	-0.873	0.168	0.418	0.000

Logistic regression confirms that the safe school initiative program has made a significant and positive impact on knowledge of DRR management and safe schools (**Table 1).** The program also supported DRR management, teaching and learning activities during the disaster, and girls' involvement in disaster risk reduction tasks as leaders. But the program has not impacted on attitudes and practices of the teachers to sustainably promote safe schools to DRR. The program did not also impact DRR awareness-raising activities and integration and addressing gender transformative approach in DRR tasks among students. Teachers at O'run Primary School were agreed that their knowledge regarding safe schools was good enough to support their schools. Before participating in the workshop and training organized by program support by NGO such Child Rights Foundation, Plan International and World Vision, teachers explain what they learned from their colleagues. After the knowledge transfer from the program, teachers were able to provide definitions, lessons learned, and best practices regarding the safe school to DRR [FGD with teacher]. All knowledge and documents supplied by program have been integrated into teaching and learning by teachers. Moreover, that knowledge and framework assisted improve DRR management of the O'svay Primary School [KII with school director]. During the harvest workshop, the officers from the MoEYS raised about improvement knowledge from the program. Pupils started to clean themselves and wash their hands all the time. This reflects their change in attitudes and practice. But there should be more investigation regarding food consumption at school; pupils remain eating prohibited food [Harvest-Workshop].

Table 2. *Teacher perspective on the impact of the safe school program implementation*

Attribute (teachers)	B	SE	Odds ratio	*p*-value
Knowledge (DRR management)	1.760	0.504	5.813	***0.000****
Knowledge (Safe school)	1.360	0.672	3.898	***0.043****
Attitude (DRRM management)	0.374	0.766	1.454	0.625
Practice (activities taken during a disaster)	0.120	0.456	1.128	0.792
Practice (activities taken to support a safe school)	0.759	0.492	2.137	0.123
Support for teaching and learning during the disaster	-1.251	0.495	0.286	**0.012****
DRR awareness-raising activities and integration	-0.004	0.561	0.996	0.994
DRR management	1.557	0.576	4.743	***0.007****
Addressing gender transformative approach in DRR task among student	0.629	0.633	1.876	0.320
Girl's participation in disaster risk reduction tasks as leaders.	0.942	0.448	2.565	***0.035****
Constant	-4.344	1.022	0.013	0.000

School principals reveal that the program safe school had an impact on raising awareness of disaster risk reduction during the program implementation, but it did not impact disaster management in the long run. In general, schools did not have the budget to continue the activities after the completion of the development project (**Table 3**). A school principal at O'svay Primary School agreed that knowledge and support from safe school program have created space for schools to implement safe schools. The school principals also admitted that they could only carry out activities with the program budget because the school was challenged to cover the expenditure. During the program implementation, school received the supported in organizing events, to inviting teachers for training and workshop; all those activities were helpful to raise raising awareness at school. The main concern was the program completion; the school could not continue the activities, especially training and workshop. Moreover, the school management team could not make any decision or prepare a clear plan for DRR-related activities [KII with school director].

Table 3*. School principals on the impact of safe school program implemented*

Indicator (principals)	B	SE	Odds ratio	p-value
DRR management	-0.598	1.241	0.550	0.630
Awareness raising on DRR	3.091	1.357	22.000	***0.023****

4. Planning and Policy Implication

- To the possible extent, the NGOs should pursue implementing a safe school project; the development project is essential to reduce pupils' vulnerabilities from natural hazards,

incidents, and violations contributing to MoEYS's National Strategic Plan or ESP (2019-2023). In the same time, the NGO should continue to support the Provincial Office of Education (PoE) and District Office of Education (DoE), and schools by providing occasional training or workshop to update and refresh their understanding and knowledge of education officers, teachers, and management staff regarding safe schools and DRR management.

- The PoE, through DoE, needs to closely monitor the implementation of safe school programs in coverage school. The research shows that schools have started carrying out activities to support safe schools. Therefore, the PoE S or DoE should regularly visit schools and provide them with feedback to support safe school programs. The PoE and DoEYS need to consolidate the experiences gained with the safe school project and make it available to reach other schools where they are now working. The PoE, DoE, and schools should mainstream safe schools and DRR management in the activities of their existing and new projects. They can integrate some possible activities into the current activities. Therefore, they may not require a budget. For example, there is a sharing session like Thursday. Teachers can also share about safe schools with newcomers or discuss unclear issues or points.
- The program intervention should combine capacity building and facility provision at the school level. For example, hand washing was given to improve hygiene, but it has helped prevent the spread of COVID-19. Therefore, those facilities provided by the NGOs could probably use for multiple purposes. Moreover, the safe school program should always be made carried out at three levels: (1) sub-national level (PoE, DoE, and CoCs), (2) schools; and (3) communities. Safe school programs cannot be successfully implemented if the three levels are missed.
- The Disaster Management Secretariat (DMS) of the MoEYS has to adopt the updated version of safe school guidelines and is endorsed and operationalized by Diaster Management System (DMS)/MoEYS for work or capacity building to support the safe school at primary school. Safe school programs helped to build the capacity of principals and teachers in safe schools. Therefore, DMS of the MoEYS should continue to work with the PoE to ensure their implementation throughout its agents at sub-national levels.
- The safe school implementation should focus on mainstreaming safe schools need to include pupils and parents in the communities as a direct target group to raise awareness and change pupils' and parents' attitudes to safe school programs. Moreover, the project

would be best if it also includes activities regarding Disaster Risk Management (DRM) in the community because most natural hazards, for example, floods, affect the communities; schools are mainly safe due to their location in higher part. As a result, awareness of safe schools is not yet enough and must be added up with a safe community.

- The MoEYS should to allocate a budget for some activities or expenditures when NGOs and CSOs implement projects to carry out activities or some key activities to support the safe school. The contribution covering refreshments and transportation fees of teachers, lecturers, and principals would help establish ownership. In addition, the assistance of some essential expenditures during the project implementation by NGOs also improves its efficiency.
- The primary schools must keep protecting pupils at their primary schools from the risks of natural hazards, incidents and violations by ensuring all related activities support safe school program implementation. Knowledge and facilities obtained from the NGOs are very helpful for principals and teachers to continue implementing the plans. By doing so, teachers and principals should work closely with the local authorities to prevent outsiders from entering the school campus who may cause a violation. Through student council, principals and teachers should put assign tasks and responsibilities based on (1) an Early warning, and Information disseminating team, (2) Evacuation Team, (3) a Search and Rescue Team, (4) a First aid Team and (5) Security Team to promote the safe school to DRR.
- The PoE, DoEYS, CSOs, or NGOs need to continue to organize activities, meetings, or workshops and meetings which help principals and teachers refresh their knowledge and change their attitudes where all activities into actions. If available, the PoE, DoE, and NGOs should allocate annual budgets for the primary schools to organize campaigns for community outreach and small-scale events at schools and conduct simulation drills. These events are beneficial to change the behavior of teachers and principals through discussing and sharing opinions in promoting safe school.
- NGOs, PoE, and DoE toned to mobilize the established committee and pupils to work as their roles and responsibilities assigned. The project already initiated safe school-related activities, the provision of first-aid kits, equip basic facilities and envelopments such as gardens. Therefore, principals, teachers, and pupils at least used them with maximum outcomes. In addition, schools should not only depend on external resources; they can carry out any activities or organize events that are very helpful for safe schools.

5. Conclusion

The safe school project was highly relevant to Cambodia's national policy and priorities. The Safe school program contributed to the implementation of the Education Sector Emergency Preparedness Response Plan (EPRP), Climate Change Strategic Plan for Education, National Action Plan for Disaster Risk Reduction (2014-2018), child-friendly school policy, Guidelines on the Curriculum Development for Integrating the Concepts of Disaster Risk Reduction (DRR) and Resilience to Climate Change, back to school booklet and Safe School Guideline. As a result, the safe school project informed policy and guidelines on safe school and contributed to implementing the MoEYS's ESP (2019-2023). The safe school has become a long-term investment of both government and NGOs to ensure pupils at primary schools are safe for learning and teaching. The safe school program was very importance to capacity of teachers and principal; a better understanding of schools' school safety plan or disaster risk reduction action plan related to safe school for disaster risk reduction, incidents, and violation. Moreover, the safe school framework focused on primary schools in combination with community outreach to protect boys and girls from hazards, happenings, and violations of safe teaching and learning environment. The knowledge obtained has been used for their daily work to improve education and to learn to promote a safe school. But more time is required to realize tangible results of establishing safe schools where boys and girls are safe from all forms of natural hazards, incidents, and violations at school and on the way to schools/homes.

Acknowledgement: My deep appreciation and sincere thanks to late Mr. Pel Piseth, [Program and Partnership Manager -Lifelong Learning Program, Plan International Cambodia], for his strong contribute and support during the research study. Even Though, he is passed away, but his excellent contributions to the promoting disaster risk reduction in education sector and safety for children in Cambodia will be remembered and honored. May the soul of Mr. Pel Piseth Rest in Peace.

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Ministry of Education, Youth, and Sport

Department of Policy

Article

Science Teachers' Pedagogical Content Knowledge (PCK): A Literature Review on Research Questions and Assessment Tools

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Abstract

Pedagogical Content Knowledge (PCK) has been a critical element of teacher professional knowledge. Meanwhile, research on PCK has been applied in many countries to improve the quality of teacher education and teacher professionalism. Although scholars have distinguished the components of PCK and proposed different means of measuring PCK, there appears to be no clear consensus on how PCK can be found. This paper is a review of science teachers' PCK literature published in the last two decades which the studies of PCK have been impressive. Content analysis of 26 papers included in the review indicated several themes such as the development of PCK, factors affecting teachers' understanding of PCK, assessment tools, and specific regions in which PCK research has been concentrated. For instance, most PCK assessment research has been conducted in the USA. Again, the reviewed papers mostly focused on Biology as compared to other science subjects such as Chemistry and Physics. These insights can be a starting point for researchers, especially those focusing on science education development in the context of the Sustainable Development Goals (SDG 4) which highlight the significance of Science, Technology, Engineering, and Mathematics (STEM) subjects.

Keywords: Pedagogical Content Knowledge; Science teacher; Science education; Assessment tools, Sustainable Development Goals

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1. Introduction

Teaching is a complex profession that requires both knowledge and skills and competencies. The investigation of professional knowledge has commanded increasing attention in teacher education research. Especially the investigation has been made on the domain of teacher knowledge (Shulman, 1986; Shulman & Skykes, 1986; Shulman, 1987; Grossman, 1990). Grossman, (1990) elaborated on the qualification that should be demanded to enter the teaching profession. Teachers should at least have (1) subject matter knowledge, (2) general pedagogical knowledge, (3) pedagogical content knowledge (PCK), and (4) knowledge of context. Subject matter knowledge is comprised of the knowledge of content, syntactic structure, and substantive structure. General pedagogical knowledge includes knowledge of learner and learning, classroom management, curriculum, and instruction. Pedagogical content knowledge covers knowledge of students' understanding, knowledge of instructional strategies, and curricular knowledge.

The knowledge of context refers to the knowledge of community and school. Derived from the work of Carlsen, suggested five domains of professional knowledge for teachers: (1) knowledge of general educational context, (2) knowledge of pedagogy, (3) subject matter knowledge, (4) knowledge about the specific educational context, and (5) pedagogical content knowledge (PCK) (Carlsen, 1999). Even though there was not an agreed worldwide professional knowledge standard for teaching, there was a critical domain called PCK which is most to be paid attention to teacher professional knowledge. The term PCK, which is historical, the origin of PCK work, in general, is accredited to Shulman, 1987. Based on his pioneering work, the first PCK summit was conducted in Colorado State of the United States of America from 20 to 25 October 2012 on the topic of "Notion of Inventing Pedagogical Content Knowledge".

The summit gathered 22 science education researchers from seven countries including the USA to explore and discuss a consensus model/construct of PCK to guide science education research and identify specific next steps in the field of PCK (Berry et al., 2015). The summit was led by Julie Gess-Newsome from Oregon State University, Janet Carlson from Stanford University, and April Gardner from Biological Science Curriculum Study. At the summit, Shulman provided the keynote address about PCK, and other members of the summit shared

presentations on the various aspect of PCK. Then the group came up with the proposed operational definition of the PCK "is the knowledge of, the reasoning behind, and enactment of the teaching of particular topics in a particular way with particular students for particular reasons for enhanced student outcomes." (Carlson, 2015 p. 24).

Gradually, Gess-Newsome developed the model of teacher professional knowledge which includes PCK as a component. In his work, PCK has been defined as both a knowledge base used in planning a specific topic in the specific classroom context and as a skill in the act of teaching. Daehler et al (2015) conceptualized the definition of PCK as Shulman defined it. It was a special form of knowledge that goes beyond subject matter knowledge. It is the blend of knowledge of content and pedagogy and making it understandable and comprehensible to the students in the specific context. Many researchers (Amanda Berry et al., 2015; Baxter & Lederman, 1999; Park & Oliver, 2008a) have worked on PCK to identify the strength and weaknesses of its model and guided further research to develop a robust model of PCK. Then the research progress of PCK conceptualization was going on (Ball, et al, 2008; Berliner, 1986; Depaepe et a. 2015). For instance, Abell (2008) defined PCK as the integration and blending of content knowledge and pedagogical knowledge that influence a teacher's decision of teaching method. Building on Shulman's PCK model, Magnusson & J. Krajcik, (1999) developed a model that contains five components of PCK for science teachers: 1) orientation to teaching science, 2) knowledge of assessment of scientific literacy, 3) knowledge of curricula, 4) Knowledge of students' understanding of science, and 5) knowledge of instructional strategies (**figure 1**).

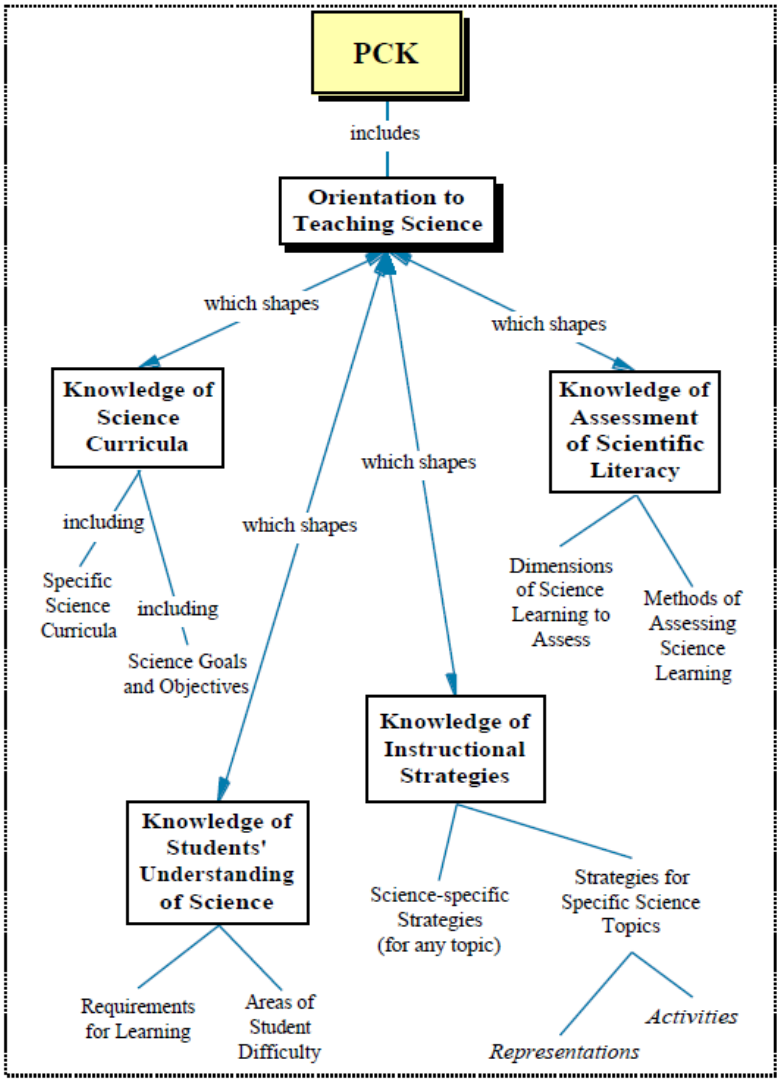

Figure 1: The component of pedagogical content knowledge (Magnusson et al, 1999)

Similarly, to the work of Magnusson, the pentagon model by Park & Oliver, (2008) agreed on the five components of PCK. However, Carlsen, 1999 classified the component of PCK into four as knowledge of students' common misconceptions, knowledge of curricula, knowledge of instructional strategies, and the purpose of teaching science. Even though there is no universal acceptance of the definition, it seems most definitions share a common understanding of PCK as the domain of teacher knowledge which teachers need to structure the content knowledge and choose appropriate teaching strategies for their students. Teachers develop their PCK on particular content through experience and reflection on content knowledge and classroom practice. Developing PCK helps teachers understand the weaknesses of their teaching practice and learn more about the uniqueness of students' characteristics and classroom settings.

PCK research outcomes have been used as the foundation for a discussion on improving teaching quality. To gather the main themes and get an in-depth understanding of what has been done with PCK research, some authors (Schneider & Plasman, 2011; Aydin & Boz, 2012; Depeape, 2013) have focused on systematic or integrative literature reviews to systemize and gather insights from existing studies. Those reviews have identified gaps in the existing research findings, highlighting different thematic areas such as the development of science teachers' PCK, conceptualization of PCK in Mathematics, Biology, etc., and measurement of teachers' PCK. Schneider & Plasman (2011) summarized how science teachers think about PCK components based on their experiences in class and the type of variables that influenced science teachers' knowledge of PCK. Depaepe et al. (2013), elaborated on the conceptualization of PCK in mathematical educational research, the components of PCK, and the countries that had conducted PCK research.

Despite considerable progress in PCK research, there appears to be no clear consensus on how PCK for science teachers can be assessed, especially in subjects such as Chemistry, Biology, Physics, and Earth Science (Baxter & Lederman, 1999). PCK is an internal construct, so we couldn't observe it directly. During teaching, teachers may reveal their strategies which could be observed but it couldn't reveal the reason why teachers chose this part to perform and not the other. Assessing teachers' PCK faces a lot of challenges. To agree on which component to be assessed and which method to be used. (Kagan, 1990; Mikeska et al., 2021 & Park et al., 2020).

Individual PCK varies depending on the content and classroom situation. Thus, there is no fixed PCK that applies to all science topics. Understanding research findings on assessing teachers' PCK, and what science teachers understand about their PCK and development would advantage other science teachers in improving their practice. To be concise, synthesizing previous studies of teachers' PCK would expose the gap in the literature and help science teachers and education stakeholders to gain more insights into how PCK assessment can be developed and implemented. Therefore, this paper reviewed studies of science teachers' PCK published from 2000 to 2021 to build a body of knowledge that can be a foundation insight for improving the assessment of science teachers' PCK and the quality of science teachers.

The following questions are guided in this review paper. First, "what type of research questions have been conducted in the area of science teachers' PCK?" This question would address the type of PCK themes in existing research. Those themes should be elaborated on and distinguished through each study's research question and objectives. Research question two was "What are the valid and reliable tools for measuring science teachers' PCK?". This

question focused on the existing valid assessment tools that have been used for measuring science teachers' pedagogical content knowledge. To be specific, the objective of question 2 was to describe the structure of each assessment tool and how to assess it. This question also addressed the strength and weaknesses of each tool.

2. Research Method

This study followed a systematic review (Petticrew & Roberts, 2006). The initial search was conducted on the Web of Science and Education Resource Information Center (ERIC) which include a database of educational research, and mostly peer-reviewed articles. These two sources were determined for the review because they were accessible by the author and had institutional access by Hiroshima university at the time of the study (2021-2022). The search key terms were pedagogical content knowledge, science teacher, and science education which aligned with the objective of this review.

First, placed those keywords on the document search option of Web of Science. it appeared 1081 articles. Then the author refined the results by scoping on publication year, document type, and subject focused. The articles for review were ranged from 2000 to 2021 while the concept of PCK has been more investigated as the core focus of quality of education. The document type was selected on peer reviewed journal articles as well as the book chapter if that were relevant to make reviews more comprehensive (Chapman, 2021). The subject focused were Education Educational Research, Psychology Educational, and Social Science Interdisciplinary that are written in English. After this refinement, it resulted 34 articles. Then the author read each title and checked keywords to ensure that only relevant articles were selected. For instance, articles that had key terms such as technological pedagogical content knowledge were excluded. In this regard, the analysis of conceptualization and the examination of PCK outside the field of science education were diminished from the selection. There were 15 papers on Web of science have been selected.

On ERIC, the author typed the keywords on search and tick on full text available option. The refinement scoped on publication date (last 20 years), descriptor (pedagogical content knowledge), education level (preschool up to secondary education), location (select all countries which is available), and it appeared 500 articles. Based on the inclusion procedure and filtering out the irrelevant papers that were out of the scope of the study, there remained 11 papers on ERIC. Totally from both data bases, it resulted 26 papers for further analysis.

The papers were analyzed using within-case analysis (Miles, M. B., & Huberman, 1994) of each of the 26 research papers. The article was a unit of analysis. Each article paper was summarized in a category theme regarding two focuses: the research questions and the PCK assessment tool. These two focuses were linked to the research question of this review study respectively. The author did a horizontal analysis (cross-case analysis) by shifting the unit of analysis from each article to the category theme. The author finalized the themes of research questions and the description of strengths and weaknesses of the PCK assessment tool from the horizontal analysis.

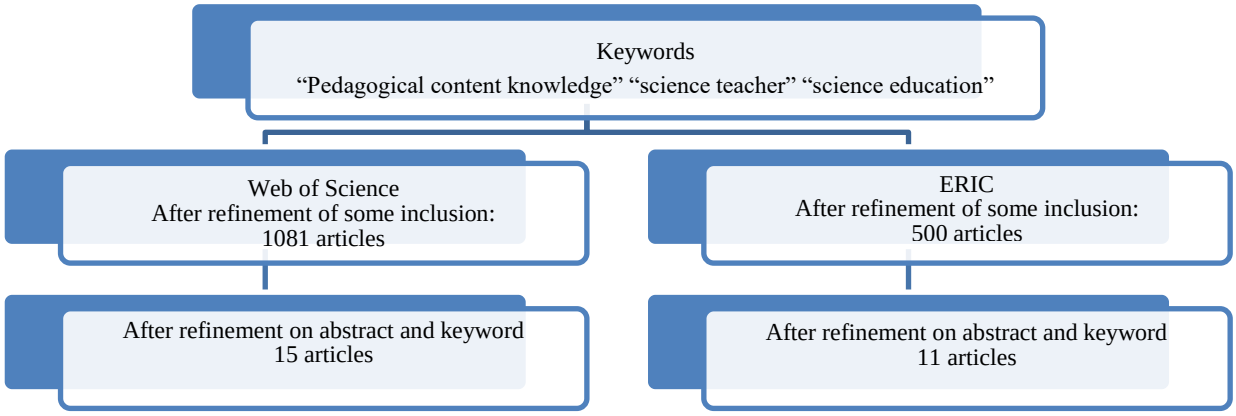

Figure 2: The procedure and criteria for selecting the reviewed articles

Source: Author's design

3. Results and Findings

3.1 PCK Research question themes

The result in part 1 offered the findings of the various aspects of science teachers' PCK from the snapshot of 26 reviewed articles to the research question "what themes of research questions can be generated from the reviewed articles?". The description of this part started with a summary of the country and focused on each study and was followed by the findings of PCK themes and wrapped up with the quantitative results of the frequency of PCK themes. The studies of teachers' PCK mostly were conducted in developed countries such as the USA, Germany, Netherlands, and Australia, while the developing countries still have fewer studies of teachers' PCK compared to the developed countries as indicated in **Table 1** below.

Table 1: *List of countries and subjects specified in the review articles*

N^0	Country of conducting the study	Focused subjects	Authors/year
1	South Africa	Chemistry	Rollnick & Mavhunga, 2014
2	Germany	Biology-Physics	Kratz & Schaal, 2015
3	USA	Biology	Park et al., 2018
4	Germany	Biology	Großschedl et al., 2019
5	Thailand	Biology	Chapoo et al., 2014
6	Thailand	Physics	Chantaranima & Yuenyong, 2014
7	Sweden	Chemistry	Drechsler & Van Driel, 2008
8	Colombia	Physics	Melo et al., 2020
9	Netherland	Chemistry	Van Driel et al., 2002
10	USA	Chemistry	Hanuscin et al., 2018
11	Turkey	Chemistry	Abadan & Oner, 2014
12	Turkey	Chemistry	Bektas et al., 2013
13	Turkey	Chemistry	Usak et al., 2011
14	South Africa	Biology	Mthethwa-Kunene et al., 2015
15	Turkey	Science	Karamustafaoğlu et al., 2018
16	Germany	Science	Van Dijk & Kattmann, 2007
17	USA	Science	Suh & Park, 2017
18	Malaysia	Science	Halim et al., 2010
19	Thailand	Biology	Chapoo et al., 2014a
20	Turkey	Chemistry	Aydeniz & Kirbulut, 2014
21	Australia	Science	Loughran et al., 2008
22	Germany	Physics	Kirschner et al., 2016
23	USA	Earth Science	Campbell et al., 2017
24	Turkey	Chemistry	Usak, Ozden, & Eilks, 2011
25	Germany	Biology	Jüttner & Neuhaus, 2012
26	USA	Biology	Jüttner et al., 2013

Source: Author's analysis

To look in-depth at the reviewed studies above, the analysis of each research question has been conducted. Each research question is guiding the research and seeks answers to the objectives of the study (Creswell & Creswell, 2018). Among 26 reviewed articles, there were 48 research questions, and on average there were 1 to 2 questions in each article. The research questions were synthesized into four common themes: 1) measuring the science teachers' PCK, 2) Developing a PCK assessment tool, 3) identifying how science teachers' PCK develops, and 4) identifying factors that influence science teachers' PCK. Each theme was determined based on the keywords in each question and grouped into the theme. **Table 2** shows all the research questions and the targeted sample from the review articles

Table 2: *A list of research questions from reviewed articles*

Study	Research questions/objectives	Number of Respondents
1	(1) What is the quality of the content knowledge and topic-specific pedagogical content knowledge on this topic? (2) How do the CK and PCK relate to each other?	64 In-service Chemistry teachers (secondary level)
2	(1) How can we develop and validate the tools for assessing teachers' CK and PCK in the domain of Biology and Physics?	72 Pre-service science teachers (primary level)
3	(1) How can we develop and validate the measures of PCK?	85 In-service science teachers (secondary level)
4	(1) How can we validate the instrument for assessing secondary school pre-service biology teachers' PCK?	65 German pre-service and n = 35 German in-service biology teachers.
5	(1) What are the understandings and practices of the biology teacher's PCK? (2) Did the content of CoRe reflect the components of PCK as identified by Magnusson et al. (1999)?	1 In-service Biology teacher (secondary level)
6	(1) What are the elements of PCK which can be revealed from the context of a 5E stages approach to teaching?	1 In-service Physics teacher (secondary level)
7	(1) What is the content of teachers' Pedagogical Content Knowledge about students' difficulties in understanding acids and bases? (2) What is the content of teachers' PCK of teaching strategies that consider useful to help students overcome such difficulties? (3) How did the teachers perceive their PCK?	9 In-service Chemistry teachers (secondary level)
8	(1) What is the development of PCK through a physics teacher training intervention program?	1 In-service Physics teacher (secondary level)

9	(1) What development of the preservice teachers' PCK can be investigated and what is the influence of specific factors on this development?	12 Preservice Chemistry teachers
10	(1) How can we characterize elementary teachers' PCK for the matter? (2) To what extent is teachers' PCK for the matter a function of teaching experience at grade level as opposed to experience teaching overall?	38 In-service teachers (primary level)
11	(1)How do preservice chemistry teachers' PCK representations on the topic of the behavior of Gas over the semester?	2 Pre-service Chemistry teachers (secondary level)
12	All questions were asked before and after taking the course. (1)-How do pre-service chemistry teachers perceive the relationship between laws and theories, and tentativeness aspects of the Nature of Science? (2) What is the knowledge of pre-service chemistry teachers in terms of students' understanding of and difficulties in understanding the topic? (3) How do pre-service chemistry teachers teach PNM considering the knowledge of learners, instructional strategies, and assessment?	7 Pre-service Chemistry teachers (secondary level)
13	(1) What is the prospective primary school teachers' CK about states of matter? (2) What is the prospective primary school teachers' PCK?	41 Pre-service teachers (primary level)
14	(1) What content knowledge do the biology teachers have and explained in teaching genetics concepts? (2) What topic-specific instructional strategies do these teachers use? (3) What knowledge of students' misconceptions and learning difficulties, if any, did these teachers demonstrate? (4) How did these teachers develop their PCK?	4 In-service Biology teachers (secondary level)
15	(1). What are the levels of students' metacognitive awareness? (2). What are the in-class activities that are conducted by the science teacher related to the observed transformation of PCK? (3). What are the opinions of the science teacher about metacognitive awareness and PCK?	1 In-service teacher (primary level)
16	(1) What SMK do biology teachers have concerning the topic of evolution? (2) What conceptions do teachers have of students' misconceptions about evolution? (3) What conceptions do biology teachers have of subject matter representations of evolution?	In-service Biology teachers (secondary level)
17	(1) What are common patterns in the interactions among orientations and other knowledge components of PCK of the teachers?	3 In-service teachers (primary level)

	(2) How are the patterns related to their sustained implementation of the argument-based inquiry approach?	
18	(1) How effective am I as a supervisor in assisting my supervisee to be reflective? (2) How useful are the guidance and support to supervisees in assisting them to develop PCK that concerns promoting learning rather than focusing on student teachers' self-survival?	3 Pre-service science teachers (secondary level)
19	(1) What are the understandings and practices of biology teacher's PCK?	3 In-service Biology teachers (secondary level)
20	(1) What Pedagogical Content Knowledge do pre-service chemistry teachers have for teaching? (2) What potential does the STSPCK instrument have for assessing and enhancing pre-service science teachers' PCK? (3) What are the challenges associated with developing and using the STSPCK instrument?	30 Pre-service Chemistry teachers
21	(1) How does know to know about PCK influence teachers' thinking about teaching science and their PCK development?	27 Pre-service teachers
22	(1) How can we develop a test instrument (PCK test) for assessing physics teachers' professional knowledge?	186 In-service Physics teacher (secondary level)
23	(1) To what extent does the resource activation model of cognition help explain the application of orientations and topic-specific PCK by a grade 9 science teacher across topics in earth science?	1 In-service Science teacher (secondary level)
24	(1) What is the Subject Matter Knowledge of beginning student teachers? (2) What do the student teachers think concerning the teaching?	30 Pre-service Science teachers (secondary level)
25	(1) What is the student error about the reflex arc of the knee-jerk? (2) How can items for a PCK test be developed? (3) Are these PCK items reliable and valid?	5 In-service German biology teachers
26	(1) How can we develop reliable, objective, and valid instruments measuring teachers' CK and PCK?	158 In-service Biology teachers

Source: Author's analysis

*In-service teachers: refer to teachers who completed teacher training courses and became teachers at a designated school. The teacher training course lasted for one, two, or four years depending on the degree and policy of each teacher's education context. That means they are currently work as teachers.

Pre-service teachers: refer to student teachers who have not yet completed the teacher training course and are still under the training course. After completing the teacher training course, pre-service teachers will become in-service teachers.

Theme 1: Measuring the science teachers' PCK

Teacher quality is crucial for improving the quality of education. That means to say teachers play an important role in enhancing students' learning. As such, many studies have been conducted to find out what type of knowledge teachers should acquire to enhance their capacity. As already stated, Shulman (1987) initiated the PCK concept as an amalgamation of essential teacher knowledge for transforming content knowledge through teaching strategies according to subject content and context, which can ultimately ensure students' learning. However, the study of teachers' PCK seems to be placed on specific topics, for example, some studies focused on teachers' PCK for the specific topic "Acid-base", "Chemical reaction" "Photosynthesis" etc. (Drechsler & van Driel, 2008 Usak, Ozden, & Eilks, And the questions which guided in the theme "measuring the teachers' PCK" mostly aimed to measure the "quality", "understanding", "practice", "characteristics" and the "understanding of each element of PCK".

The study by Rollnick & Mavhunga, (2014) explored the Chemistry teachers' knowledge of PCK which targeted five components such as (1) knowledge of the learner, (2) knowledge of curriculum, (3) knowledge of teaching strategies, (4) orientation to teaching, and (5) difficulties when teaching the topic of "Electrochemistry". The study inquired by asking "what is the quality of teachers' PCK and how do the content knowledge and PCK relate to each other?". The findings of the quality of teachers' PCK have been explained in four levels 1) "limited", 2) "basic", 3) "developing" and 4) "exemplary" through the PCK test. Likewise, the study of Usak, Ozden, & Saglam, (2011) was guided by the question "what is the teachers' PCK on the topic of phase transaction of matter?". That focused on teachers' knowledge of student learning, knowledge of curriculum, and knowledge of representation. The teachers elaborated on the decision of teaching models or any activities for teaching the topic of Matter. Another study separated the questions by first asking "what is the knowledge of a teacher in terms of student's difficulties?" and "how do the teachers teach the subject considering the knowledge of strategies, knowledge of learners, and curriculum?" (Drechsler & van Driel, 2008) assessed Chemistry teachers' knowledge of students' difficulties and models for teaching acids and bases. The researchers asked questions like "what is the content of teachers' PCK of students' difficulties and teaching model? The assessment unearthed teachers' understanding

of students' difficulties, categorized as follows: 1) students' misinterpretation of acid-base reaction equation, 2) students' preconception, 3) model confusion and 4) students' difficulties in distinguishing between explanations in a macroscopic view. The research also elaborated on the types of models that teachers had been using for teaching acids and bases. That all to investigate the teachers' understanding of students' difficulties and teaching model for teaching. To investigate a categorization of teachers' PCK, (Hanuscin et al., 2018) proposed the question "How can we characterize elementary teachers' PCK for the matter?". The study findings described the nature of PCK in different teachers and the relationship between the teachers' experiences and their PCK.

Theme 2: Developing a PCK assessment tool

PCK is known as a complex construct, hence there is no agreed-on standard tool for measuring this knowledge. However, some methods and tools for assessing PCK have been developed depending on the feasibility and means of reaching respondents. Several authors have developed a tool for assessing PCK in specific topics. In Germany, Kratz & Schaal, (2015) research posed a question: "How can they develop and validate tools for measuring CK and PCK of Biology and physics?". They adopted the existing assessment tools and added more items to the tools. The tool was constructed for the component of knowledge of students' understanding and knowledge of learning strategies, following a multi-stage development process. Park et al., (2018) addressed the same question as Kratz and Schaal but focused on the topic of photosynthesis. The development of a PCK survey test followed a few steps by first identifying the core concepts of photosynthesis and, secondly, by drafting multiple-choice test items targeting the categories of knowledge of learners and knowledge of instruction and representation. Biology experts conducted multiple checks and revisions to validate the developed items. Another study conducted in Germany by Großschedl et al., (2019) questioned "How can we validate the instrument for measuring the secondary school pre-service biology teachers' Pedagogical Content Knowledge? The researchers followed a series of three evaluations and refinement in which item analysis, scale analysis, and indicator validity were ensured for the final test items. "How can we develop a test instrument (PCK test) for assessing physics teachers' professional knowledge?"; this question inquired how they can create the test to measure the component of Physics teachers' pedagogical content knowledge.

The evaluation of the test development included the description of content validity, construct validity, and the examination of the internal structure of professional knowledge (Kirschner et al., 2016). Another question was "Are these PCK items reliable and valid for assessing the

PCK of Pupil Error?" the study by Jüttner & Neuhaus, (2012) in the USA. Thus, this one attempted to measure biology teachers' knowledge of pupils' errors on the topic of Knee-jerk. The procedure of this test development is based upon the analysis of pupils' errors from the achievement test and followed by validation (think-aloud interview) and reliability (Cronbach alpha test) Jüttner et al., (2013). "How can we develop reliable, objective, and valid instruments measuring teachers' CK and PCK?"; was not only developed for test items but also used the instrument for Biology teachers as well. The procedure of developing the test was guided by four steps 1) conceptualize the variable, 2) topic selection, 3) blueprints, and 4) structure and rubric.

Theme 3: identifying how science teachers' PCK develop

The questions in this trend aimed to explore how PCK develops over time or after the professional training program. Two directions, one as the goal of understanding how teachers' pedagogical content knowledge and another as what counts as the development of teachers' PCK. The noticeable questions were "How did the teachers perceive their PCK of teaching acids and bases develop until now; How do preservice chemistry teachers' PCK representations on the topic of the behavior of gases progress over semester-long chemistry teaching methods course; and how did these teachers develop their PCK in genetics teaching?". These three studies had similar objectives by looking at the ground how and why the teacher changes their way of teaching and the explain the satisfaction of their teaching.

Whereas the specific observation of the study by (Adadan & Oner, 2014), the study compared the teachers' knowledge of orientation to teach science, knowledge of curriculum, knowledge of students, knowledge of strategies, and knowledge of assessment over a semester. Whether to see if there is a change in their knowledge. As the main, the reflection of teachers' works corresponds to how their PCK has changed. The second direction counted on what the development of PCK has been guided by the questions such as "What is the development of PCK through a physics teacher training intervention program? Or What development of the preservice teachers' PCK can be identified?" (Melo et al., 2020; Van Driel et al., 2002). Those questions had not so different from the question of how teachers develop PCK, even though the notification of the question of "what" weighted what teachers declared, planned, and did in the class. Those development incorporated with the components of PCK.

Theme 4: identifying factors that influence science teachers' PCK

The theme of seeking the factors that may affect the teachers' pedagogical content knowledge seems to be limited. The studies mostly tested the effectiveness of training

programs or the influence of teacher trainers on student teachers rather than exploring the possibility of various factors that may influence teachers' PCK. Halim et al., (2010) stated a research question "How effective of supervision on the student teachers' Pedagogical Content Knowledge? And "How useful of the guidance in supervision to develop PCK that concerns promoting learning rather than focusing on student teachers' self-survival? Testing the supervised activities if that could make any change in students' teachers' PCK. This reflection from students' teachers described the necessity of supervision that allows them to know various teaching strategies.

Among four themes of PCK research that has been conducted from 2000 up to 2021, most of the research has focused on measuring teachers' PCK rather than identifying factors affecting teachers' PCK which is illustrated in **figure 3** below.

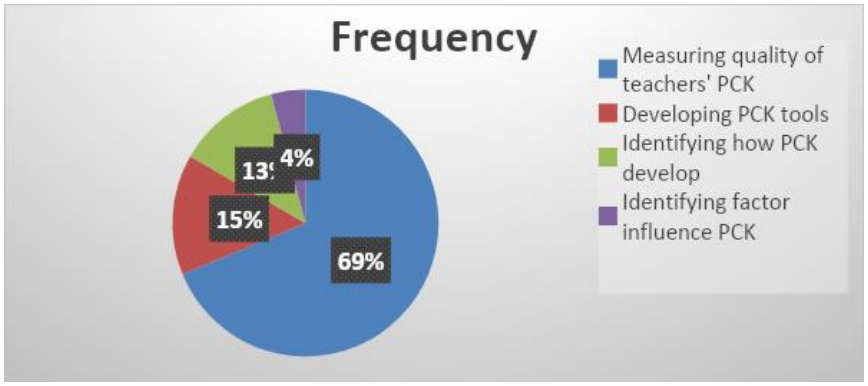

Figure 3: The frequency of PCK research themes from reviewed articles

Source: Author's analysis from review articles

3.2 PCK measurement tools

Pedagogical content knowledge has known as a complex construct in educational research. The challenge of PCK conceptualization still exists. Even though we don't reach the agreed-upon definition of the concept and the component, the investigation of each part of the PCK component serves as a mandatory assessment of the PCK construct. In science educational research, PCK has been a focal point for professionalism and teaching practices research. According to Park & Oliver, there were two dimensions of measuring PCK. First, measuring the teachers' understanding of their PCK, and second assessing their enactment in classroom practice. This perspective leads to the understanding of the nature of PCK measurement tools that are elaborated on below:

PCK survey test (Multiple choice item)

The PCK survey test was developed by Park aiming to assess Biology teachers' pedagogical content knowledge on the topic of photosynthesis. The test was developed and validated in several steps by first, identifying the core idea of Photosynthesis (what students should know when they learn the topic).

- The core ideas were analyzed based on the textbook, curriculum, teacher manual, lesson plan, and students' work sample)
- Then send the core idea to biology experienced teachers to review the importance of each idea using four points Likert scale (modification will be made if there is feedback from those teachers)
- The core ideas were grouped into a category

Second, a PCK survey (paper test) and rubric were drafted focusing on knowledge of student understanding (KSU) and knowledge of instructional strategy (KISR)

- It is a multiple-choice item grounded classroom scenario centering on the core ideas and targeted KSU and KISR.
- Checking the literature on common misconceptions and instructional strategies on that topic and start to develop an item.

*We can ask students to get more misconceptions if we can

- The test items were sent to biology teachers to make sure of content validity and then we can check Cronbach's α to make sure of internal consistency.

This type of test produces a convenient collection of large samples up to a few hundred upon the nature of the multiple-choice items test. The analysis could be done by statistical analysis which running by software, to see the mean score or level of respondents. However, the limitation of in-depth analysis on how those responses were created still needs to consider more.

Open-ended question/semi-open-ended question

This is a type of set of questions that could assess the respondent's explanation in detail. By starting with the open question related to the component of PCK, the researchers could gather ideas from the teacher through the scenario of each question and purpose. An example is a study by Rollnick & Mavhunga, (2014), who developed a topic-specific PCK test for measuring teachers' PCK by asking the teacher to state their responses in their words. Each item of the test was designed based on the component of PCK. For example, to assess the learners' prior knowledge, the test required the teachers to state if they know the students have

misconceptions or not according to the written statement of students' ideas. Some test items targeted conceptual teaching strategies by asking the teacher to write the teaching methods which they think would make the students better understand the topic. The open-ended question was widely used to prompt a detail of teachers' understanding of their knowledge of teaching strategies and another part of the PCK component as well (Şahin et al., 2016; Karamustafaoğlu et al., 2018).

CoRes

This is an abbreviation of the word Content representations which is an instrument for articulating and portraying teachers' understanding of PCK. It aims to describe teachers' reasoning for how they choose the teaching strategies and how they assess their students' difficulties or misunderstandings. The content representations tool attempt to investigate the PCK of in-service or pre-service teachers and uncover most aspect of it. The contents comprised a set of questions.

"What do you intend the students to learn about this topic?

Why is it compulsory for students to learn about this?

What else do you know about this idea (that you do not intend students to know yet)?

What are the difficulties or challenges connected with teaching this topic?

What is your knowledge about students' ideas that influence your teaching of these ideas?

Are there any other factors that could affect your teaching of this topic?

What are your teaching procedures (any particular activities for engaging the idea)?

Specific ways of ascertaining students' understanding or misunderstandings around this idea include a likely range of responses" Chapoo et al., (2014).

PaP-eRs

PaP-eRs represent the term Pedagogical and Professional-experience repertoire. It relates to CoRes and aims to measure the teachers' PCK in action. Mostly, this is drawing as an interview on the specific content that asks the teachers to describe their teaching practice. The overall interview deepens on the explanation of the teacher regarding their decision on teaching activities, the reason behind why they choose those activities, and how they thought about their students understanding in that context. As can be seen, the PaP-eRs revealed the interaction between each component of PCK, by allowing the teacher to critique and reflected on how their lesson was conducted and the weakness and strengths of their action (Loughran et al., 2008).

Interview

Some studies conducted research on teachers' PCK by using the interview style. The interview questions were created based on the literature and purposed to evaluate the teachers' PCK on how to teach (Usak, Ozden, & Eilks, 2011b). Some interview styles were conducted to get insight into teachers' ideas about planning, designing, and explaining the lesson plan. However, this type of interview could be done along with classroom observation to check the consistency between the lesson plan and classroom practice. Due to the interview, the teachers required much time and let the interview environment relax, the limitation could be done only a few samples due to time-consuming. According to Drechsler & van Driel, (2008), they interviewed by following a few steps. The questions first, started by asking the teachers to present how they designed their lesson and how they have changed it over years. Second, the teachers were asked if they used the pictures or any paragraph from the textbook and why they used it. The last part of the interview questioned the teachers to discuss students' thoughts about their difficulties or any misconceptions. The last part was seeking more about how the teachers handled those students' difficulties.

Videotape/audiotaped conversation

This tool has been counted as a practical tool for measuring teachers' practice in the classroom. The study by (Melo et al., 2020) comprised several tools in one study to investigate the physics teachers in Colombian secondary schools. A videotape of the class has joined as one tool following the other tools such as an open-ended question, questionnaire, interview, and CoRe as well. The videotape gave the activities that the teacher has been performing in the class and added more essence to the other tools. The videotape has explained the teacher' tendency to classroom practice whether teacher center or pupil center. Another way of using the videotape was found in the study of (Van Driel et al., 2002), who compared the teachers' PCK over time to see how their PCK developed over time before and after the training course.

Reflection paper/field diary/lesson plan method

As there is no single rule to measure teachers' PCK, the researchers have included the investigation of lesson plan tasks (Valk & Broekman, 1999) to see the relationship between what teachers plan and what teachers do and the reason for doing it. Practical, (Hanuscin et al., 2018) have mentioned the advantage of the lesson plan task, it provided a chance for the pre-service teacher to express their opinions of teaching even though they don't have teaching experience yet. They have at least the knowledge for preparing their lesson based on their

knowledge in their training course. According to the lesson plan task, the researcher could see the connection between the essential questions for the class, the objective, and how those were engaged with each other. The analysis of the lesson plan could be generated by content analysis to see the nature of PCK considering the knowledge of the learner, assessment, and curriculum. Briefly, descriptions of the tools above were reflected in two groups (Table 3) 1) as the tools that aim to measure teachers' PCK understanding according to their answers to the test and questions in the interview. Those answers were evaluated regarding the component of PCK that was targeted in each study. 2) as the group considering the enactment of teachers in their teaching practice in the classroom. Those tools highlighted what teachers do in the classroom if they were aligned with what the teacher has planned and the objective of the lesson.

Table 3: *Category of PCK measurement tools*

Group (1)	Group (2)
PCK survey test: multiple choice Open-ended question: CoRes	Lesson plan task Class observation Videotape Reflection paper/field diary PaP-eRs Interview

4. Discussions

Research question themes

Following the result of the reviewed article above, the research on teachers' pedagogical content knowledge has contributed much to understanding teachers' professional development and practice. Hence, the respondents in each study seemed to be varied and more focused on secondary in-service teachers (50%) and less on primary pre-service teachers (7.69%) as shown in figure 2 below. This notion aligned with the study of (De Quadros et al., 2011, which means that in-service teachers in secondary schools' teachers were involved with students' activities and contributed to students' learning quality a lot. Specifically, the students were first introduced to abstract concepts at the secondary level, for example, the concept of Atom and Molecule, heat, and sound. It is the critical stage of students' learning of science concepts. Research on in-service teachers reveals the practical issue and current challenge which enrich the effectiveness of improving the quality of teaching-learning.

However, the focus on in-service teachers seems to contrast with the study (Van Driel et al., 2002). Van Driel stated that the research of PCK should emphasize pre-service teachers

rather than in-service teachers. Those student teachers will transform from a student-teacher stage to the teacher stage and be ready to be a teacher. Investigating and assessing their knowledge of PCK must be an important initial stage for developing their PCK and helping them to be more confident in their teaching practices.

Even though most of the research on PCK from review articles focused on in-service teachers, the empirical research on teachers' PCK in Cambodia has emphasized more on pre-service teachers and teacher trainers. The research that came from the government and international stakeholders mostly targeted teacher trainers' PCK and pre-service teachers rather than in-service teachers (Ginburg, 2010; Depaepe et al., 2015; MoEYS, 2011; Van et al, 2018). This could be the initial stage for PCK research by gathering the information of teachers' trainers or pre-service teachers first before the investigation of the in-service teacher. Through the goal of Cambodia's Education reform 2019-2023, to enhance the quality of teacher education need to be considered on teachers' education curriculum, course, content so on. However, the progress of introducing the component of PCK has not yet been fully applied to all teacher trainers. Compared to most of the research (Hanuscin et al., 2018; Park et al, 2018) on PCK in a developed country, the movement of findings information from in-service teachers is needed.

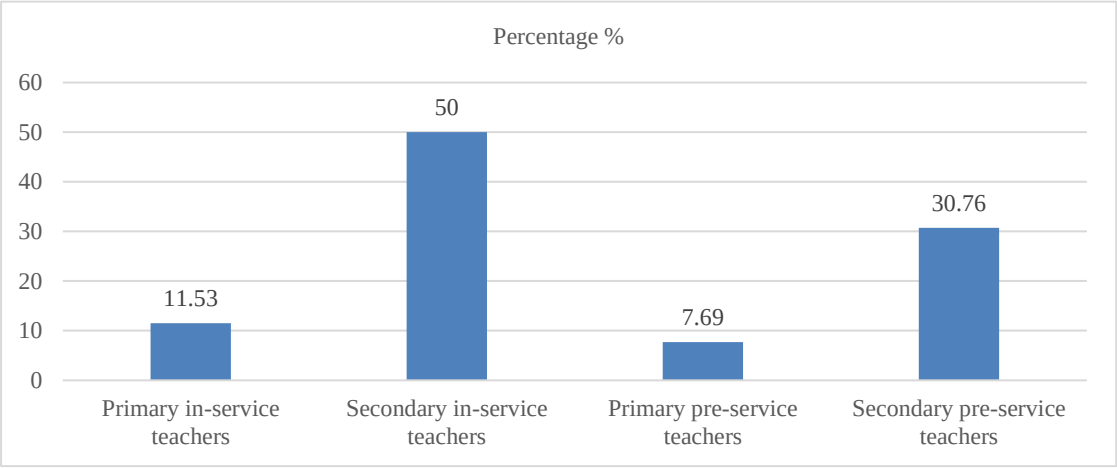

Figure 4: The percentage of respondent types in PCK research from reviewed articles

Source: Author's analysis from review articles

Some reviewed articles (Drechsler & Van Driel, 2008; Melo et al, 2020) focused on secondary in-service teachers, but they could only be assessed to a few respondents. This was due to the limitation of instruments, time constraints, and other difficulties in finance (Chantaranima & Yuenyong, 2014a; Chapoo et al., 2014; Melo et al., 2020). Another thing to

be considered among PCK themes that have been found, as illustrated in Figure 1, is the research on factors affecting teachers' pedagogical content knowledge was only 4% while the research on measuring teachers' PCK reached 69%. There was a huge intention of figuring out how much teachers know how to teach and how much they understand their students while finding the reasons behind that performance was still hindered. This could be the challenge of assessing the factor contributing to the performance of PCK. That could count on the methodology, time constraints, and scope of the PCK component. The goal of improving teacher quality concerns finding a way to improve teachers' professional knowledge such as Content knowledge or pedagogical content knowledge. Currently, research on PCK has become a crucial aspect of teacher professionalism (Amanda Berry et al., 2015. However, understanding the various factors that may affect or have a relationship with teachers' knowledge is also beneficial for the sake of improving teachers' quality. Yet, the PCK literature (from review articles) seems to provide fragmented empirical evidence of factors that may affect teachers' PCK. Understanding the factor that contributes to teachers' performance or teachers' PCK, is fruitful evidence to find the practical solution for teacher education practices and professionalism.

Moreover, there were few or likely no studies on factors affecting Chemistry/Biology/Physics/Earth science at all, only studies considering the science teachers in the overall context. Noticeably, the PCK tools have developed from Biology more than Chemistry while measuring Chemistry teachers' PCK more than Biology teachers. There seems to be a mismatch between the tool created and the subjects to be investigated. Investigation of the pedagogical content knowledge of Chemistry teachers mostly tackled the topic of "Particle of Matter" whereas the other fundamental topics in Chemistry still need more attention. This notion also alerts the further development and validated tools for assessing PCK from Chemistry topics and others, to build firm fundamentals of reliable tools in each science subject. Moreover, the study of physics and Earth science teachers' PCK was less compared to other science subjects, and there is no study about Earth science teachers and how their PCK has been developed.

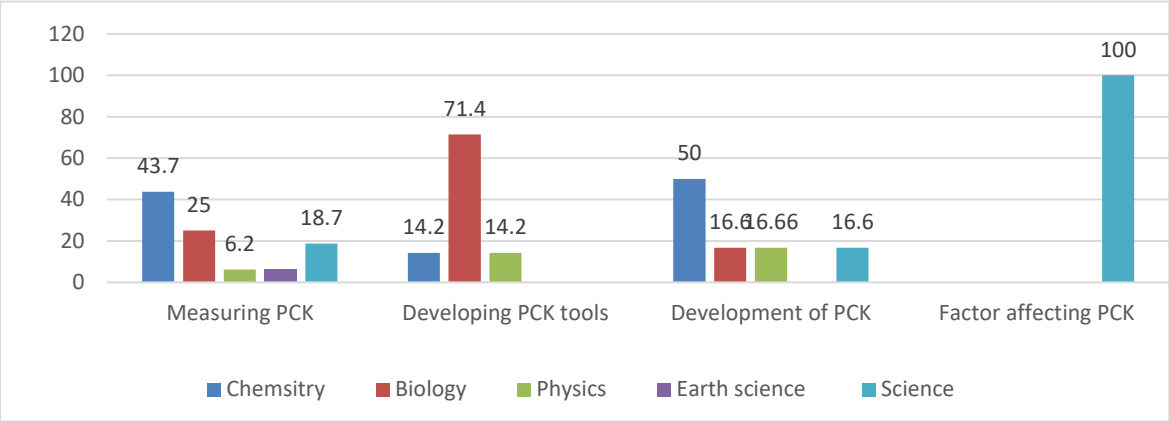

Figure 5: The percentage of research themes across science subjects from reviewed articles

Source: Author's analysis from review articles

PCK measurement tools

As Table 2 in the result section illustrates, there were a variety of tools for assessing teachers' pedagogical content knowledge. However, those tools have limitations and strengths in the measurement of the PCK construct. To compare the pedagogical content knowledge between the US and South Korean science teachers, (Park et al., 2020) conducted an online PCK survey test. The survey test assessed 166 science teachers from both countries. The test was formed of two parts, which first part was a dichotomous type, and the second part was the open-ended questions about knowledge of students' misconceptions/difficulties and knowledge of teaching strategies. This test could assess many respondents and the analysis will be done through the rubric, which was created in advance. It saved the time of analyzing even though hundreds of respondents. If the sample could represent the population, the study could make inferences about relationships among variables or may generalize to a broader population of interest (Creswell & Creswell, 2018). This is unlike interviews and class observation. Generally, the interview was conducted with targeted samples and a limited number of samples due to time constrain and other challenges such as financial support. The results could draw the themes from the interview results, and it was hard to generalize (Chantaranima & Yuenyong, 2014b; McCray & Chen, 2012).

The complexity of PCK makes it difficult to measure by using only a single instrument. Some studies suggested including several instruments; for example, the study of (Bektas et al., 2013) used open-ended questions, interviews, lesson plans, and reflection papers to survey teachers' PCK. Each tool has a different function, but the main target is to gain more

understanding of teachers' PCK. In that way, the open-ended questions were designed to determine the targeted respondents;' understanding of the specific topic, followed by interviews to validate the written responses. This interview technique is followed by most research on PCK in Cambodia due to the challenge of mobilization and efficiency, which draw the findings from teachers' interviews (Ngo, 2013). Lesson plans were used to gain insight into the consistency between what the teachers plan and what they practice in the class. To understand more about how the teacher explains their teaching strategies and how to reach the goal of the lesson. To some extent, the decision of choosing PCK assessment could vary based on the resource of mobilization, efficiency, economics, and potentiality in education reform of selecting the assessment tools for the research study.

5. Conclusion

This review article has addressed some research themes on PCK for science teachers. The article has specifically synthesized what is known about measuring science teachers' PCK, how science teachers' PCK develops, the development of PCK assessment tools, and factors that affect the development of science teachers' PCK. This synthesized knowledge base can be a starting point for researchers, especially those focusing on science education development in the context of the Sustainable Development Goals (SDG 4) which highlight the significance of Science, Technology, Engineering, and Mathematics (STEM) subjects. For instance, the review findings can create a basis for further investigation of teachers' knowledge of other components apart from knowledge of students and teaching strategies that seem to have been the focus of most of the papers reviewed in this article. Second, this article has suggested variations in terms of study participants, country, and science subjects. Most of the reviewed papers focused on secondary science teachers more than primary science teachers, and PCK assessment tests were mostly validated and developed in specific countries such as the USA, Korea, and Germany. This means there is a dearth of similar research in developing countries that are also striving to improve science education through teacher quality. Last but not least, to promote excellent teaching practice, the connection between the gap in the literature and the current situation of PCK in each country, especially the evaluation of what teachers know and what teacher is doing could be a solid base for further studies.

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Article

An Investigation of the Sources of Self-Efficacy and Science Achievement: A Case of Cambodian University Students

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Abstract

Building qualified workforces in Science, Technology, Engineering and Mathematics (STEM) is one of the top agendas of the Royal Government of Cambodia (RGC) to respond to the country development to transform its nation to an upper-middle income country by 2030 and a high-income country by 2050. Yet, there has been a declining trend in upper secondary school enrolment in science track in the last decade and in the long return of human resource investment, this trend may affect the country demand in STEM-related fields. Therefore, the current study aims to investigate the four primary sources of science self-efficacy on Cambodian students' science achievement. The study employs a survey with first-year students at both public and private higher educational institutions. A total of 819 freshmen from four public and two private universities were selected through a multi-phase random sampling. A simultaneous multiple linear regression is used for the investigation in the study. The results reveal that mastery experience, social persuasion and physiological state significantly predict the science achievement, and mastery experience is found the most significantly predictor while vicarious experience does not influence the outcome variable. The findings provide new insights and concrete evidence for implications to key policy makers, practitioners and development partners working on promoting STEM education.

Keywords: Self-efficacy; Cambodian university student; sources of science self-efficacy; STEM education; science achievement

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1. Introduction

According to the RGC's Industrial Development Policy 2015-2025, the government envisions to transform its current status of low-middle income country to upper-middle income status by 2030 and to move forward to a developed country by 2050 (RGC, 2015). To realize this vision, the RGC set out the National Strategic Development Plan (NSDP) 2019-2023, one of the top prioritized areas is to promote qualified human resources in STEM-related fields (RGC, 2019). To contribute to realizing the vision of the RGC, the Ministry of Education, Youth and Sport (MoEYS) has put in place a number of key initiatives. For instance, a policy on STEM was formulated in 2016 with its vision to promote quality of STEM education (MoEYS, 2016). Furthermore, the Education Strategic Plan 2019-2023 clearly emphasized the ministry's continued effort to promote STEM education from primary to upper secondary education (MoEYS, 2019).

Although a lot of policies and efforts have been put in place, the trend of enrolment in science track at the upper secondary education gradually shifted downward in the last six school academic years 2013-2019 (MoEYS, 2020). The continuation of this negative trend may affect the enrolment of STEM-related majors at higher education upon high school graduation and in the long-term, this may negatively affect the government's vision to produce highly qualified skilled workforces in STEM as the country will move forward to a skilled workforce economy in 2030.

There are various studies on students' choices in STEM related fields at higher education and high school science tracks choice across the country. For instance, Eam, Keo, Leng, Song, and Khieng (2021); Kao and Kinya (2019) found that there was a significant association between science and mathematics self-efficacy to choices in STEM-related majors. In these two studies, the authors jumped to the same conclusion that students who were more efficacious in science and mathematics were more likely to choose STEM-related fields at universities. In particular to the students' choices in science streams at high schools, two studies revealed that individual factor on science and mathematics self-efficacy significantly influenced students' choices in science stream (Kao & Kinya, 2020; Seang, Chey, Souk, Hak, & Ob, 2021). In the context of a study on the sources of self-efficacy, Chey (2021) investigated the trends and patterns of the sources of Cambodian science self-efficacy and found that the mean scores of

the four sources differed from low to moderate levels and the vicarious experience was at the highest level. In addition, the author further revealed that Cambodian students' science self-efficacy significantly differed across demographic characteristics, namely gender, high school tracks, place of origin, majors at university, family background and age.

Yet, investigating the sources of self-efficacy on science achievement remains untouched. Therefore, it is imperative to examine the effects of the four primary sources of self-efficacy on Cambodian students' science achievement as to provide more concrete evidence to policy makers, practitioners and relevant stakeholders to address the above-mentioned issue. Hence, the current study was guided by one research question as follow.

Do sources of self-efficacy significantly predict students' science achievement?

2. Literature Review

Self-Efficacy

Several studies in educational fields have investigated the self-efficacy theory by researchers and scholars (Joët, Usher, & Bressoux, 2011). According to Bandura (1995), self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations". Self-efficacy is found to be an influential actor in the way people thinks and execute tasks (Kumar & Lal, 2006), and it affects the efforts people put in the work as those who possess high self-efficacy tends to work harder toward the task and vice versa (Schunk, 1985).

Bandura (1977) further positioned that self-efficacy consisted of two main components, namely efficacy expectation and outcome expectation. Efficacy expectation specifically refers to the trust or belief of one's own ability in executing a certain job. Contrary to the first component, outcome expectation simply concerns with a person's expectation of the subsequent results from performing that particular task (Hackett & Betz, 1981).

Sources of Self-Efficacy

Mastery Experience

Mastery experience is one of the sources of self-efficacy synthesized by (Bandura, 1977). More recent studies (Kontaş & Özcan, 2022; Loo & Choy, 2013; Usher & Pajares, 2009) prove that mastery experience is the influential factor on personal efficacy. By definition, mastery

experience refers to a person's past achievement or performance toward a particular task or work (Van Dinther, Dochy, & Segers, 2011). When an individual experienced success in doing something in the past, he or she tends to feel more confident on what he is doing in similar thing he used to do well in the past. In contrast, if an individual experienced failures or low achievement in doing a particular work, he or she may not believe in their ability to perform similar task in the present time.

Social Persuasion

Besides mastery experience, self-efficacy is influenced by social persuasion. This source affects one's personal belief through motivation and encouragement from surrounding people and these praises can be negative and positive (Bandura, 1977). The author further elaborated that encouragement can build confidence in an individual's ability to perform task even a difficult one. In contrast, individuals become demotivated and lose self-confidence if they receive negative encouragement.

Vicarious Experience

Another factor that affects personal self-efficacy is vicarious experience. In his synthesized theory, Bandura (1977) argued that observation and learning from peers and other surrounding people influenced an individual's confidence toward the job he or she was doing. The author also pointed out that people starts to compare their own abilities to others who are completing similar tasks and then judge their own capability.

Physiological State

Physiological state, one of the sources affecting one's self-efficacy, refers to the state of an individual's emotion, fear, or anxiety toward a particular task or job(Bandura, 1977). It is evidenced by previous studies that people who possessed negative feeling or anxiety with a particular situation tend to perceive low personal efficacy while those who experience fearless and stress-free are more likely to be more efficacious in carrying out the work.

Self-Efficacy and Academic Achievement

Studies on self-efficacy and academic achievement have been carried out across fields and subject domains worldwide and found there is a significant association between the two variables. de Fátima Goulão (2014) revealed that there was a positive significant correlation between students' self-efficacy and their performance. A recent study by Fakhrou and Habib

(2022) confirmed that there is a significant association between student's self-efficacy and their academic achievement in an undergraduate program.

In the context of science and mathematics, several studies confirmed this association. Juan, Hannan, and Namome (2018) examined the connection between the self-efficacy and science achievement of twelfth graders in South Africa using data from TIMSS 2015 for science achievement. Through multiple linear regression analysis, the authors found that science self-efficacy significantly predicted the science achievement of the respondents. Consistently, an investigation of the sources of science self-efficacy on middle school students by Britner and Pajares (2006) revealed that science achievement was the strong predictor for science performance, especially for male students. In parallel with the above-mentioned studies, Andrew (1998) examined the relationship between self-efficacy and science performance and found that science self-efficacy positively predicted students' achievement in physical science and bioscience subjects at 24% and 18.5% of academic cohorts respectively.

Sources of Self-Efficacy and Academic Achievement

Evidences confirmed in previous studies suggested that the four sources, namely mastery experience, vicarious experience, social persuasion significantly predicted students' academic achievement regardless of subject domains and fields of study while some contradictorily pointed out that not all the synthesized sources predicted the individuals' academic performance or success.

Zarei and Naghdi (2017) investigated the sources of self-efficacy on the performance of EFL learners and revealed that only mastery experience significantly predicted the course achievement in their study context. In science and mathematics domains, however, various studies (Loo & Choy, 2013; Usher & Pajares, 2009) confirmed that all the four primary sources of self-efficacy were significant predictors for student's academic performance, and mastery experience was the main predictor.

With respect to vicarious experience, Keşan and Kaya (2018) carried out a study on the mathematics and science self-efficacy resources and academic achievement, and the authors found that vicarious experience could predict science and math achievement at 60% of variance when all the four sources were run in the multiple linear regression. The finding from this study was consistent (Kontaş & Özcan, 2022; Loo & Choy, 2013; Usher & Pajares, 2009).

Similarly, various studies found that social persuasion is a significant predictor for academic achievement across subject domains. As argued by Keşan and Kaya (2018), social

persuasion significantly influenced math and science achievement. This finding is consistent with a study by Kontaş and Özcan (2022).

The last source of self-efficacy is physiological state which is well documented by researchers and scholars as the significant predictor for achievement. Obviously, (Loo & Choy, 2013; Usher & Pajares, 2009) found consistent findings confirming that physiological state could predict students' performance in math and engineering.

3. Methodology

A quantitative method was employed through a self-rated survey with Cambodian university freshmen. A total of 819 students were selected from four public and two private higher educational institutions through multi-phase random sampling. In the first stage, the researchers purposively chose the universities based on two criteria. For the first criterion, the selected institutions offered both STEM and non-STEM fields and at least 40 students or more in STEM classes at those respectively universities. In doing so, the authors could ensure the sufficient sample size for the study. On the other hand, for the non-STEM participants, there were no any inclusion criteria due to the fact that there were a lot of students in these fields. The last sampling procedure was to select the freshmen participants by utilizing simple random technique. Firstly, the researchers approached the persons in charge of students' lists and then requested all the lists from them. Once obtaining all class lists, the researchers classified the classes into two groups, namely STEM and non-STEM accordingly. With the two separate groups, the authors began to randomly select the two classes and finally there were, in total, four classes from each university.

For the data instrument, the current study adapted the construct by (Usher & Pajares, 2009). The measurement of the four primary sources comprised of twenty-four six-point-Likert-scale items. To fit the context of the study, the authors reworded 'Mathematics self-efficacy' to 'Science self-efficacy' because the original study developed the construct to measure the sources of mathematics self-efficacy. To ensure the internal consistency of reliability of the construct, Factor Analysis was conducted and finally twenty-two items remained in the study. It was noted that one item was removed from the mastery experience, and another one was also excluded from the vicarious experience as these two loading values of these removed items were low. Based on the overall value of the Cronbach's alpha, the construct showed high reliability for the study.

To make the questionnaire much more convenient and easier for the respondents, the questionnaire was translated into Khmer language to ensure the participants clearly understand the questions and provide sufficient, appropriate answers. Also, the researchers piloted the instrument with 237 students from two private universities before the actual data collection. The result of the pilot stage, the value of Cronbach's alpha was .850 and after some modification the final overall value of the Cronbach's alpha was .929, which was the high reliability (Leech, Barrett, & Morgan, 2005).

For the outcome variable, the researchers requested the respondents to do self-rating toward their overall performance in the four science subjects in the last grade at high school, namely Chemistry, Physics, Biology and Earth Science. Measure of science achievement was categorized into five levels, namely A: Excellent, B: Very good, C: Good, D: Fairly good, E: Average, and F: Fail. The scale was adopted from high school national exam grading system.

As mentioned in the beginning of this section, six higher educational institutions were selected with a total of 819 freshmen. To collect the data, the main researcher directly went to the field and met with the participants in classrooms at each research site. Prior to handing the questionnaires to the respondents, the researcher introduced himself and clearly explained the purposes of the study, and the consent form was given to the students to request their approval. The researcher was with students until they finished filling out the questionnaire. All questionnaires were collected and participants voluntarily participated in the study.

To analyze the data, the study employed the Statistical Package for Social Sciences (SPSS), version 23. For statistical analysis method, the researchers used simultaneous multiple linear regression to identify the predictor variables on students' science achievement.

4. Findings

The table below showed the results of the simultaneous multiple linear regression. The four predictor variables, namely mastery experience, vicarious experience, social persuasion and physiological state, on the students' science achievement were included in the model. The model could explain 54% of the variance in students' science achievement ($R2 = .546$, $F (4, 814) = 246.646$) with the level of significance being $p < .001$. As for mastery experience, it was observed that the better students performed in the past on science subjects, the higher students could achieve scores in science (ß = .402, $p < .001$). Vicarious experience did not significantly predict students' science achievement. In this model, it also revealed that social persuasion significantly influenced the outcome variable with a .001 level of significance (ß =

.321, p < .001). The result of the last predictor, physiological state, showed a strong predictor on students' science achievement (ß = .117, p < .001). In overall, the findings clearly revealed that mastery was the most influential source influencing student's science achievement and followed by social persuasion and physiological state.

Table 1: Results of Simultaneous Multiple Linear Regression for the four primary sources of science self-efficacy predicting science achievement

Variables	B(SE)	Beta
Mastery Experience	.033	.402***
Vicarious Experience	.032	-.004
Social Persuasion	.028	.321***
Physiological State	.022	.117***
Constant	.621	

(R^2 = .548, adjusted R^2 = .546, F (4, 814) = 246.646)
(*** p < .001)

5. Discussions

The findings from the current study provides new insights and more rigorous supporting evidence to confirm the four primary sources of self-efficacy synthesized by Albert Bandura and other previous studies in the same area of focus across the world. With an attempt to investigate the four primary sources of science self-efficacy on students' science achievement, the results generated from the simultaneous multiple linear regression could uncover the mystery in the context of the study and a concrete evidence for rich discussion.

Firstly, mastery experience was found the most influential factor on science achievement and the current finding supported the previous studies (Kontaş & Özcan, 2022; Loo & Choy, 2013; Usher & Pajares, 2009). With this consistent result, the study suggested and reflected the fact that students with success experience in doing science subjects in the previous grades are more likely to constantly perform well in the upcoming academic years. In this sense, strengthening students' ability in science subjects from the past may help students perform better and better as they have strong foundation from the previous grades. More than this, building students' foundation in science is even more effective from the primary grades as suggested by the current study.

Secondly, the current study also confirmed the previous findings that social persuasion was another source in predicting the science achievement of the students (Keşan & Kaya, 2018; Loo & Choy, 2013; Usher & Pajares, 2009). From this evidence, students might accept the facts that the praises from family, peers and other people truly reflect their ability, and those encouragements become the driver to motivate them to learn harder in science subjects. Not to mention, it could be true in the context of the research sample that students in high schools need to be constantly encouraged as negative praises may lead to demotivating them. Therefore, all key relevant stakeholders such as parents, schools and teachers play a crucial role in constantly encouraging and motivating students in a positive manner as their good praises are very helpful in motivating learners to work harder in learning as evidenced by the study.

The study further revealed that students' performance in science was significantly influenced by the physiological state and the finding supported previous studies (Loo & Choy, 2013; Usher & Pajares, 2009). However, the result was inconsistent with a study by (Keşan & Kaya, 2018). In the context of this particular study, the finding reflects the current situation of the students' perception that science is not an easy subject, so this idea scared them and even to good performers. Hence, increasing students' success in science, addressing the fear and anxiety cannot be ignored, and consultation should be made available at the ground levels. Not only schools and teachers but also parents play an active role in supporting their children emotionally as it is helpful to nurture the physiological state.

Last but not least, the current study found no significance in vicarious experience on students' science achievement from the results generated in regression analysis. The finding was paralleled with the studies (Kontaş & Özcan, 2022; Zarei & Naghdi, 2017) although the focus was on different subject domains. In the context of the current study, students might not judge their own ability toward their peers when learning science and they might perceive that people have different talent and skills among individuals. Thus, comparing student's performance or abilities with their peers does not work in science education. In return, it could potentially deteriorate the situation as comparing their abilities with other well performing peers causes their psychological consequence on learning science.

6. Conclusion

The current study aims to investigate the effects of the four primary sources of science self-efficacy on students' science achievement in the context of Cambodian freshmen. From the findings, the current study positioned that students' achievement in science subjects at high

schools were significantly predicted by the sources synthesized by Albert Bandura, except vicarious experience.

Furthermore, the findings suggested that mastery experience was found to be the main factor predicting science achievement. Students who experienced success or did well in science in the previous grades tended to maintain their good performance in the present time and the next upcoming years. In this sense, building an individual's success experience is the good foundation for the future success in learning science.

In addition to the mastery experience, social persuasion becomes the crucial player in promoting students' science performance. The positive encouragement and motivation are helpful in supporting learners as they take the praises into account. Moreover, it is more likely that the more students receive positive messages about their performance, the better they are going to achieve as at their ages, frequent positive encourages are needed.

Study also positioned that addressing students' fear and anxiety toward learning science is a preferable option to boost learners' progress in science as the findings suggested that the physiological state significantly influenced academic achievement in science subjects. Students' psychological aspect becomes one of the issues which needs to be addressed at ground levels as it affects students' performance and further their stream choices in science.

Judging oneself in performing science through observing peers and surrounding people was not truly reflected in students when talking about learning science as evidenced in this study. Hence, what students perceived their ability by comparing to others did not affect their science achievement.

Overall, to further investigate and help promote STEM education in Cambodia, future research should take other key aspects into consideration such as teacher self-efficacy, students' perceptions toward teachers' classroom management, and other relevant factors as these may affect students' performance in science.

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ក្រសួងអប់រំ យុវជន និងកីឡា
នាយកដ្ឋានគោលនយោបាយ

អត្ថបទស្រាវជ្រាវ

បញ្ហាប្រឈម និងឱកាសរបស់និស្សិតនារីនៅកម្រិតឧត្តមសិក្សា

ឡាយ សុវិជ្ជា[*1] បូ ច័ន្ទគុលិកា[2] ស៊ុក សុផល[3] ស៊ិន ណាវី[4]

[1,2,3,4]នាយកដ្ឋានគោលនយោបាយ ក្រសួងអប់រំ យុវជន និងកីឡា

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មូលន័យសង្ខេប

ក្រៅពីធម្មជាតិបង្កើត អ្វីៗសុទ្ធតែមនុស្សបង្កើតទាំងអស់ ហើយគុណភាពអ្វីៗទាំងអស់គឺអាស្រ័យលើគុណភាពធនធានមនុស្ស ហើយគុណភាពធនធានមនុស្សត្រូវផ្សារភ្ជាប់ទៅនឹងការអប់រំ ហើយការកសាងគុណភាពការអប់រំគឺជាអ្វីដែលប្រទេសនៅលើសកលោកកំពុងតែធ្វើ និងប្រឹងប្រែងធ្វើ។ នៅពេលមានការអប់រំល្អ មនុស្សគ្រប់រូបសុទ្ធតែជាធនធានដែលសង្គមត្រូវការ។ ពួកគេនឹងមានសមត្ថភាពពេញលេញក្នុងការអភិរក្ស ការពារ និងអភិវឌ្ឍន៍ប្រទេសជាតិប្រកបដោយវិបុលភាព។ នៅក្នុងការសិក្សានេះ យើងធ្វើការសិក្សាអំពីបញ្ហាប្រឈម និងឱកាសរបស់និស្សិតនារីកំពុងសិក្សានៅតាមគ្រឹះស្ថានឧត្តមសិក្សា ដែលត្រូវចាកឆ្ងាយពីឪពុកម្តាយ ឬក៏មកតាមបណ្តាស្រុក/ខេត្តនានា ដោយប្រើប្រាស់វិធីសាស្ត្របរិមាណវិស័យ និងគុណវិស័យ ក្នុងការប្រមូលទិន្នន័យ។ តាមលទ្ធផលស្រាវជ្រាវបង្ហាញថា ទន្ទឹមនឹងទទួលបានឱកាស និស្សិតនារីក៏មានបញ្ហាប្រឈមជាច្រើនក្នុងអំឡុងពេលសិក្សា ដូចជា កង្វះអាហារូបត្ថម្ភ កង្វះអគារអន្តេវាសិកដ្ឋាន និងការថែទាំអនាម័យក្នុងបន្ទប់ ការទទួលរងបន្ទុកគ្រួសារ បញ្ហាសុខភាព កង្វះសេវាផ្តល់ប្រឹក្សាក្នុងសាលា។ ដើម្បីដោះស្រាយបញ្ហាជីវភាពក្នុងអំឡុងពេលរៀនសូត្រ និស្សិតនារីជាច្រើនបានអនុវត្តគំរូ “រៀនបណ្តើរ ធ្វើការបណ្តើរ” រហូតដល់មាននិស្សិតមួយចំនួនអាចឈានទៅដល់ការធ្វើប្រាក់ជូនក្រុមគ្រួសារថែមទៀតផង។ ឧបសគ្គចម្បងដែលបង្កឱ្យសិស្សនារីបោះបង់ការសិក្សាគឺកត្តាជីវភាពក្រីក្រតែម្តង ដូច្នេះការកាត់បន្ថយភាពក្រីក្រ ក៏មានន័យថាការចូលរួម

លើកកម្ពស់គុណភាពអប់រំដល់សិស្សនារីដែរ។ ទឹកចិត្តគ្រូបង្រៀនក៏ដើរតួយ៉ាងសំខាន់ដូចនឹងពាក្យថា "គ្រូបង្រៀនជាវិស្វកព្រលឹង" ក្នុងការបណ្តុះស្មារតី ការលើកទឹកចិត្ត និងការទំនុកបម្រុងក្នុងដំណើរភាពជោគជ័យនៃការសិក្សារបស់សិស្សនារីដែរ នៅពេលនិស្សិតមានបញ្ហាប្រឈមនៃភាពអស់សង្ឃឹម និងការបាក់ទឹកចិត្តនៃការសិក្សា។

ជាសន្និដ្ឋានរួម កាលណាកម្រិតជីវភាពឪពុកម្តាយកាន់តែលំបាក និស្សិតនារីនឹងទទួលរងផលប៉ះពាល់ពីសម្ពាធគ្រួសារកាន់តែធ្ងន់ ហើយចុងក្រោយអាចឈានទៅរកការបោះបង់សិក្សា។ ភាពក្រីក្រគឺជារនាំងនៃការទទួលបានសិទ្ធិការអប់រំពេញលេញ ដូចនេះការលុបបំបាត់ភាពក្រីក្រ ក៏ជាការបើកទីលំហរនៃការអភិវឌ្ឍធនធានមនុស្សសម្រាប់មនុស្សគ្រប់រូបក្នុងការទទួលសិទ្ធិការអប់រំពេញលេញ។

ពាក្យគន្លឹះ៖ និស្សិតនារី ឧត្តមសិក្សា បញ្ហាប្រឈម សាកលវិទ្យាល័យ អាហារូបករណ៍
អាគតដ្ឋាន៖ ឡាយ, ស., បូ, ច., ស៊ុក, ស., & សុិន, ណ. (២០២២). បញ្ហាប្រឈម និងឱកាសរបស់និស្សិតនារីនៅកម្រិតឧត្តមសិក្សា, *កាលិកបត្រអប់រំកម្ពុជា.* ៥(២), ៥៦-៨៤។

១. សេចក្តីផ្តើម

ការអប់រំ គឺជាកត្តាចាំបាច់បំផុតសម្រាប់មនុស្សជាតិ ការអប់រំមិនត្រឹមតែបង្រៀនមនុស្សឱ្យក្លាយជាមនុស្សរឹងមាំ ថែមទាំងផ្តល់ការរស់នៅដ៏មានតម្លៃមួយក្នុងសង្គម ហើយការអប់រំក៏ជាកត្តាដ៏មានប្រសិទ្ធភាពមួយដែលអាចជានាមនុស្សឱ្យរួចផុតពីភាពក្រីក្រ។ មនុស្សដែលមានការអប់រំខ្ពស់ គឺរស់នៅប្រកបដោយគំនិតបង្កើតថ្មី ស្មារតីទទួលខុសត្រូវ ឯករាជ្យភាព ស្នេហាភាព និងយុត្តិធម៌ចំពោះប្រទេសជាតិ។ នៅពេលមានការអប់រំល្អ មនុស្សនឹងមានសមត្ថភាពពេញលេញក្នុងការដឹកនាំ អភិរក្ស ការពារ និងអភិវឌ្ឍន៍ប្រទេសជាតិ។ ហេតុនេះហើយបានជាប្រទេសនីមួយៗ បានបោះទុនធនធានជាច្រើន និងបានខិតខំប្រឹងប្រែងអភិវឌ្ឍការអប់រំចំពោះជាតិសាសន៍ខ្លួន ដើម្បីកសាងពួកគេឱ្យក្លាយជាធនធានមួយដ៏មានតម្លៃចំពោះការលះបង់សម្រាប់សង្គមជាតិ។ ទោះបីយ៉ាងណា បើយើងក្រឡេកមើលតថភាពវប្បធម៌សង្គមជាសកលលោកវិញរមែងតែងតែយកចិត្តទុកដាក់ និងគាំទ្រផ្តល់ការអប់រំដល់មនុស្សប្រុសច្រើនជាងមនុស្សស្រី ផ្តល់អាទិភាពមនុស្សប្រុសរៀនសូត្រខ្ពស់ជាងមនុស្សស្រី ហេតុនេះហើយបានជាជំរុញឱ្យកើតមាននៅវិសមភាពយេនឌ័រក្នុងការទទួលបានការអប់រំ ជាពិសេសនោះ នៅក្នុងកម្រិតថ្នាក់ឧត្តមសិក្សានិងក្រោយឧត្តមសិក្សា និងនៅក្នុងប្រទេសកំពុងអភិវឌ្ឍន៍តែម្តង ដូចជា ប្រទេសអារ៉ាប់ ប្រទេសអាស៊ីអាគ្នេយ៍ជាដើម (UNESCO, 2007)។ ទោះបីជាសកលលោកទទួលស្គាល់ថា ចំនួនមនុស្សស្រី ច្រើនជាងមនុស្សប្រុស តែកម្រិតនៃការទទួលបានការអប់រំមានចំនួនមនុស្សប្រុសច្រើនជាង

មនុស្សស្រី ដូចតាមការគូសបញ្ជាក់ដែលបានរកឃើញថា ពីរភាគបីនៃចំនួនមនុស្សស្រី គឺមិនចេះអានអក្សរ (UNDP, 2009)។

ក្នុងអាណត្តិទី៦ ក្រសួងអប់រំ យុវជន និងកីឡាបានធ្វើកំណែទម្រង់ស៊ីជម្រៅក្នុងគោលដៅលើកកម្ពស់គុណភាពអប់រំ និងផ្តល់ឱកាសដល់ប្រជាពលរដ្ឋទូទៅទទួលបានការអប់រំប្រកបដោយសមភាព សមធម៌ និងសិក្សាពេញមួយជីវិត ដើម្បីសម្រេចបានគោលដៅអភិវឌ្ឍន៍ប្រកបដោយចីរភាព។ ទន្ទឹមនឹងនោះដែរ ចតុកោណទី១ នៃយុទ្ធសាស្ត្រចតុកោណដំណាក់កាលទី៤ ស្តីពីការអភិវឌ្ឍធនធានមនុស្សដែលមុំទី៤ មានគោលដៅយុទ្ធសាស្ត្រ ពង្រឹងសមត្ថភាពយេនឌ័រនិងការគាំពារសង្គម ក្នុងគោលបំណងលើកស្ទួយស្ថានភាពសង្គម-សេដ្ឋកិច្ច ជាពិសេសពង្រឹងតួនាទីស្ត្រីដែលជាឆ្អឹងខ្នងនៃសេដ្ឋកិច្ច និងសង្គមជាតិ។ ជាលទ្ធផល រាជរដ្ឋាភិបាលសម្រេចបានសមិទ្ធិផលជាអាទិ៍៖ បានបញ្ជ្រាបយេនឌ័រក្នុងក្របខ័ណ្ឌគោលនយោបាយនិងផែនការអភិវឌ្ឍជាតិ បានកាត់បន្ថយគម្លាតក្នុងវិស័យអប់រំបានបណ្តុះបណ្តាលវិជ្ជាជីវៈ មុខងារសាធារណៈ បានពង្រីកសហគ្រិនភាពរបស់ស្ត្រី បានកាត់បន្ថយអំពើហិង្សានិងការរំលោភបំពានផ្លូវភេទលើស្ត្រីនិងកុមារ បានលើកម្ពស់សីលធម៌សង្គម តម្លៃស្ត្រី និងគ្រួសារខ្មែរ ព្រមទាំងពង្រីកកិច្ចការពារផ្លូវច្បាប់ដល់ស្ត្រីនិងកុមារ។ ទោះបីយ៉ាងណា កម្ពុជាក៏នៅមានបញ្ហាប្រឈមមួយចំនួនជាអាទិ៍៖ ការរើសអើងលើស្ត្រីនៅតែមាន បន្ទុកការងារនិងគ្រួសារនៅតែរារាំងឱកាសស្ត្រីក្នុងការអប់រំ សេដ្ឋកិច្ច សង្គម និងនយោបាយ ការជួញដូរនិងអំពើហិង្សាលើស្ត្រីនិងកុមារនៅបន្តកើតមាន ពិសេសចំពោះស្ត្រីចំណាកស្រុក វិសាលភាពគ្របដណ្តប់នៃកម្មវិធីជាតិជំនួយសង្គមនិងរបបសន្តិសុខសង្គមនៅមិនទាន់ទូលំទូលាយ និងពេញលេញ និងដំណើរការគ្រប់គ្រងកម្មវិធី របបនៃប្រព័ន្ធគាំពារសង្គមនៅមិនទាន់មានលក្ខណៈប្រមូលផ្តុំ។

ក្រសួងអប់រំ យុវជន និងកីឡាបានបង្កើតឡើងនូវសកម្មភាពអន្តរាគមន៍លើកកម្ពស់ការអប់រំសិស្សនារីគ្រប់កូមិសិក្សាដើម្បីឆ្លើយតបទៅនឹងគោលនយោបាយអភិវឌ្ឍន៍ជាតិ និងគោលដៅអភិវឌ្ឍន៍ប្រកបដោយចីរភាពសម្រាប់ឆ្នាំ២០៣០។ ទោះជាមានអន្តរាគមន៍ជាច្រើនក៏ដោយ ក៏អត្រានៃការចុះឈ្មោះចូលរៀនរបស់សិស្សនារី នៅកម្រិតឧត្តមសិក្សាមានអត្រាទាបជាងចំណុចដៅដែលកំណត់ក្នុងផែនការយុទ្ធសាស្ត្រវិស័យអប់រំនៅឡើយ និងមានការធ្លាក់ចុះជាច្រើននៅកម្រិតបរិញ្ញាបត្រជាន់ខ្ពស់ និងថ្នាក់បណ្ឌិត។

នៅក្នុងការសិក្សានេះ អ្នកស្រាវជ្រាវនឹងធ្វើការសិក្សាដោយសង្កត់ធ្ងន់ទៅលើបញ្ហាប្រឈមនិងឱកាសនានានៃនិស្សិតនារីដែលកំពុងសិក្សានៅតាមគ្រឹះស្ថានសាធារណៈ និងឯកជនក្នុងកម្រិតថ្នាក់ឧត្តមសិក្សា

ដើម្បីឈ្វេងយល់អំពីសុខមាលភាពសុខភាពសិក្សា ជីវភាពរស់នៅ ព្រមទាំងការទំនាក់ទំនងជាមួយសាកលវិទ្យាល័យនិងសហគមន៍ដែលនិស្សិតនារីរស់នៅក្នុងអំឡុងពេលសិក្សា។

២. ការស្រាវជ្រាវពីមុនៗទាក់ទងនឹងការសិក្សារបស់សិស្សនារីនៅឧត្តមសិក្សា

ចំពោះកម្រិតថ្នាក់ឧត្តមសិក្សា និងក្រោយឧត្តមសិក្សា បើគិតពីសមាមាត្រនៃចំនួនមធ្យមភាគនៃការចុះឈ្មោះចូលរៀនរបស់និស្សិតនារីតាមកម្រិតថ្នាក់បរិញ្ញាបត្រវេងមាន ៣៣.២៣% បរិញ្ញាបត្រមាន ៨១.១៤% និងបរិញ្ញាបត្រជាន់ខ្ពស់មាន ២១.១១% និងបណ្ឌិតមាន ៥.៨២% (ឆ្នាំសិក្សា ២០០៦ រហូតដល់ ២០១៦) (EMIS, 2016)។ ជាក់ស្តែងនិស្សិតនារីដែលចូលវ័យថ្នាក់ឧត្តមសិក្សា និងក្រោយឧត្តមសិក្សា ជាវ័យដែលប្រឈម និងងាយរងគ្រោះខ្លាំងបំផុតចំពោះការបន្តការសិក្សា ឬបោះបង់ការសិក្សា ដូចជា កត្តាចម្ងាយផ្លូវ ការបង់ថ្លៃសិក្សា កត្តាជីវភាពសេដ្ឋកិច្ចគ្រួសារ កត្តាកម្រិតវប្បធម៌ឪពុកម្តាយ កត្តាវប្បធម៌សង្គម កត្តាសុវត្ថិភាព កត្តារៀបការនិងបង្កើតគ្រួសារ កត្តាការងារ កត្តាហេដ្ឋារចនាសម្ព័ន្ធសាលា។ល។ ជាទូទៅសិស្សដែលទទួលរងផលប៉ះពាល់បោះបង់ការសិក្សាច្រើនជាងគេ គឺសិស្សដែលមានជីវភាពគ្រួសារក្រីក្រ និងរស់នៅតាមទីជនបទនិងតំបន់ដាច់ស្រយាល ពីព្រោះពួកគេត្រូវធ្វើការបំលាស់ទីចាកឆ្ងាយពីផ្ទះសម្បែង ដើម្បីបន្តការសិក្សាដោយសារមានចំនួនសាកលវិទ្យាល័យលើសលុបស្ថិតនៅតាមទីប្រជុំជន និងទីក្រុង។ ដើម្បីជំរុញការចូលរៀនរបស់និស្សិតនារី និស្សិតក្រីក្រ និងនិស្សិតនៅតាមតំបន់ដាច់ស្រយាល ក្រសួងបានផ្តល់ការលើកទឹកចិត្តជាអាទិភាពតាមរយៈការផ្តល់អាហារូបករណ៍សម្រាប់ពួកគាត់ ដូចជា និស្សិតនារី (១៥%) និស្សិតក្រីក្រ (២០%) និងនិស្សិតនៅតាមតំបន់ដាច់ស្រយាល (៥%) ក្នុងចំណោម១០០%នៃនិស្សិតអាហារូបករណ៍ (ទិន្នន័យឧត្តមសិក្សា ២០១៩-២០២០)។

២.១ កត្តាចម្ងាយផ្លូវ

តាមការស្រាវជ្រាវរកឃើញថា កត្តាចម្ងាយផ្លូវពីផ្ទះមកសាលាបានធ្វើឱ្យសិស្ស ជាពិសេសសិស្សតាមទីជនបទពិបាកបន្តការសិក្សាទៅមុខទៀត ដោយសារបញ្ហាចម្បងទាក់ទងនឹងការបន្ថែមចំណាយ (Birrel, 2000; William, 1993) ដូចជាការចំណាយជួលកន្លែងស្នាក់នៅ (រួមទាំងថ្លៃទឹកថ្លៃភ្លើង) ថ្លៃម្ហូបអាហារ ថ្លៃមធ្យោបាយធ្វើដំណើរ និងការចំណាយលើបង់ថ្លៃសិក្សា។ល។ ដូចនេះបើឪពុកម្តាយខ្វះលទ្ធភាពថវិកាគាំទ្រសម្រាប់ការសិក្សា នោះកូនៗនឹងប្រឈមខ្លាំងចំពោះការសម្រេចចិត្តបន្តការសិក្សា។ ទន្ទឹមនឹងនោះដែរ ការធ្វើ ចំណាកស្រុកពីផ្ទះ និងភូមិកំណើតមកបន្តការសិក្សាថ្នាក់ឧត្តមសិក្សា ក៏មានក្តីបារម្ភអំពីសុវត្ថិភាពកូនៗ ដែលកត្តានេះធ្វើឱ្យឪពុកម្តាយមួយចំនួនសម្រេចចិត្តមិនបញ្ជូនកូនទៅសិក្សាបន្តទៀត។ តាមការស្រាវជ្រាវមួយបង្ហាញថា បញ្ហាប្រឈមនៃការចូលរៀនរបស់

សិស្សស្រីនៅកម្រិតឧត្តមសិក្សាមានកម្រិតខ្ពស់ពាក់ព័ន្ធនឹងកត្តាភូមិសាស្ត្រ ជាពិសេស សិស្សស្ថិតនៅតំបន់ភូមិភាគឥសាន និងពាយ័ព្យនៃប្រទេសកម្ពុជា (Patricia Noelle O′Brien, 2004)។

២.២ កត្តាជីវភាពសេដ្ឋកិច្ច

ជីវភាពសេដ្ឋកិច្ចគ្រួសារ គឺជាប្រភពធនធានដ៏សំខាន់បំផុតសម្រាប់ការគាំទ្រផ្នែកអប់រំជោគជ័យរបស់កូន ដូចនេះ បើឪពុកម្តាយមិនមានលទ្ធភាពផ្តល់ការផ្គត់ផ្គង់ថវិកា និងខ្វះការគាំទ្រលើកទឹកចិត្តដល់ការសិក្សា នោះកូនៗនឹងត្រូវប្រឈមបន្តការសិក្សា។ តាមការសិក្សាស្រាវជ្រាវមួយដែលធ្វើឡើងនៅក្នុងភូមិមួយនៃស្រុកព្រៃកប្បាស ខេត្តតាកែវ ឆ្នាំ២០១៥ បានបង្ហាញថា "៩៩%នៃក្រុមគ្រួសារក្នុងភូមិគឺសុទ្ធតែកម្ចីប្រាក់ពីគ្រឹះស្ថានមីក្រូហិរញ្ញវត្ថុឯកជនទាំងអស់ (កាលនោះ អ្នកភូមិនៅនិយាយថាខ្ចីលុយរដ្ឋ) ហើយចំណែកនៅសល់ ១% ទៀត បើកម្ចីប្រាក់ គឺកម្ចីធំតែម្តង (ដកស្រង់សម្តីលោកមេភូមិ)"។ ភាគច្រើនបំណុលដែលត្រូវសងត្រឡប់ទៅវិញ គឺត្រូវធ្លាក់ទៅលើបន្ទុករបស់កូន ប្រសិនបើកូនមានការងារធ្វើ និងអាចរកចំណូលជូនគ្រួសារបាន។ កូនៗត្រូវមានកាតព្វកិច្ចជួយចែករំលែកបង់រំលស់ប្រាក់កម្ចីប្រចាំខែជូនក្រុមគ្រួសារ។ ត្រង់ចំណុចនេះដែរ ពេលខ្លះពួកគាត់មិនត្រឹមតែមិនអាចមានសមត្ថភាពផ្គត់ផ្គង់ដល់ការសិក្សារបស់កូនប៉ុណ្ណោះទេ ប៉ុន្តែបែរជាផ្តល់បន្ទុកបន្ថែមដល់កូនទៅវិញ។ ដូចដែលសង្គមខ្មែរតែងតែនិយាយតៗគ្នាថា "កូនស្រីចេះគិតគូរគ្រួសារជាងកូនប្រុស ទោះបីកូនក្លាយទៅជាអ្វី ក៏កូនមិនដែលភ្លេចឪពុកម្តាយដែរ" ក្នុងន័យនេះអាចបញ្ជាក់បានថា កូនស្រីមិនអាចយកភ្នែកមើលជីវភាពគ្រួសារក្រលំបាក ខ្វះមុខខ្វះក្រោយ រកព្រឹកខ្វះល្ងាច រកល្ងាចខ្វះព្រឹក ឬរកមួយថ្ងៃចាយមួយថ្ងៃបានឡើយ នៅក្នុងខណៈពេលដែលខ្លួនមានកម្លាំងពេញបរិបូរណ៌ ទីផ្សារការងារត្រូវការ និងច្បាប់ទទួលស្គាល់ថែមទៀត។ មិនថាសិស្សនារីធ្លាប់មានប្រវត្តិរៀនពូកែយ៉ាងណា ក៏ត្រូវទុកការសិក្សាមួយអន្លើសិន បែរជាត្រូវប្រឹងរកការងារដោះស្រាយរឿងជីវភាពគ្រួសារ និងចែករំលែកការទទួលខុសត្រូវចិញ្ចឹមសមាជិកគ្រួសារជាមួយឪពុកម្តាយថែមទៀត កត្តានេះមួយប្រហែលជាហេតុផលបញ្ជាក់ថាការចូលរួមសិក្សារបស់សិស្សនារីនៅក្នុងកម្រិតថ្នាក់ឧត្តមសិក្សា និងក្រោយឧត្តមសិក្សា កាន់តែតិចទៅៗជាលំដាប់។

២.៣ អត្រាចុះឈ្មោះចូលរៀនរបស់សិស្សនារីនៅកម្រិតចំណេះទូទៅ

កត្តាដែលសិស្សស្រីចូលរៀននៅកម្រិតឧត្តមសិក្សាតិចក៏បណ្តាលមកពីការផ្លាស់ប្តូរវ័យ និងអត្រាថយចុះនៃការចុះឈ្មោះចូលរៀនពីមួយកម្រិតទៅមួយកម្រិតទៀត (បឋមសិក្សា មធ្យមសិក្សាបឋមភូមិ និងមធ្យមសិក្សាទុតិយភូមិ) ទាំងនេះបានដុះឥទ្ធិពលដល់ឱកាស សម្រាប់សិស្សស្រីក្នុងការឈានទៅបន្តរៀនថ្នាក់កម្រិតឧត្តមសិក្សា (Patricia Noelle O′Brien, 2004)។ តាមចំនួនមធ្យមភាគនៃការចុះ

ឈ្មោះចូលរៀនបង្ហាញថា សិស្សស្រីនៅកម្រិតថ្នាក់បឋមសិក្សាមាន ៤៧.៦១% អនុវិទ្យាល័យមាន ៤៨.០១% និងវិទ្យាល័យមាន ៤៤.២១% នៅឆ្នាំសិក្សា ២០០៥ រហូតដល់ ២០១៥ (EMIS, 2016)។

តាមស្ថិតិនេះបង្ហាញថា វិសមភាពយេនឌ័រក្នុងការទទួលបានការអប់រំនៅតែកើតមានរវាងបុរស និងនារី ដោយសារយើងសង្កេតឃើញមាន ចំនួនសិស្សនារីចុះឈ្មោះចូលរៀនមានកម្រិតទាបជាងចំនួនសិស្សប្រុសហើយបន្តធ្លាក់ជាបន្តបន្ទាប់ ជាពិសេសនៅពេលសិស្សនារីចាប់ផ្តើមចូលកម្រិតថ្នាក់មធ្យមសិក្សាទុតិយភូមិ។ មូលហេតុនៃការធ្លាក់ចុះនេះ គឺប្រហែលមកពីសិស្សនារីចាប់ផ្តើមចូលវ័យជំទង់ដែលជាវ័យចេះគិតគូរពិចារណាចំពោះជីវភាពសេដ្ឋកិច្ចគ្រួសារដែលកត្តានេះធ្វើឱ្យនារីមានភាពប្រឈម និងងាយរងគ្រោះក្នុងការបោះបង់ការសិក្សា ដើម្បីស្វែងរកការងារធ្វើ និងរកប្រាក់កម្រៃជូនគ្រួសារ។

២.៤ កត្តាវប្បធម៌

នៅក្នុងឆ្នាំ២០១៤ មានការស្រាវជ្រាវរបស់សាកលវិទ្យាល័យ ដែនវើ (University of Denver, USA) ស្តីពីការអប់រំ និងយេនឌ័រក្នុងប្រទេសកម្ពុជាបច្ចុប្បន្នបានបង្ហាញថា ស្ត្រីខ្មែរគឺទទួលរងនូវឥទ្ធិពលច្បាប់វប្បធម៌ដែលមានការចាក់ឫសតាំងពីយូរលង់ណាស់មកហើយ ដែលពួកគាត់មិនអាចមានលទ្ធភាពឈានទៅមុខបាន ដូចជា ការចូលសាលារៀន កន្លែងធ្វើការ និងការងារនយោបាយជាដើម។ ច្បាប់រចនាសម្ព័ន្ធនៃប្រទេសកម្ពុជា មានភាពតឹងរឹងចំពោះស្ត្រីក្នុងការបើកឱ្យនិយាយ និងមិននិយាយ (Escamilla, 2011) ដូច្នេះកត្តាវប្បធម៌ ប្រពៃណីក៏ជាកត្តារារាំង និងកាត់បន្ថយចំនួនសិស្សស្ត្រីចូលរៀនក្នុងថ្នាក់ឧត្តមសិក្សាផងដែរ។ នៅក្នុងសង្គមកម្ពុជាគេតែងតែពោលពាក្យថា "ស្ត្រីបង្វិលចង្ក្រានមិនដុំ" "នំមិនធំជាងនាឡិ" "ស្ត្រីកុំចាំបាច់ប្រឹងរៀនខ្ពស់ពេក ពេលមានប្តី ប្តីចិញ្ចឹមហើយ" ជាដើម។ល។

៣. វិធីសាស្ត្រស្រាវជ្រាវ

ដើម្បីធ្វើការប្រមូលទិន្នន័យឱ្យបានគ្រប់ជ្រុងជ្រោយនិងស៊ីជម្រៅ ក្រុមអ្នកសិក្សាស្រាវជ្រាវនឹងចុះទៅដល់គោលដៅនៅតាមគ្រឹះស្ថាននានា ដែលបានកំណត់ទុករួចជាស្រេច ដើម្បីធ្វើការសម្ភាសផ្ទាល់មាត់ជាមួយសាកលវិទ្យាធិការ(រង) សាស្ត្រាចារ្យ បុគ្គលិកសិក្សា និងនិស្សិតនារីដែលកំពុងសិក្សានៅក្នុងសាកលវិទ្យាល័យ និងស្នាក់នៅក្នុងអន្តេវាសិកដ្ឋាន ជាពិសេសនោះទៀត ក្រុមអ្នកសិក្សានឹងបន្តធ្វើការសម្ភាសផ្ទាល់មាត់ជាមួយមន្ត្រីជំនាញ។ សំណាកសាកលវិទ្យាល័យដែលត្រូវជ្រើសរើសយកមកសិក្សាមានចំនួន ១០ គ្រឹះស្ថានរដ្ឋនិងឯកជន(៦គ្រឹះស្ថានស្ថិតនៅតាមបណ្តាខេត្ត និង៤គ្រឹះស្ថានស្ថិតនៅក្នុងរាជធានីភ្នំពេញ)។ សំណាកនិស្សិតដែលត្រូវជ្រើសរើសមានចំនួន ៣១ រូប (៣០ រូប សម្រាប់បំពេញសំណួរ និងមាន ១រូប សម្រាប់ធ្វើសម្ភាស) ក្នុងមួយគ្រឹះស្ថាន ហើយនិស្សិតទាំងនោះ គឺជា

និស្សិតដែលមិនរស់នៅជាមួយឪពុកម្តាយ ឬមកតាមបណ្តាស្រុក/ខេត្តនានា ដើម្បីបន្តការសិក្សាតាមគ្រឹះស្ថានឧត្តមសិក្សា។

លើសពីនេះទៀត ដើម្បីស្វែងយល់ពីជីវិតពិតនៃក្រុមគ្រួសារនិស្សិតនារី ក្រុមអ្នកស្រាវជ្រាវនឹងធ្វើការចុះផ្ទាល់ទៅដល់ស្រុកកំណើតដែលជាទីកន្លែងរស់នៅផ្ទាល់របស់និស្សិត ហើយក្រុមអ្នកស្រាវជ្រាវនឹងធ្វើការសម្ភាសជាមួយឪពុកម្តាយ និងសហគមន៍ ព្រមទាំងធ្វើការសង្កេតតថភាពជាក់ស្តែងនៃការរស់នៅ និងឥរិយាបទរបស់សហគមន៍ចំពោះការសិក្សាជាដើម។ សំណាកដែលត្រូវជ្រើសរើសសម្រាប់ជាករណីសិក្សានេះ មានចំនួន ៤ ករណីផ្សេងគ្នា។ រាល់សំណាកនីមួយៗអាចជ្រើសរើសដោយការចង្អុលបង្ហាញពីសាកលវិទ្យាល័យ ឬក៏ជ្រើសតាមក្រុមអ្នកស្រាវជ្រាវពេលចុះប្រមូលទិន្នន័យ។

ការសិក្សានេះចាប់ផ្តើមចុះប្រមូលទិន្នន័យនៅចុងខែកញ្ញា និងដើមខែតុលា ឆ្នាំ២០១៩ ដូចនេះឧបសគ្គចម្បងបំផុតពេលចុះប្រមូលទិន្នន័យ គឺក្នុងអំឡុងពេលសាលាវិស្សមកាលដែលនិស្សិតមកពីតាមបណ្តាស្រុក/ខេត្តផ្សេងៗភាគច្រើនត្រូវត្រឡប់ទៅលេងស្រុកកំណើតខ្លួនវិញ ដូច្នេះ ដើម្បីប្រមូលបានទិន្នន័យគ្រប់ជ្រុងជ្រោយ ក្រុមការងារត្រូវធ្វើការចុះប្រមូលទិន្នន័យនៅដើមខែវិច្ឆិកាម្តងទៀត។

៤. លទ្ធផលស្រាវជ្រាវ

៤.១ កង្វះអាហារូបត្ថម្ភ

តាមរយៈនៃការចុះសិក្សាស្រាវជ្រាវបានបង្ហាញថា បញ្ហាប្រឈមដែលលេចធ្លោមួយនៃនិស្សិតនារីមកពីតាមបណ្តាស្រុក/ខេត្តនានា គឺការបរិភោគមិនគ្រប់គ្រាន់ដែលឈានទៅដល់បញ្ហាកង្វះជីវជាតិបំប៉ន ដើម្បីទ្រទ្រង់ដល់ការលូតលាស់សារពាង្គកាយ និងប្រាជ្ញារៀនសូត្រ។ ក្នុងចំណោមនិស្សិតនារីចូលរួមឆ្លើយសំណួរមាន៧២.៨០% បានទទួលស្គាល់ថា ដោយសារបញ្ហាជីវភាពសេដ្ឋកិច្ចគ្រួសារធ្វើឱ្យពួកគាត់មិនមានថវិកាគ្រប់គ្រាន់ ហើយការចំណាយត្រូវសន្សំសំចៃបំផុត។ **តារាងទី១** បង្ហាញអំពីប្រភពប្រាក់ដែលនិស្សិតនារីទទួលបានសម្រាប់ការចំណាយប្រចាំខែ។ តាមទិន្នន័យបញ្ជាក់ច្បាស់ថានិស្សិតនារីមិនពឹងផ្អែកទាំងស្រុងទៅលើប្រភពប្រាក់ឪពុកម្តាយតែមួយមុខទេ ផ្ទុយទៅវិញពួកគាត់ទទួលបានពីប្រភពផ្សេងៗគ្នា ក្នុងនោះដៃរប្រភពមួយដែលលេចធ្លោជាងគេបន្ទាប់ពីប្រភពប្រាក់ឪពុកម្តាយ (៥៩.៦%) គឺអាចរកការងារចិញ្ចឹមជីវិតដោយខ្លួនឯងបាន (១៧.៤%)។ ចំណែក **តារាងទី២** បង្ហាញអំពីមូលហេតុនៃការចំណាយមិនគ្រប់គ្រាន់សម្រាប់ការសិក្សា និងការរស់នៅប្រចាំថ្ងៃសម្រាប់និស្សិតនារី។ តាមទិន្នន័យបង្ហាញថា កត្តាចម្បងដែលធ្វើឱ្យការចំណាយមិនគ្រប់រួមមាន៖ គ្រួសារក្រីក្រ ទំនិញថ្លៃ សម្ភារៈសិក្សាថ្លៃ ថ្លៃបង់សាលាថ្លៃ ការស្នាក់នៅថ្លៃ។ ក្នុងចំណោមនោះដែរ មាននិស្សិតនារី ២៦.៦៥% បានគ្នូញក្តែរអំពីទំនិញថ្លៃ។

អ្វីដែលគួរឱ្យកត់សម្គាល់មួយ គឺលើការបរិភោគចំណីអាហារ ម្ហូបអាហារដែលពួកគាត់បរិភោគគឺដើម្បីឆ្អែតតែប៉ុណ្ណោះ ដោយមិនមានផ្ទុកនៅសារធាតុបំប៉នគ្រប់គ្រាន់នោះឡើយ។ តាមរយៈការសម្ភាសមាននិស្សិតនារីម្នាក់បានឆ្លើយដោយទឹកមុខយ៉ាងក្រៀមក្រំថា "ពេលខ្លះដោយសារមិនមានលុយ ខ្ញុំត្រឹមធឹកទឹកធ្វើជាអាហារតែប៉ុណ្ណោះ ភាគច្រើនអាហារប្រចាំថ្ងៃរបស់ខ្ញុំ គឺយកមកពីផ្ទះ ដូចជា អង្ករ ប្រហុក ផ្អក និងត្រីងៀតជាដើម"។

មុននឹងឈានទៅរកប្រាជ្ញាវាងវៃទៅបាន ដំបូងមនុស្សត្រូវការកាយសម្បទាលូតលាស់ពេញលេញ កម្លាំងមាំមួន និងសុខភាពល្អជាមុនសិន។ ជាលក្ខណៈបច្ចេកទេសនៃរបបអាហារដើម្បីធានាឱ្យបាននូវសុខភាពល្អ ប្រជាពលរដ្ឋទូទៅគួរបរិភោគអាហារឱ្យបានយ៉ាងតិចបំផុត ២៥ មុខក្នុងមួយសប្តាហ៍ក្នុងនោះរួមមាន៖ គ្រាប់ធុញ្ញជាតិ (ស្រូវ ពោត) បន្លែផ្លែឈើ សត្វសាច់ក្រហម (សាច់គោ សាច់ជ្រូក) សត្វសាច់ស (មាន់ ទា) ត្រី ទឹកដោះគោ ទឹកសណ្តែក គ្រាប់ប្រេង (គ្រាប់ស្វាយចន្ទី គ្រាប់កៅឡាក់) ពពួកឫស (ដំឡូង) និងផ្សេងៗ (Shanshan Wang, 2016)។ បើយើងប្រៀបធៀបគ្នារវាងលក្ខណៈបច្ចេកទេសនៃរបបអាហារ និងការបរិភោគនៃនិស្សិតនារីម្នាក់នេះ គឺខុសគ្នាដូចមេឃនិងដី កត្តានេះហើយអាចធ្វើឱ្យយើងសន្និដ្ឋានបានថា របបអាហាររបស់គាត់នៅមិនទាន់បំពេញតម្រូវការនៃការលូតលាស់សារពាង្គកាយ និងបញ្ញាស្មារតីពេញលេញរបស់គាត់នៅឡើយ។ យោងតាមការស្រាវជ្រាវ ដើម្បីចៀសផុតពីជំងឺខ្វះជីវជាតិនិងលើសថាមពល មនុស្សគ្រប់រូបត្រូវបានជំរុញការបរិភោគអាហារឱ្យបានច្រើនមុខ ដោយផ្អែកតាមតុល្យភាពជីវជាតិអាហារ ព្រមទាំងរក្សាសកម្មភាពលំហាត់ប្រាណជាប្រចាំថ្ងៃផងដែរ ដើម្បីលើកកម្ពស់សុខភាពរស់នៅ (Shanshan Wang, 2016)។

តារាងទី១៖ បង្ហាញអំពីប្រភពចំណាយប្រចាំខែរបស់និស្សិតនារីក្នុងអំឡុងពេលសិក្សា (n = 276)

ប្រភពនៃប្រាក់ចំណាយប្រចាំខែ	ភាគរយ (%)
ឪពុកម្តាយ	59.6
បងប្អូនបង្កើត	12.1
សាច់ញាតិ	5.0
អាហារូបករណ៍ពីសាលា / អង្គការក្រៅរដ្ឋាភិបាល	5.8
ការងារផ្ទាល់ខ្លួន	17.4

តារាងទី២៖ ទិន្នន័យបង្ហាញអំពីហេតុផលនៃការចំណាយមិនគ្រប់គ្រាន់សម្រាប់ការសិក្សា និងការរស់នៅនៃនិស្សិតនារី (n = 276)

ការចំណាយមិនគ្រប់គ្រាន់សម្រាប់ការសិក្សា និងការរស់នៅប្រចាំថ្ងៃ	ភាគរយ (%)
គ្រួសារក្រីក្រ	33.51
ទំនិញថ្លៃ	26.65
ការស្នាក់នៅថ្លៃ	11.61
សម្ភារសិក្សាថ្លៃ	15.83
ថ្លៃបង់សាលាថ្លៃ	12.40

៤.២ កង្វះអគារអន្តេវាសិកដ្ឋាន និងការថែទាំអនាម័យក្នុងបន្ទប់

អគារអន្តេវាសិកដ្ឋាន គឺជាផ្ទះទី២ដែលផ្តល់ភាពកក់ក្តៅ សុខសុវត្ថិភាព និងទំនុកចិត្តបំផុតដល់និស្សិត ឪពុកម្តាយ និងរដ្ឋាភិបាលក្នុងការរស់នៅអំឡុងពេលសិក្សា។ វាមិនត្រឹមតែផ្តល់អារម្មណ៍សុវត្ថិភាពថែមទាំងជាកន្លែងដែលនិស្សិតរៀនរស់នៅដោយឯករាជ្យ និងបង្រៀននិស្សិតឱ្យចេះរៀនរស់នៅជាមួយគ្នា កសាងមិត្តភាពជាមួយគ្នា ព្រមទាំងផ្តល់អារម្មណ៍ផ្សារភ្ជាប់រវាងសាលានិងនិស្សិត ជាពិសេសទៀតនោះ អន្តេវាសិកដ្ឋាន គឺជួយសន្សំសំចៃថវិកា និងចំណេញពេលវេលាបានយ៉ាងច្រើនដល់និស្សិតសម្រាប់ការស្នាក់នៅ។ កត្តានេះបានផ្តល់បរិយាកាសយ៉ាងអំណោយផលដល់និស្សិតក្នុងការបន្តការសិក្សារហូតដល់ចំណុចគោលដៅ ជាពិសេស ចំពោះនិស្សិតមានសេដ្ឋកិច្ចគ្រួសារមិនសូវធូរធា ឬត្រូវពឹងផ្អែកលើវិស័យកសិកម្ម។ ឆ្លងតាមការសម្ភាសបង្ហាញថា និស្សិតដែលរស់នៅក្នុងអន្តេវាសិកដ្ឋានសាលា គឺមិនតម្រូវឱ្យបង់ថ្លៃចំណាយ ឬតម្រូវបង់ការចំណាយតិចតួចបំផុតត្រឹមតែ ១០០០០ រៀលក្នុងមួយខែប៉ុណ្ណោះសម្រាប់ជួយការថែទាំជួសជុលអគារ និងសម្ភារៈផ្សេងៗ។

បើយើងក្រឡេកមើលតថភាពជាសកលវិញ អន្តេវាសិកដ្ឋានសាលាផ្តល់ឱកាសដល់និស្សិតរបស់ខ្លួននូវសិទ្ធិស្មើគ្នា ដោយមិនប្រកាន់ពូជសាសន៍ វណ្ណៈ ភេទ ពណ៌សម្បុរឡើយ ក្នុងការដាក់ពាក្យស្នើសុំស្នាក់នៅអំឡុងពេលសិក្សា ហើយជាទីកន្លែងដែលពេញនិយមបំផុតសម្រាប់និស្សិតទូទៅមិនថាអ្នកមាន ឬអ្នកក្រឡើយ ហេតុនេះសាលានីមួយៗ តែងតែយកចិត្តទុកដាក់កសាងអន្តេវាសិកដ្ឋានក្នុងបរិវេណសាលា ថែមទាំងអគារមានរចនាដ៏ល្អប្រណិត និងមានសណ្តាប់ធ្នាប់ការរស់នៅល្អ។ តាមការសង្កេតគ្រឹះស្ថានឧត្តមសិក្សាអប់រំនៅកម្ពុជាយើង ជាពិសេសគ្រឹះស្ថានឧត្តមសិក្សាស្ថិតនៅទីក្រុងភ្នំពេញ ភាគច្រើននៅមិនទាន់មានលទ្ធភាពផ្តត់ផ្តង់អគារអន្តេវាសិកដ្ឋានឱ្យបានគ្រប់គ្រាន់ដល់និស្សិតខ្លួននៅឡើយទេ។

សព្វថ្ងៃនេះ អគារអន្តេវាសិកដ្ឋាននៅទីក្រុងភ្នំពេញមានកន្លែងកំណត់ដោយសារតម្រូវការខ្ពស់ជាងការផ្គត់ផ្គង់ បានធ្វើឱ្យរាជរដ្ឋាភិបាលបានកំណត់លក្ខខណ្ឌមួយចំនួនសម្រាប់ជ្រើសរើសនិស្សិតជាអាទិភាពឱ្យទទួលបានសិទ្ធិស្នាក់នៅស្របច្បាប់ ដូចជា៖ ១) បេក្ខជនពិការ ២) កូនកំព្រា ៣) គ្រួសារមានកូនច្រើន ៤) គ្រួសារក្រីក្រ ៥) បេក្ខជនមកពីខេត្តដាច់ស្រយាល និងតំបន់ជួបការលំបាក។ ចំពោះការចូលរួមវិភាគទានរបស់និស្សិតដើម្បីទ្រទ្រង់មជ្ឈមណ្ឌលអន្តេវាសិកដ្ឋាន និស្សិតម្នាក់តម្រូវជួយឧបត្ថម្ភ ៣០ដុល្លារក្នុងមួយឆ្នាំ ឬស្មើ ១០០០០ រៀល ក្នុងមួយខែ។ ថវិកានេះដើម្បី៖ ១) ប្រាក់ខែបុគ្គលិកបម្រើការនៅអន្តេវាសិកដ្ឋាន ២) ជួសជុលបន្ទាន់ៗ និងជួសជុលខ្នាតតូច ៣)ការថែទាំបរិស្ថាន និងនិស្សិតមានជម្ងឺធ្ងន់ ៤)ការប្រជុំ។

នៅពេលដែលក្រុមការងារចុះស្រាវជ្រាវទាក់ទងនឹងអន្តេវាសិកដ្ឋាន យើងបានរកឃើញថា បរិស្ថានរស់នៅក្នុងបន្ទប់ និងអគារ គឺនៅមិនទាន់ឆ្លើយតបល្អទៅនឹងការរស់នៅឡើយទេ អគារមានសភាពចាស់ទ្រុឌទ្រោម និងមិនមានផាសុខភាពល្អ ខ្វះគ្រែគេងតាមសាកលវិទ្យាល័យនីមួយៗ ហើយចំនួននិស្សិតចន្លោះចាប់ពី ៦ ទៅ ១០រូបឯណោះក្នុងមួយបន្ទប់ដែលចំនួននេះមិនសមាមាត្រទៅនឹងទំហំបន្ទប់ឡើយ។ ក្នុងពេលសម្ភាស លោកគ្រូទទួលបន្ទុកអគារបាននិយាយចំៗថា “គុណភាពអគារចាស់មិនមានថវិកាជួសជុលអគារឱ្យទាន់ពេលវេលា មានអគារខ្លះបានប្រេះ និងស្រុតដែលបង្កឱ្យមានហានិភ័យដល់សាលា និងនិស្សិត” ហើយមាននិស្សិតនារីខ្លះបានត្អូញត្អែរថា អគារស្នាក់នៅតែងតែជួបបញ្ហាអនាម័យមិនមានទឹកផ្គត់ផ្គង់គ្រប់គ្រាន់ និងប្រព័ន្ធលូមិនបានល្អធ្វើឱ្យមានក្លិនមិនល្អនៅជុំវិញបរិស្ថានរស់នៅ។

៤.៣ ការទទួលរងបន្ទុកគ្រួសារ

ក្នុងចំណោមនិស្សិតចូលរួមឆ្លើយសំណួរ មាននិស្សិតនារីចំនួន ៦៤.៥០% បានឆ្លើយថា ពួកគេអាចរស់នៅដោយខ្លួនឯងបាន តាមរយៈការរកបានការងារធ្វើដោយខ្លួនឯង ការទទួលបានអាហារូបករណ៍សាលា អាហារូបករណ៍ថ្នាក់ដឹកនាំ សប្បុរសជនបរទេស និងតាមសមាគមន៍សាសនាព្រះយេស៊ូគ្រិស្ត។ល។ ក្នុងចំណោមនិស្សិតនារី២៧៦រូប មានចំនួន៨២រូបអាចរកបានការងារធ្វើពេញម៉ោង (៤៦.០០%) និងក្រៅម៉ោង (៥៤.០០%) និងមាន ១៧.៨% អាចផ្ញើប្រាក់ជូនគ្រួសារក្នុងអំឡុងពេលសិក្សា។ និស្សិតនារីមួយចំនួនមិនត្រឹមតែអាចធ្វើការងារចិញ្ចឹមជីវិតនិងផ្គត់ផ្គង់ការរៀនសូត្រ ដោយខ្លួនឯងបានប៉ុណ្ណោះទេតែថែមទាំងអាចមានលទ្ធភាពផ្ញើប្រាក់ជូនឪពុកម្តាយនៅឯស្រុកកំណើតថែមទៀត។ តាមទិន្នន័យបង្ហាញថា មានកត្តា៤យ៉ាងធំៗដែលពួកគាត់ត្រូវផ្ញើ៖ ១) ជួយសម្រួលជីវភាពក្នុងគ្រួសារ ២) ជួយដោះបំណុលឪពុកម្តាយ ៣) ជួយឱ្យប្អូនរៀនសូត្រ ៤) បញ្ហាសុខភាពឪពុកម្តាយ (តារាងទី៣)។ ប្រាក់ខែដែលនិស្សិតនារីទទួលបានចន្លោះចាប់ពី ៤ ម៉ឺន រហូតដល់ ២ លានរៀល ក្នុងមួយខែ ហើយពួកគាត់ជារឿយៗ

តែងតែផ្ញើជូនឪពុកម្តាយចាប់ពី ២ ម៉ឺនរហូតដល់ ៨០ ម៉ឺនរៀលក្នុងមួយខែ។ ការជួយរំលែកបន្ទុកគ្រួសារនេះក៏ជាការដាក់បន្ទុកឱ្យពួកគាត់មួយកម្រិតទៀត ក្នុងខណៈពេលដែលពួកគាត់ក៏ជួបការខ្វះខាត និងត្រូវការចំណាយជាច្រើនលើការសិក្សា និងជីវភាពរស់នៅខ្លួនឯង។ ក្រោមហេតុផលនេះយើងអាចសន្និដ្ឋានបានថា កាលណាកម្រិតជីវភាពឪពុកម្តាយកាន់តែលំបាក កូនៗនឹងទទួលរងផលប៉ះពាល់ពីសម្ពាធគ្រួសារកាន់តែធ្ងន់ ជាលទ្ធផលចុងក្រោយពួកគាត់អាចឈានរហូតដល់កើតមានបញ្ហាសុខភាព និងបោះបង់ការសិក្សា។

មាននិស្សិតនារីម្នាក់បានឆ្លើយថា “តាមពិតប្រាក់ខែដែលខ្ញុំទទួលបានពីការងារមិនគ្រប់គ្រាន់ទេសម្រាប់ការចំណាយ តែខ្ញុំត្រូវតែផ្ញើពីព្រោះតែគ្រួសារជួបការលំបាកខ្លាំងពេក។ គាត់បានបន្តទៀតថា និស្សិតនារីក្រីក្រភាគច្រើនមានលទ្ធភាពមករៀននៅទីក្រុងភ្នំពេញ មិនមែនក្រោមការជួយឧបត្ថម្ភពីប្រភពឪពុកម្តាយសុទ្ធនោះទេ ផ្ទុយទៅវិញប្រភពមួយភាគធំ គឺបានមកពីមូលនិធិអង្គការ ឬសប្បុរសជនផ្សេងៗ ដោយពួកគាត់ជួយបង់ថ្លៃការសិក្សា និងជួយផ្តល់កន្លែងស្នាក់នៅឱ្យថែមទៀត។ ហើយប្រភពមួយទៀត គឺបានមកពីការទទួលបាន អាហារូបករណ៍រដ្ឋ និងអាហារូបករណ៍សាលាផ្តល់ឱ្យផ្ទាល់តែម្តង។ ទាំងនេះពិតជាជួយសម្រួលដល់ការចំណាយពួកគាត់ តែអ្វីដែលត្រូវចំណាយចំពោះមុខមួយទៀតគឺលើជីវភាពរស់នៅ និងកន្លែងស្នាក់នៅ។”

និស្សិតនារី ៤៨.០៨% បានតួញត្បែរលើតម្លៃទំនិញនៅទីក្រុងភ្នំពេញ ហើយពួកគាត់ត្រូវការចំណាយច្រើនជាងនិស្សិតបុរស ដូច្នេះ ពួកគាត់ត្រូវការចាយវាយដោយសន្សំសំចៃបំផុតសម្រាប់ជីវភាព។ ជាការកត់សម្គាល់មួយទៀត ការសិក្សានេះបានរកឃើញថា និស្សិតនារីទាំងអស់បានឆ្លើយថា ឪពុកម្តាយរបស់គាត់តែងតែជំរុញ និងគាំទ្រនៃការសិក្សាកូនស្រីក្នុងកម្រិតឧត្តមសិក្សា តែដោយសារកត្តាជីវភាពក្រីក្រជារបាំងឧបសគ្គរារាំង ធ្វើឱ្យគាត់ពិបាកបន្តការសិក្សា ដូច្នេះការចូលរួមកាត់បន្ថយភាពក្រីក្រ គឺជាការលើកកម្ពស់គុណភាពអប់រំចំពោះសិស្សស្រី និងសមភាពយេនឌ័រក្នុងសង្គម។

ជាការសន្និដ្ឋាន និស្សិតនារីជាពិសេសជានិស្សិតដែលមានជីវភាពគ្រួសារក្រីក្រ ពួកគាត់តែងតែអនុវត្តន៍ការរៀនបណ្តើរ និងធ្វើការបណ្តើរ ហើយរៀនតែមួយសាកលវិទ្យាល័យប៉ុណ្ណោះដោយពួកគាត់ទុកពេលវេលា ដើម្បីស្វែងរកការងារធ្វើពេញម៉ោង ឬក្រៅម៉ោងទៅវិញ។ ហើយពួកគាត់មួយចំនួនបានបែងចែកប្រាក់ខែមួយចំនួនផ្ញើជូនឪពុកម្តាយ ដើម្បីជួយសម្រួលជីវភាពគ្រួសារថែមទៀត។

តារាងទី៣៖ ទិន្នន័យបង្ហាញពីមូលហេតុដែលនិស្សិតនារីផ្ញើប្រាក់ទៅគ្រួសារក្នុងអំឡុងពេលសិក្សា(n= 276)

មូលហេតុដែលនិស្សិតផ្ញើប្រាក់ទៅគ្រួសារ	**ភាគរយ(%)**
ជួយសម្រួលជីវភាពក្នុងគ្រួសារ	43.5

ជួយអោយប្អូនរៀន	22.4
ដោះស្រាយបំណុលគ្រួសារ	20.0
បញ្ហាសុខភាពក្នុងគ្រួសារ	14.1

៤.៤ បញ្ហាសុខភាព

សុខភាពគឺជាទ្រព្យសម្បត្តិដ៏មានតម្លៃដំបូងបំផុតសម្រាប់មនុស្សគ្រប់រូប។ ពេលដែលមានសុខភាពល្អ មនុស្សតែងតែមានសេចក្តីសង្ឃឹមជានិច្ចក្នុងការតស៊ូ និងជម្នះគ្រប់ឧបសគ្គក្នុងជីវិតដើម្បីភាពជោគជ័យ សុខភាព ដូចជា ឫសរុក្ខជាតិ បើឫសមានសុខភាពល្អ នោះរុក្ខជាតិនឹងលូតលាស់ល្អ និងផលិតបានផ្លែផ្កាល្អ។ តែបើក្រឡេកមើលតថភាពជាក់ស្តែងនៅពេលចុះសម្ភាសបានរកឃើញថា និស្សិតនារីមួយភាគធំមានសុខភាពខ្សោយ ឧស្សាហ៍ឈឺ និងឆាប់ហត់ នេះបើផ្អែកតាមការសម្ភាសជាមួយអ្នកគ្រូទទួលបន្ទុកមើលការខុសត្រូវនិស្សិតនារី អ្នកគ្រូបានមានប្រសាសន៍ថា៖

“ខ្ញុំសង្កេតឃើញថា និស្សិតនារីដែលឪពុកម្តាយមានជីវភាពក្រីក្រមករៀននៅភ្នំពេញឃើញឧស្សាហ៍ឈឺណាស់ តិចៗសន្លប់ តិចៗសន្លប់ ដោយមិនដឹងមូលហេតុច្បាស់លាស់ ហើយបើសង្កេតមើលទៅពួកគាត់ គឺមានសុខភាពខ្សោយ តែសំណាងល្អដែលពួកគេមានប្រាក់ឧបត្ថម្ភសម្រាប់មើលជំងឺតែប្រាក់ទាំងនេះគឺបានមកពីមូលនិធិសប្បុរសជនទេ។”

ចំពោះបញ្ហានេះ លោកគ្រូសាកលវិទ្យាធិការមួយរូប ក៏ទទួលស្គាល់ផងដែរចំពោះបញ្ហាសុខភាពនិស្សិតដោយរូបលោក ឃើញថា និស្សិតឧស្សាហ៍កើតខ្យល់ចាប់ ហើយពេលខ្លះត្រូវបញ្ជូនទៅមន្ទីរពេទ្យទាំងយប់ កណ្តាលអធ្រាត្រ តាមការសង្កេតរបស់លោក គឺដោយសាររបបអាហាររបស់និស្សិតមិនគ្រប់តែម្តង ដូច្នេះ រូបលោកតែងតែចេញប្រាក់ហោប៉ាវផ្ទាល់ខ្លួនដើម្បីឱ្យនិស្សិតទៅទិញអាហារបំប៉នបន្ថែមបន្ទាប់ពីចេញពីមន្ទីរពេទ្យ។ លោកគ្រូបានបន្ថែមថា សាលាដែលមានអន្តេវាសិកដ្ឋានគឺពិបាកគ្រប់គ្រងជាងសាលាដែលមិនមាន ពីព្រោះពេលរៀនចប់និស្សិតត្រូវរស់នៅក្នុងសាលា ដូចនេះ សាលាត្រូវមើលថែនិងយកចិត្តទុកដាក់ពួកគាត់ទាំងក្នុងម៉ោងសិក្សា និងក្រៅម៉ោងសិក្សា។

តាមការសង្កេតឃើញ ទោះបីមានសុខភាពមិនសូវអំណោយផលក្តី តែនិស្សិតនារីជាច្រើនមិនបានទៅរកសេវាពិនិត្យសុខភាពឱ្យបានដិតដល់ទេ ដោយសារ៖ ១) មិនសូវស្គាល់ពីរបៀបរបបមន្ទីរពេទ្យ ឬគ្លីនិក (មិនមានអារម្មណ៍ស្និតស្នាល ឬមានអារម្មណ៍ខ្លាច) ២)ខ្វះថវិកា ៣)ខ្វះអ្នកជួយលើកទឹកចិត្ត និងទំនុកបម្រុង។ល។ ដូចនេះ ពួកគេតែងតែលាក់ទុកក្នុងចិត្ត ដោយមិនបានស្វែងរកសេវាពិនិត្យសុខភាពទេ។

ជាការដោះស្រាយលើសេវាសុខភាពសាធារណៈសម្រាប់និស្សិត មានសាកលវិទ្យាល័យមួយដែលស្ថិតនៅទីរួមខេត្តបានចងសម្ព័ន្ធមេត្រីភាព ដោយចុះអនុស្សារណៈនៃការយោគយល់គ្នាជាមួយមន្ទីរពេទ្យដើម្បីជួយកាត់បន្ថយថវិកានិស្សិតពេលព្យាបាលជំងឺ។ សាកលវិទ្យាល័យបានស្នើសុំឱ្យ មន្ទីរពេទ្យធ្វើការបញ្ចុះតម្លៃសេវាព្យាបាលជំងឺចំពោះនិស្សិតកំពុងសិក្សាត្រង់ចំណុចនេះជាការសរបញ្ជាក់នូវសេចក្តីសប្បុរសនិងគំរូល្អនៃសាលា ដែលបានគិតគូរដល់សុខទុក្ខសុខភាពនិស្សិតក្នុងអំឡុងពេលសិក្សា។ ជាទស្សនអ្នកស្រាវជ្រាវ វាជាការល្អបំផុតបើសាកលវិទ្យាល័យមិនអាចមានលទ្ធភាពបង្កើតគ្លីនិក ឬកន្លែងប្រឹក្សាសុខភាពសម្រាប់ខ្លួនឯង សាកលវិទ្យាល័យគួរតែស្វែងរកដៃគូចងសម្ព័ន្ធមេត្រីភាពជាមួយមន្ទីរពេទ្យដ្ឋនានា ដែលស្ថិតនៅជិតសាលា ឬជាកន្លែងដែលនិស្សិតងាយទៅដល់មកដល់ ដើម្បីជួយសម្រួលការចំណាយដល់និស្សិតជាពិសេសនោះនិស្សិតនារីមានជីវភាពលំបាកក្នុងអំឡុងពេលសិក្សា។

៤.៥ កង្វះសេវាផ្តល់ប្រឹក្សាក្នុងសាលា

នៅក្នុងសាកលវិទ្យាល័យ ផ្នែកផ្តល់សេវាប្រឹក្សា និងសេវាទ្រទ្រង់សកម្មភាពនិស្សិតជាផ្នែកមួយយ៉ាងសំខាន់ក្នុងការចូលរួមលើកកម្ពស់គុណភាពអប់រំដល់និស្សិតក្នុងសាលា ពីព្រោះនៅពេលដែលនិស្សិតមានបញ្ហាផ្សេងៗ ដូចជា ការសិក្សា ការរស់នៅ ការស្វែងរកការងារ បញ្ហាផ្លូវចិត្ត ពួកគាត់អាចរត់ទៅរកទទួលសេវានេះ ដើម្បីជួយដោះស្រាយជូនពួកគាត់។ ហើយនៅពេលដែលនិស្សិតមានបំណងបង្កើតសកម្មភាពមនុស្សធម៌ ឬសង្គមផ្សេងៗ សាលាត្រូវមានសេវាជួយគាំទ្រ ដើម្បីជួយសម្រួលដល់សកម្មភាពពួកគាត់ ហើយបំផុសបំផុលពួកគាត់ចូលរួមសកម្មភាពសង្គមឱ្យបានសកម្ម និងច្រើនសម្បូរបែបទាំងក្នុងនិងក្រៅសាលា។ តាមទិន្នន័យបង្ហាញថា នៅពេលនិស្សិតនារីជួបបញ្ហា ឬមានបញ្ហាម្តងៗ និស្សិតដែលទៅរកប្រឹក្សាយោបល់ជាមួយសាលា (គ្រូបង្រៀន) មានចំនួន ១៩.៧០% ចំណែកប្រឹក្សាជាមួយមិត្តភក្តិមានចំនួន ៣០.៩០% ព្រមទាំងជាមួយក្រុមគ្រួសារ និងសាច់ញាតិមានចំនួន ៤៧.១០% នេះជាការឆ្លុះបញ្ចាំងឱ្យឃើញថាភាពពេញនិយមនៃនិស្សិតនារីទៅស្វែងរកសេវាប្រឹក្សាយោបល់ជាមួយក្រុមគ្រួសារ និងសាច់ញាតិ និងមិត្តភក្តិ គឺមានច្រើនជាងការស្វែងរកប្រឹក្សាជាមួយសាលា (**តារាងទី៤**)។ ហើយមាននិស្សិតនារីប្រមាណ១៤%ក៏សម្តែងការមិនពេញចិត្តចំពោះការមិនយកចិត្តទុកដាក់ពីសាលា និងសង្គម និងក៏មាននិស្សិតប្រមាណ ១២% សម្តែងការមិនពេញចិត្តចំពោះគុណភាពអប់រំសាលាមិនបានល្អដូចអ្វីដែលបានរំពឹងទុកពីមុនមកផងដែរ។ ក្រៅពីនេះទិន្នន័យក៏បង្ហាញថា បច្ចុប្បន្នភាពមាននិស្សិតនារីចំនួន ៣៨.០២% បានឆ្លើយតបថា ពួកគាត់មិនមានអ្នកប្រឹក្សាជាមួយ និងមាន៥២.០១% ខ្វះការលើកទឹកចិត្ត និងទំនុកបម្រុង ព្រមទាំងមួយចំនួនទៀតបានឆ្លើយថា ពួកគាត់គ្មានអ្នករាប់អាន ៩.៧0% (**តារាងទី៥**)។ លើសពីនេះទៀតក្នុងចំណោមនិស្សិតនារីចូលរួមសម្ភាស មាននិស្សិត១១.0៤%

មានគំនិតឈានទៅរកការបោះបង់ការសិក្សាចោលក្នុងអំឡុងពេលសិក្សា ដោយក្រោមមូលហេតុភាពអស់សង្ឃឹមនៃការសិក្សា ជីវភាពគ្រួសារ ការលំបាកក្នុងការរស់នៅ និងកត្តាការងារក្រៅម៉ោងធ្វើឱ្យរំខានដល់ការសិក្សា។ ហើយនៅពេលចុះសម្ភាសជាមួយលោកគ្រូអ្នកគ្រូទទួលបន្ទុកនិស្សិត លោកទាំងអស់សុទ្ធតែទទួលស្គាល់ថា និស្សិតដែលប្រឈមការបោះបង់ការសិក្សាខ្លាំងជាងគេ គឺជានិស្សិតរៀនឆ្នាំទី១។ ដូច្នេះបើសិនសាលាអាចបង្កើតការិយាល័យ ឬភ្នាក់ងារផ្តល់សេវាប្រឹក្សា និងពិគ្រោះយោបល់ នោះសាលានឹងអាចជួយបណ្តុះនៅស្មារតីតស៊ូ និងការលើកទឹកចិត្តនិងទំនុកបម្រុងបានមួយផ្នែកធំជាមិនខាន ព្រោះវាជាយន្តការមួយដែលអាចធានាបាននៅការថែរក្សានិស្សិតឱ្យរៀនសូត្របានដល់គោលដៅ។

តារាងទី៤៖ទិន្នន័យបង្ហាញពីការស្វែងរកប្រឹក្សាពេលជួបបញ្ហាក្នុងអំឡុងពេលសិក្សានៃនិស្សិតនារី(n=276)

ដំណោះស្រាយពេលជួបបញ្ហា	ភាគរយ(%)
ប្រឹក្សាជាមួយគ្រូបង្រៀន	19.70
ប្រឹក្សាជាមួយមិត្តភក្តិ	30.90
ប្រឹក្សាជាមួយក្រុមគ្រួសារ និងសាច់ញាតិ	47.10
ប្រឹក្សាតាមបណ្តាញសង្គមដូចជា ហ្វេសប៊ុក ជាដើម	1.90
ប្រឹក្សាជាមួយថៅកែ	0.40

តារាងទី៥៖ ទិន្នន័យបង្ហាញពីសម្ភាធផ្សេងៗដែលនិស្សិតនារីបានជួបបញ្ហាក្នុងអំឡុងពេលសិក្សា (n = 276)

សម្ភាធផ្សេងៗ	ភាគរយ (%)
គ្មានអ្នករាប់អាន	9.70
ខ្វះការលើកទឹកចិត្ត និងទំនុកបម្រុង	52.10
អត់មានអ្នកប្រឹក្សា	38.20

៤.៦ ឱកាសនិស្សិតនារីក្នុងកំឡុងពេលថ្នាក់ឧត្តមសិក្សា

ជាការពិតណាស់ រាល់បញ្ហាប្រឈមទាំងអស់ សុទ្ធតែបង្កប់ឱកាសនៅក្នុងនោះបើសិនជាយើងអាចតស៊ូជម្នះបាន បញ្ហាប្រឈមទាំងនោះនឹងប្រែក្លាយជាឱកាសមិនខាន។ ក្នុងនោះដែរ តាមរយៈការចុះសម្ភាសបង្ហាញថា និស្សិតនារីក៏បានចាប់យកឱកាសជាច្រើនផងដែរក្នុងអំឡុងពេលសិក្សាដូចបញ្ជាក់ខាងក្រោម៖

៤.៦.១ ឱកាសទទួលបានចំណេះដឹង

ការពង្រឹងខ្លួនតាមរយៈការអប់រំ គឺជាមាគ៌ាមួយដ៏ត្រឹមត្រូវបំផុតសម្រាប់ជីវិត តែការទទួលបានចំណេះដឹងវាមិនមែនជាការស្រួលដែលមនុស្សគ្រប់រូបអាចធ្វើបាននោះទេ ពីព្រោះការអប់រំត្រូវការទេពកោសល្យ និងភាពអំណត់តស៊ូ លះបង់ពេលវេលា និងថវិកា រហូតពេលខ្លះត្រូវការរស់នៅចាកឆ្ងាយពីក្រុមគ្រួសារប្តីប្រពន្ធកូនថែមទៀត ដើម្បីទទួលបានចំណេះដឹងមកបម្រើជាតិ។ តាមទិន្នន័យបង្ហាញថា និស្សិតនារីមានរហូតដល់ ៩០.៤០% សម្រេចចិត្តតស៊ូរៀនសូត្ររហូតបញ្ចប់ការសិក្សាជាស្តាពរ ទោះបីពួកគាត់ស្ថិតក្នុងស្ថានភាពលំបាកយ៉ាងណាក៏ដោយ។ ពួកគាត់នៅតែឱ្យតម្លៃ និងមានជំនឿលើការអប់រំ ព្រោះ ១ (ការអប់រំនឹងធ្វើឱ្យខ្ញុំក្លាយជាមនុស្សមានតម្លៃសម្រាប់អភិវឌ្ឍន៍សង្គមជាតិ ២ (ការអប់រំនឹងជួយពង្រឹងសមត្ថភាពក្នុងការអភិវឌ្ឍប្រទេសជាតិនិងសង្គមកាន់តែល្អ ៣ (ការអប់រំនឹងធ្វើឱ្យមានការផ្លាស់ប្តូរជីវិតខ្ញុំកាន់តែប្រសើរឡើង ៤ (ការអប់រំនឹងកែប្រែជីវភាពក្រុមគ្រួសារខ្ញុំ ៥ (ការអប់រំនឹងអាចឱ្យខ្ញុំរកការងារធ្វើបានល្អប្រសើរ និងទទួលបានប្រាក់ខែច្រើន ៦ (ក្រុមគ្រួសារខ្ញុំស្រឡាញ់អ្នកមានចំណេះដឹង។

ដូចជាអ្វីដែលបានដកស្រង់ចេញសម្តីពិតពីនិស្សិតនារីឆ្នាំទី៤ ម្នាក់ដែលមានជីវភាពគ្រួសារក្រលំបាក និងជាក្មេងកំព្រាម្តាយហើយមានឪពុកជាចាស់ជរាថែមទៀត ចំណែកកន្លែងស្នាក់នៅវិញគឺយកទ្រុងមាន់ធ្វើជាផ្ទះបាននិយាយចេញពីចិត្តថា៖

“មូលហេតុ ដែលខ្ញុំមិនចង់បោះបង់ការសិក្សា ដោយសារខ្ញុំចង់ដឹងចង់ឃើញនូវអ្វីដែលថ្មីចំណេះដឹងប្លែកៗ ដែលខ្ញុំមិនដែលបានឃើញ។ ហើយខ្ញុំជឿជាក់ថា ចំណេះដឹងអាចកែប្រែវាសនារបស់ខ្ញុំបាន។ ម្យ៉ាងទៀត កាលខ្ញុំនៅតូច ឪពុករបស់ខ្ញុំលោកបាននិយាយថា លោកគ្មានអ្វីចែកឱ្យពួកខ្ញុំជាកេរ្តិ៍ទេ មានតែឱ្យពួកខ្ញុំខំរៀន ទើបជាស្ពានចម្លងពួកខ្ញុំទៅបាន។ ម្យ៉ាងដោយសារតែភាពក្រីក្រទើបធ្វើឱ្យប្អូនប្រុសរបស់ខ្ញុំត្រូវសម្រេចចិត្តឈប់រៀន។ ដូច្នេះ ក្នុងនាមខ្ញុំជាបង ខ្ញុំត្រូវខិតខំរៀនឱ្យចប់ និងស្វែងរកការងារដើម្បីជួយគាត់វិញ។”

តាមរយៈពាក្យសម្តីខាងលើនេះ យើងអាចទាញសេចក្តីសន្និដ្ឋានថា និស្សិតនារីម្នាក់នេះពិតជាមានការប្តេជ្ញាចិត្តខ្ពស់ចំពោះការស្វែងរកចំណេះដឹង និងសង្ឃឹមថាការអប់រំនឹងនាំឱ្យឆាកជីវិតរបស់គាត់ផ្លាស់ប្តូរជាមិនខាន។ ជារួមការពង្រឹងសមត្ថភាពតាមរយៈការអប់រំ នឹងបង្កើតឱកាសជាច្រើនសម្រាប់សង្គមជាតិ និងខ្លួនឯង បើពួកគាត់អាចតស៊ូរៀនបានជោគជ័យជាស្តាពរក្នុងវិថីអាជីពជានិស្សិត នោះពួកគេនឹងក្លាយជាធនធានមួយដ៏មានតម្លៃសម្រាប់ការលះបង់ជូនសង្គមជាតិ និងមានជីវិតល្អប្រសើរឡើងជាមិនខាន ព្រោះការអប់រំនឹងអាចនាំឱ្យមនុស្សគ្រប់រូបចាកឆ្ងាយផុតពីជីវិតក្រលំបាក។ ហេតុនេះ

យើងត្រូវជំរុញនិងគាំទ្រការសិក្សារបស់និស្សិតនារីឱ្យផុសផុល ដើម្បីឱ្យពួកគេមានឱកាសសិក្សារហូតក្លាយខ្លួនជាធនធានមួយដែលសង្គម និងពិភពលោកត្រូវការក្នុងការចូលរួមចំណែកដឹកនាំ ការពារ និងអភិវឌ្ឍទាំងអស់គ្នា។

៤.៦.២ ឱកាសទទួលបានការយកចិត្តទុកដាក់ពីសាលា

តាមទិន្នន័យខាងលើពិតជាសរបញ្ជាក់ឱ្យឃើញថា និស្សិតនារីភាគច្រើនមានឱកាសទទួលបានការងារធ្វើក្នុងទម្រង់ "រៀនបណ្តើរ ធ្វើការបណ្តើរ" និស្សិតមិនត្រឹមតែអាចរស់នៅដោយខ្លួនឯងបានថែមទាំងរហូតអាចឈានដល់ការផ្ញើប្រាក់ជូនក្រុមគ្រួសារផងដែរ (**តារាងទី៣**)។ សាលាបានផ្តល់ឱកាសការងារដល់និស្សិត និងថែមទាំងជួយស្វែងរកការងារធ្វើដល់និស្សិតថែមទៀត ដូចពេលដែលចុះសម្ភាស លោកគ្រូម្នាក់បានមានប្រសាសន៍ថា *"នៅពេលដែលសាលាសង្កេតឃើញនិស្សិតមានជីវភាពលំបាកខ្លាំង សាលាតែងតែយកចិត្តទុកដាក់ដល់និស្សិតដោយផ្តល់ការងារឱ្យនិស្សិតធ្វើនិងផ្តល់ប្រាក់ខែ ៥០ដុល្លារក្នុងមួយខែ ដើម្បីសម្រួលជីវភាពដល់ពួកគាត់។ ហើយសាលាក៏បើកឱកាសទូលាយសម្រាប់ពួកគាត់ក្នុងការស្វែងរកការងារខាងក្រៅដោយខ្លួនឯងបន្ថែមទៀត"*។ **តារាងទី៦** បង្ហាញពីអត្ថប្រយោជន៍នានាដែលសាកលវិទ្យាល័យមួយចំនួនបានផ្តល់ដល់និស្សិតកម្មសិក្សាការីទាំងពេញម៉ោង និងក្រៅម៉ោងក្នុងអំឡុងពេលសិក្សា។ យើងសង្កេតឃើញថា ការងាររដ្ឋបាលជាការងារដែលពេញនិយមជាងគេក្នុងចំណោមប្រភេទការងារសាកលវិទ្យាល័យផ្តល់ជូនដល់និស្សិតហាត់ការ ហើយប្រាក់ខែដែលទទួលបានជាមធ្យមប្រហែល២០ម៉ឺនរៀលក្នុងមួយខែ។

ក្រៅពីនេះទៀត សាលាក៏ផ្តល់ឱកាសនានាដល់និស្សិតនារីក្នុងការទទួលបានអាហារូបករណ៍ពីមជ្ឈដ្ឋាននានា ដូចជា អាហារូបករណ៍ក្រសួង អាហារូបករណ៍សាលា អាហារូបករណ៍ថ្នាក់ដឹកនាំ អាហារូបករណ៍សប្បុរសជន និងមានប្រាក់ឧបត្ថម្ភប្រចាំខែផ្សេងៗទៀត។ ទោះបីយ៉ាងណា អាហារូបករណ៍មួយមុខមិនអាចទប់ស្កាត់ការប្រឈមនៃការបោះបង់ការសិក្សារបស់និស្សិតឡើយ នេះបើតាមការសម្ភាសជាមួយសាកលវិទ្យាធិការមួយរូបដោយលោកបានសម្តែងថា *"សាកលវិទ្យាល័យរបស់ខ្ញុំក៏នៅតែមានបញ្ហាប្រឈមខ្លាំងចំពោះការបោះបង់ការសិក្សារបស់និស្សិត ទោះបីជា ពួកគាត់ទទួលបានអាហារូបករណ៍ក៏ដោយ តាមដែលខ្ញុំសង្កេតដោយសារប្រាក់ អាហារូបករណ៍និស្សិតបច្ចុប្បន្ននៅមិនទាន់ឆ្លើយតបសម្រាប់ការចំណាយការសិក្សា និងរស់នៅបាននៅឡើយទេ ដូច្នេះនិស្សិតណាដែលមានជីវភាពខ្វះខាត ពួកគាត់ត្រូវបោះបង់ការសិក្សា ដើម្បីស្វែងរកការងារនៅក្នុងទីក្រុងវិញ។ លោកសាកលវិទ្យាធិការបានបន្តទៀតថា ដើម្បីទប់ស្កាត់បញ្ហានេះ រាជរដ្ឋាភិបាលគួរតម្លើងប្រាក់អាហារូបករណ៍ធ្វើយ៉ាងណាឱ្យពួកគាត់ចាយគ្រប់សម្រាប់ខ្លួនឯងដោយចាប់ពី ៥០ ទៅ ៧០ដុល្លារក្នុងមួយខែ។"*

អ្នកស្រាវជ្រាវសង្កេតឃើញថា ចំពោះសាកលវិទ្យាល័យរដ្ឋ ជាពិសេសសាលាដែលស្ថិតនៅតាមបណ្តាខេត្តបានផ្តល់កន្លែងស្នាក់នៅ (អគារអន្តេវាសិកដ្ឋាន) ដល់និស្សិតដោយឥតគិតថ្លៃ ឬបង់ថ្លៃតិចតួចប៉ុណ្ណោះ (តារាងទី៧)។

តារាងទី៦៖បង្ហាញពីអត្ថប្រយោជន៍នានាដែលសាកលវិទ្យាល័យមួយចំនួនបានផ្តល់ដល់និស្សិតកម្មសិក្សាការី

	ប្រាក់ខែដែលផ្តល់ក្នុងសាកលវិទ្យាល័យ (ម៉ឺនរៀល)		
សាកលវិទ្យាល័យ	**និស្សិតកម្មសិក្សាការី**		**តួនាទី**
	ក្រៅម៉ោង	ពេញម៉ោង	
សា. បាត់ដំបង	១២		ការងារតាមការិយាល័យ
សា. ក្រចេះ	១២		ការងារតាមការិយាល័យ
សា. មានជ័យ	១៥ - ២០	៣២	ការងារតាមការិយាល័យ
សា. ស្វាយរៀង	២០ - ២៤		ការងាររដ្ឋបាល
សា. កូមិន្នភ្នំពេញ	២០	១២០	- ពេញម៉ោង៖ ការងាររដ្ឋបាល; ការងារផ្តល់សេវានិស្សិត; ការងារសហគមន៍ - ក្រៅម៉ោង៖ បណ្ណារក្ស; បុគ្គលិកអនាម័យ - សេវាផ្សេងៗ (៤ម៉ឺនរៀលក្នុងមួយថ្ងៃ) ដូចជាកម្មវិធីពិព័រណ៍ ព្រឹត្តិការណ៍ផ្សេង។ - សេវាលក់ពាក្យនិងទទួលពាក្យ - ហ្វឹកហាត់របាំ (១ម៉ឺនរៀលក្នុងមួយថ្ងៃ) - ការងារសង្គម (៤ម៉ឺនរៀលក្នុងមួយថ្ងៃ)
សា. ជាតិគ្រប់គ្រង	៤០ - ៦០		

តារាងទី៧៖ ទិន្នន័យបង្ហាញពីការយកចិត្តទុកដាក់ខ្ពស់ដល់និស្សិតស្រីក្នុងអំឡុងពេលសិក្សារបស់សាលា (n = 276)

សាលាមានបានយកចិត្តទុកដាក់ខ្ពស់ដល់និស្សិតស្រី	**ភាគរយ (%)**
ផ្តល់កន្លែងរស់នៅប្រកបដោយសុវត្ថិភាព	24.50
ផ្តល់អាហារូបករណ៍	37.20
ព្យាបាលជំងឺដោយមិនគិតថ្លៃ	3.90
ជួយស្វែងរកការងារឱ្យ	11.30

៤.៧ ករណីសិក្សាអំពីដំណើរជីវិតសិក្សានិស្សិតនារីក្នុងកម្រិតថ្នាក់ឧត្តមសិក្សា

សិទ្ធិក្នុងការទទួលបានការអប់រំគឺជាមូលដ្ឋានគ្រឹះដែលមនុស្សគ្រប់រូបត្រូវទទួលបាន ប៉ុន្តែដំណើរជីវិតក្នុងការឆ្ពោះទៅរកការទទួលបានការអប់រំនៃមនុស្សម្នាក់ៗ គឺមិនដូចគ្នានោះទេ វាអាស្រ័យទៅតាមលក្ខខណ្ឌភូមិសាស្ត្រ ស្ថានភាពគ្រួសារ និងការចូលរួមជួយជ្រោមជ្រែងពីរដ្ឋាភិបាល និងសប្បុរសជននានា។ តាមរយៈការសិក្សានេះ អ្នកស្រាវជ្រាវបានសិក្សាចងក្រងជីវប្រវត្តិនិស្សិតនារីចំនួន៤រូបដើម្បីស្វែងយល់អំពីដំណើរជីវិតពិតរបស់ពួកគាត់ក្នុងការស្វែងរកចំណេះដឹង។ ម្យ៉ាងវិញទៀត ដើម្បីរក្សាឯកជនភាពរបស់អ្នកចូលរួមផ្តល់បទសម្ភាសន៍ អ្នកស្រាវជ្រាវ សម្រេចប្រតិដ្ឋឈ្មោះអ្នកទាំងនោះ ដែលមានដំណើរជីវិតពិតដូចខាងក្រោម៖

- **និស្សិត កញ្ញា**

ជាកូនទី ៥ ក្នុងចំណោមកូន ៦ នាក់ក្នុងគ្រួសារ កញ្ញាគឺជាកូនដែលរៀនបានខ្ពស់ជាងគេ។ កម្រិតជីវភាពលំបាកធ្វើឱ្យបងៗរបស់គាត់ត្រូវបង្ខំចិត្តបោះបង់ការសិក្សា ភាពក្រីក្រពិតជាអាវុធលាក់មុខដែលសម្លាប់ដំណើរជីវិតសិក្សារបស់បងប្អូនគាត់តាំងពីនៅកុមារភាព។ បច្ចុប្បន្ននេះ កញ្ញាកំពុងសិក្សាថ្នាក់បរិញ្ញាបត្រអក្សរសាស្ត្រខ្មែរឆ្នាំទី១ នៅសាលាពុទ្ធិកសិក្សាក្នុងវត្តអារញ្ញ ខេត្តកំពង់ឆ្នាំង បន្ទាប់ពីបានប្រឡងជាប់សញ្ញាបត្រទុតិយភូមិក្នុងឆ្នាំសិក្សា២០១៩។ អ្នកភូមិទទួលស្គាល់ថា គាត់គឺជាក្មេងម្នាក់គត់ដែលបានប្រឡងជាប់ថ្នាក់ទី ១២ ប្រចាំភូមិ។ ការសិក្សាពិតជាធ្វើឱ្យកញ្ញាមិនអាចទទួលបានភាពកក់ក្តៅពីឪពុកម្តាយដូចបងប្អូនដទៃទៀតឡើយ។ គាត់ចាប់ផ្តើមរស់បែកពីក្រុមគ្រួសារចាប់តាំងពីគាត់រៀនថ្នាក់ទី ១ មកម្លេះ។ រស់នៅជាមួយគេបណ្តើរ រៀនបណ្តើរតាំងពីកុមារភាពពិតជាមិនងាយស្រួលដូចកូនរស់នៅជួបជុំគ្រួសារឡើយ ហើយទំរាំរៀនចប់ថ្នាក់ទី ១២ កញ្ញាបានធ្វើការផ្លាស់ប្តូរទីកន្លែងរស់នៅពីមួយទៅមួយ។ ការសិក្សាគឺជាតំណើរជីវិតដ៏វែងឆ្ងាយ មិនចេះចប់មិនចេះហើយ ឆ្លងពីមួយដំណាក់ទៅមួយដំណាក់ទៀត ពីឧបសគ្គមួយទៅឧបសគ្គមួយទៀត ដូចតាមប្រសាសន៍សម្តេចហ៊ុន សែន នាយករដ្ឋមន្ត្រីនៃព្រះរាជាណាចក្រកម្ពុជាថា *"គ្មានទេ ទីបញ្ចប់នៃការសិក្សា"*។ បន្ទាប់ពីឆ្លងផុតថ្នាក់ទី ១២ បញ្ហាប្រឈមជាច្រើនទៀតបានមកដល់ដូចជាត្រូវប្រឈមនឹងកង្វះថវិកា ដើម្បីរៀនបន្តទៀតនៅកម្រិតឧត្តមសិក្សា តែជាភ័ព្វសំណាងគាត់បានទទួលអាហារូបករណ៍រហូតដល់ទៅពីរកន្លែង៖ ១)អាហារូបករណ៍សិស្សក្រីក្រសិក្សានៅភ្នំពេញ ២) អាហារូបករណ៍ពីសាលាពុទ្ធិកសិក្សាក្នុងខេត្តកំពង់ឆ្នាំង។ សម្រាប់ឪពុកម្តាយដែលមានលទ្ធភាព វាជារឿងមួយដ៏ត្រេកអរក្រៃលែងដែលកូនបានជាប់អាហារូបករណ៍ទៅ

សិក្សានៅទីក្រុងភ្នំពេញ ប៉ុន្តែសម្រាប់ឪពុកម្តាយគាត់វិញ គឺជារឿងមួយដែលពិបាកចិត្តបំផុត ដោយសារតែគ្រួសារមិនមានលទ្ធភាពបញ្ជូនកូនទៅសិក្សានៅទីក្រុងបាន ដូចនេះ ការសម្រេចចិត្តមួយដ៏ត្រឹមត្រូវ និងសប្បាយចិត្តបំផុតសម្រាប់ពួកគាត់ ហើយស្របតាមលក្ខខណ្ឌជីវភាពគ្រួសារផង គឺការជំរុញឱ្យកូនស្រីគាត់ទទួលយកអាហារូបករណ៍ជម្រើសទីពីរ ដោយបញ្ជូនកូនស្រីទៅសិក្សានៅសាលាពុទ្ធិកសិក្សាក្នុងខេត្តកំពង់ឆ្នាំង។ ហើយដោយសារខ្វះថវិកាបង់ប្រាក់ថ្លៃជួលផ្ទះ ឪពុកកញ្ញាសម្រេចចិត្តសុំទីវត្តអារាមសម្រាប់ឱ្យកូនស្នាក់នៅក្នុងអំឡុងពេលសិក្សា។ បច្ចុប្បន្ននេះ កញ្ញាកំពុងរស់នៅក្នុងវត្តជាមួយដូនជី ហើយមិនបានចំណាយលើម្ហូបអាហារ និងកន្លែងស្នាក់នៅឡើយ។ ប្រាក់ឧបត្ថម្ភដែលនាងទទួលបានពីឪពុកម្តាយចន្លោះពី ១៥០០០ ទៅ ២០០០០ រៀលប៉ុណ្ណោះក្នុងមួយសប្តាហ៍សម្រាប់ការចាយវាយប្រចាំថ្ងៃ ការធ្វើដំណើរ និងការរៀនសូត្រ។

ឪពុករបស់កញ្ញាមានតួនាទីជាប្រធានភូមិផង និងកសិករផង ឯម្តាយវិញមានមុខរបរជាកសិករ រស់នៅដោយពឹងផ្អែកលើការធ្វើកន្ទេលកក់និងការដាំបន្លែបង្គារ។ ហាក់បីដូចជាការមើលឃើញកំហុសដែលកូនៗមិនបានរៀនខ្ពស់ និងយល់អំពីតម្លៃនៃការសិក្សា ឪពុកម្តាយនិងបងប្អូនកញ្ញាតែងតែលើកទឹកចិត្ត និងជ្រោមជ្រែងកញ្ញាឱ្យប្រឹងប្រែងរៀនសូត្រកុំបោះបង់ការសិក្សាឱ្យសោះទោះបីប្រឡងមិនជាប់ថ្នាក់ទី១២ ក៏ដោយ ដូចពួកគាត់មានប្រសាសន៍ថា "បងៗបានឈប់រៀនអស់ហើយដោយសារឪពុកម្តាយមិនមានលទ្ធភាព ហើយទុកឱ្យពួកគាត់ជួយធ្វើការរកប្រាក់ជួយគ្រួសារ"។ ភាពអំណត់តស៊ូ និងការប្តេជ្ញាចិត្តក្នុងការសិក្សារបស់កញ្ញា ពិតជាមិនធ្វើឱ្យឪពុកម្តាយអស់សង្ឃឹមឡើយ គាត់បានប្រឹងតស៊ូជម្នះគ្រប់ឧបសគ្គហើយលទ្ធផលចុងក្រោយគាត់បានប្រឡងជាប់ថ្នាក់ទី១២និងពាំនាំភាពជោគជ័យនិងមោទនភាពជូនគ្រួសារទាំងមូល។ ចំពោះសុខភាពនិងកាយសម្បទាលូតលាស់របស់កញ្ញាត្រូវបានឪពុកម្តាយមើលឃើញថា ជាក្មេងស្រីដែលមានសុខភាពមិនរឹងមាំល្អ មានតូចល្អិត និងរាងកាយលូតលាស់មិនសូវប្រក្រតី។ តែទោះបីជួបស្ថានភាពលំបាកបែបណាក្តី ក៏ឪពុកម្តាយកញ្ញានឹងតស៊ូឱ្យកូនរៀនរហូតដល់ចប់ជាស្តាពរ ប៉ុន្តែពួកគាត់ក៏សម្តែងក្តីបារម្ភថា ពួកគាត់ខ្លាចពេលដែលកូនរៀនចេះដឹងទៅ បែរជាមិនបានគិតដល់ម៉ែឪ។ ចំពោះក្តីរំពឹងទុករបស់ឪពុកម្តាយគាត់វិញ បន្ទាប់ពីកូនរៀនចប់ ពួកគាត់ទាំងពីរសង្ឃឹមថា កូនមានការងារធ្វើជាគ្រូបង្រៀននិងមានប្រាក់ខែមួយអាចជោះទាល់ឪពុកម្តាយ និងអាចទុកសម្រាប់ខ្លួនឯងខ្លះ ព្រមទាំងជួយប្អូនៗឱ្យរៀនចេះដឹងដូចខ្លួនឯងដែរ។

ជាចុងបញ្ចប់កញ្ញាបានសំណូមពរថា គាត់ចង់បានកង់មួយសម្រាប់ធ្វើដំណើរ និងបើមានលទ្ធភាពកញ្ញាចង់រស់នៅខាងក្រៅវត្តវិញ ព្រោះគាត់ចង់ស្វែងរកការងារធ្វើ ដើម្បីជួយសម្រួលជីវភាពគ្រួសាររបស់

គាត់ ជាពិសេសប្អូនស្រីគាត់ម្នាក់ទៀតឱ្យមានលទ្ធភាពរៀនបានខ្ពង់ខ្ពស់ដែរ។ កញ្ញាក៏មានក្តីស្រមៃដូចនិស្សិតនារីដទៃទៀតដែរ គឺគាត់ចង់ក្លាយជាគ្រូបង្រៀនម្នាក់នាថ្ងៃអនាគត។

- **និស្សិត សាន់លី**

អាហារូបករណ៍ គឺជារឿងសំខាន់ណាស់សម្រាប់និស្សិត សាន់លី ព្រោះបើគ្មានវាទេ សាន់លីប្រហែលជាមិនអាចបន្តការសិក្សានៅថ្នាក់ឧត្តមសិក្សាបានឡើយ នេះបើតាមប្រសាសន៍ឪពុកគាត់ថា *"បើគ្មានអាហារូបករណ៍នេះទេ កូនរបស់គាត់ប្រហែលជាមិនអាចបន្តការសិក្សាទៅឧត្តមសិក្សាបានទេ។"* បច្ចុប្បន្ននេះ សាន់លី ជានិស្សិតឆ្នាំទី៤ មហាវិទ្យាល័យកសិកម្ម ជំនាញក្សេត្រសាស្ត្រ នៃសាកលវិទ្យាល័យមានជ័យ ខេត្តបន្ទាយមានជ័យ។ ទោះបីជាក្មេងដែលកំព្រាម្តាយ និងមានឪពុកចាស់ជរាក្តីក៏ដោយសាន់លីមិនដែលចុះចាញ់នឹងព្រហ្មលិខិតបណ្តោយតាមខ្សែជីវិតរបស់គាត់ឡើយ ផ្ទុយទៅវិញគាត់បានខំប្រឹងប្រែងតស៊ូជម្នះគ្រប់ឧបសគ្គហែលឆ្លងភាពអវិជ្ជារហូតសម្រេចបានដល់កម្រិតថ្នាក់ឧត្តមសិក្សា ថែមទាំងទទួលបានការកោតសរសើរចេញពីសាលាទៀតផង ដូចគាត់និយាយថា "ខ្ញុំធ្លាប់ទទួលបានលិខិតសរសើរពីសាកលវិទ្យាល័យមានជ័យនៅឆ្នាំទី២ ដោយខ្ញុំទទួលបានចំណាត់លេខ២ប្រចាំថ្នាក់ ហើយក៏ធ្លាប់ទទួលបានរង្វាន់លើកទឹកចិត្តពីគ្រូប្រចាំថ្នាក់កាលពីខ្ញុំរៀននៅវិទ្យាល័យផងដែរ ដោយសារខ្ញុំមានសេចក្តីក្លាហានក្នុងការឆ្លើយសំណួរនៅក្នុងថ្នាក់ និងការខិតខំព្យាយាមរៀនសូត្រ។" ទោះជាស្ថានភាពជីវភាពសេដ្ឋកិច្চគ្រួសារជួបការលំបាក និងមិនសូវអំណោយផលដល់ការសិក្សាកូនក្តី សាន់លីជាក្មេងស្រីម្នាក់ក្នុងចំណោមក្មេងស្រីតិចតួចបំផុតនៅក្នុងភូមិដែលបានសិក្សា ដល់កម្រិតថ្នាក់ឧត្តមសិក្សា នេះបើយោងតាមប្រសាសន៍ឪពុកគាត់ *"ខ្ញុំរំលឹកថាមានកូនអ្នកភូមិមិនសូវច្រើនប៉ុន្មានទេដែលបានរៀនខ្ពស់ជាងកូនស្រីខ្ញុំ។"*

សាន់លី ជានិស្សិតមិនរស់នៅក្នុងបន្ទុកគ្រួសារ ព្រោះគាត់បានរៀនបណ្តើរ និងធ្វើការបណ្តើរ។ ការងារក្រៅម៉ោងរបស់សាន់លីមានដូចជា៖ ការដាំបន្លែលក់ អ្នករត់តុតាមភោជនីយដ្ឋាន ឬជាគ្រូបង្រៀនសិស្សតាមផ្ទះ និងសាលាឯកជនជាដើម។ ប្រាក់ដែលគាត់រកបានមកពីការងារមានចំនួន១២ម៉ឺនរៀលបូកផ្សំហ្នឹងប្រាក់អាហារូបករណ៍ ៤.៥ ម៉ឺនរៀលក្នុងមួយខែ។ លើសពីនេះទៀត សាន់លី ត្រូវទទួលរងបន្ទុកគ្រួសារជាប់ជាមួយ ហេតុនេះគាត់ត្រូវការចាយវាយដោយសន្សំសំចៃបំផុត ដើម្បីអាចផ្ញើប្រាក់ខ្លះជូនគ្រួសារ ហើយការផ្ញើនេះ គឺដើម្បីជួយសម្រួលជីវភាពគ្រួសារ ជួយឱ្យប្អូនរៀន ដោះស្រាយបំណុលគ្រួសារ និងបញ្ហាសុខភាពក្នុងគ្រួសារ។ គាត់ក៏បានបង្ហើបអំពីបញ្ហាទុក្ខលំបាកមួយចំនួនផងដែរដូចជា៖ មិនមានមធ្យោបាយធ្វើដំណើរផ្ទាល់ខ្លួន ខ្វះស្បៀងអាហារគ្រប់គ្រាន់សម្រាប់បរិភោគដោយសារពុំមានដីស្រែចម្ការ ខ្វះសម្ភារសិក្សា និងឪពុកចាស់ជរាថែមទៀត។ល។

ជាក្មេងកំព្រម្តាយចាប់តាំងពីរៀនថ្នាក់ទី ៤ សាន់លី ជានិស្សិតម្នាក់ក្នុងចំណោមនិស្សិតដទៃទៀតដែលសាលាបានយកចិត្តទុកដាក់ខ្ពស់ ដោយសារសាន់លីជានិស្សិតមានការព្យាយាម និងឧស្សាហ៍ក្នុងការសិក្សា ជាពិសេសគ្រួសារមានជីវភាពក្រីក្រ។ សាលាបានយកចិត្តទុកដាក់ និងបំផុសស្មារតីលើកទឹកចិត្តរបស់និស្សិតខ្លួនគ្រប់វិធីទាំងអស់រួមមាន៖ ការផ្តល់អគារអន្តេវាសិកដ្ឋានស្នាក់នៅដោយឥតគិតថ្លៃ ផ្តល់ការងារធ្វើក្នុងសាលាក្នុងប្រាក់ខែ ៥០ ដុល្លារក្នុងមួយខែ ជួយស្វែងរកការងារបន្ថែមទៀតឱ្យនិស្សិតធ្វើ (អ្នករត់តុតាមរោងការ ឬកម្មវិធីផ្សេងៗ) ចុះអនុស្សរណៈយោគយល់គ្នាជាមួយមន្ទីរពេទ្យខេត្ត ការបញ្ជូនសិស្សទៅផ្លាស់ប្តូរយកបទពិសោធន៍ជាមួយសាលាដៃគូក្រៅប្រទេស និងផ្តល់វគ្គបណ្តុះបណ្តាលផ្សេងៗ។ ការជួយជ្រោមជ្រែងរបស់សាលា ពិតជាផ្តល់តម្លៃខ្ពស់សម្រាប់និស្សិតក្នុងការតស៊ូសិក្សារហូតដល់គោលដៅ។ ចំពោះនិស្សិតដែលជួបការលំបាកបំផុត សាលាបានជួយឧបត្ថម្ភថវិកាដោយការផ្តួចផ្តើមរៃអង្គាសប្រាក់នៅក្នុងសាលាបន្ថែមទៀត តែសាលាក៏ទទួលស្គាល់ថា ការជួយរបស់សាលានៅមានកម្រិតនៅឡើយ ដោយសារមាននិស្សិតជួបការលំបាកច្រើនពេក។

បើពិនិត្យមើលស្ថានភាពគ្រួសារគាត់វិញឃើញថា និស្សិតនារីម្នាក់នេះ ជាកូនច្បងក្នុងចំណោមបងប្អូនបីរូបក្នុងគ្រួសារ។ ប្អូនស្រីរបស់គាត់កំពុងរៀនថ្នាក់ទី១១ ក្នុងឆ្នាំសិក្សា២០១៩នេះ ហើយប្អូនប្រុសគាត់ត្រូវបង្ខំចិត្តឈប់រៀនត្រឹមថ្នាក់ទី៧ ដោយសារតែជីវភាពគ្រួសារមិនអំណោយផល។ សព្វថ្ងៃនេះប្អូនប្រុសគាត់ទៅស៊ីឈ្នួលចិញ្ចឹមមាន់ឱ្យគេដោយទទួលបានប្រាក់កម្រៃ ១០០ ដុល្លារក្នុងមួយខែ។ ចំណែកឪពុករបស់គាត់ជាចាស់ជរា មិនអាចប្រកបរបរអ្វីជាដុំកំភួនឡើយ គាត់បានត្រឹមតែរកប្រាក់ចំណូលតាមរយៈការចិញ្ចឹមមាន់ទាជាលក្ខណៈគ្រួសារប៉ុណ្ណោះ ដែលមិនអាចផ្គត់ផ្គង់ជីវភាពគ្រួសារទាំងមូលបានឡើយ។ ដើម្បីរកប្រាក់បន្ថែមជូនគ្រួសារ ប្អូនស្រីរបស់សាន់លី តែងតែទៅជួយលាងចាននិងជួយលក់អីវ៉ាន់បងប្អូនពេលសម្រាកពីការសិក្សា (មួយព្រឹក ឬមួយរសៀល) ដោយទទួលប្រាក់កម្រៃ ៥ពាន់រៀលក្នុងមួយពេល។

ឆ្លងតាមការចុះប្រមូលព័ត៌មានខាងលើ អ្នកស្រាវជ្រាវអាចវាយតម្លៃថា សាន់លីជានិស្សិតម្នាក់ដែលរងបន្ទុកជាច្រើនក្នុងអំឡុងពេលសិក្សា។ គាត់មិនត្រឹមតែទទួលរងបន្ទុកការសិក្សា ថែមទាំងគ្រួសារថែមទៀត។ គាត់ត្រូវចូលរួមដោះស្រាយបន្ទុកទាំងនេះទាំងគាត់នៅមិនទាន់រឹងដៃរឹងជើងខ្លួនឯងនៅឡើយ។ ប្រឹងរៀនបណ្តើរ ប្រឹងធ្វើការបណ្តើរ ប្រឹងសន្សំប្រាក់បណ្តើរ ប្រឹងគិតគូរជីវភាពគ្រួសារបណ្តើរ ប្រឹងដោះស្រាយបញ្ហាប្រឈមខ្លួនឯងបណ្តើរ ពិតជាបន្ទុកមួយដ៏ធ្ងន់សម្រាប់នារីម្នាក់នេះក្នុងនាមជានិស្សិត។ ទោះបីយ៉ាងណា សាន់លីជានិស្សិតម្នាក់ក្នុងចំណោមនិស្សិតដទៃទៀតដែលសាលាបានយកចិត្តទុកដាក់ និងផ្តល់ការជ្រោមជ្រែង ហើយសាលាក៏ទទួលស្គាល់ផងដែរពីភាពអំណត់

តស៊ូក្នុងការសិក្សារបស់គាត់។ ជាចុងក្រោយ សាន់លីមានជំនឿថា ចំណេះដឹងនឹងអាចដោះស្រាយ និង លើកកម្ពស់ជីវភាពរស់នៅរបស់គាត់ និងគ្រួសារ។ គាត់មានក្តីស្រមៃចង់បង្កើតអាជីវកម្មកសិកម្មសរីរាង្គ នៅក្នុងសហគមន៍របស់គាត់នាពេលអនាគត។ ហើយគាត់សំណូមពរថា រាជរដ្ឋាភិបាលជួយសម្រប សម្រួល គាំទ្រ និងបង្កបរិយាកាសដល់អ្នកវិនិយោគទាំងក្នុង និងក្រៅស្រុកឱ្យបានសុខដុម ដើម្បីបើកទី លំហរទីផ្សារការងារក្នុងស្រុកឱ្យកាន់តែទូលំទូលាយ កត្តានេះនឹងបើកឱកាសដល់និស្សិតដែលបញ្ចប់ ការសិក្សាងាយរកការងារធ្វើ។ ជាពិសេស បើអាចទៅរួច រាជរដ្ឋាភិបាលគួរបន្ថែមប្រាក់អាហារូបករណ៍ រហូតដល់ចំនួន ១៥ ម៉ឺនរៀលជាប្រចាំខែសម្រាប់ការចំណាយលើម្ហូបអាហារ សម្ភារសិក្សា ការស្នាក់នៅ និងការធ្វើដំណើរដល់សិស្សក្រីក្រ ។

- **និស្សិត វីរ៉ា**

អាហារូបករណ៍ ក៏សំខាន់បំផុតចំពោះនិស្សិតនារីម្នាក់នេះ ពីព្រោះបើគាត់មិនបានទទួលអាហា រូបករណ៍ទេ វីរ៉ានឹងមិនអាចបន្តការសិក្សានៅថ្នាក់ឧត្តមសិក្សាបានឡើយ ដោយគាត់បានពិពណ៌នា ដូច្នេះថា "*ពេលប្រឡងជាប់ភ្លាម ក្រុមគ្រួសារខ្ញុំប្រាប់ថា គាត់គ្មានលទ្ធភាពឱ្យខ្ញុំរៀនបន្តទេ ខ្ញុំអង្គុយគិត ផង យំផងតែម្នាក់ឯង។ ការទទួលបានអាហារូបករណ៍រៀនមិនយកប្រាក់រយៈពេលបួនឆ្នាំ ដូចមានទឹក សន្សើមមកប្រោះព្រំជីវិតកូនស្រីឱ្យរស់ឡើងវិញ។*" ទោះបី មានកាយសម្បទាមិនអំណោយផល (ពិការជើង)និស្សិត វីរ៉ា បានខិតខំប្រឹង តស៊ូរៀនសូត្រហូតដល់ថ្នាក់ឧត្តមសិក្សា។ បច្ចុប្បន្ន វីរ៉ា ជា និស្សិតអាហារូបករណ៍ថ្នាក់បរិញ្ញាបត្រ ឆ្នាំទី២ ជំនាញអក្សរសាស្ត្រខ្មែរ នៃមហាវិទ្យាល័យសិល្បៈ មនុស្សសាស្ត្រ និងភាសា នៃសាកលវិទ្យាល័យ ជា ស៊ីម កំចាយមារ។ មុននឹងមកដល់ចំណុចនេះ វីរ៉ា ធ្លាប់ ជាសិស្សបោះបង់ការសិក្សាចំនួនពីរដងរួចមកហើយ៖ ១) ថ្នាក់បឋមសិក្សាម្តង (ថ្នាក់ទី៣) ដោយសារ សុខភាព (ឈឺ) ២) ថ្នាក់មធ្យមសិក្សាបឋមភូមិ (ថ្នាក់ទី៨) ដោយសារអត់មានថវិកា គាត់ត្រូវបង្ខំចិត្ត ឈប់រៀនដើម្បីទៅធ្វើការនៅរោងចក្រ តែអកុសលគាត់បានជួបគ្រោះថ្នាក់ធ្វើឱ្យពិការភាពចាប់តាំងពី ពេលនោះមក។ ប៉ុន្តែក្រោមស្មារតីប្រកាន់ភ្ជាប់នឹងការប្តេជ្ញាចិត្តខ្ពស់ដែលធ្លាប់សន្យានិងខ្លួនឯងថា "ទោះ មានឧបសគ្គយ៉ាងណាក៏មិនឈប់រៀន ព្រោះខ្ញុំស្រឡាញ់ការសិក្សាណាស់" បានធ្វើឱ្យគាត់ត្រឡប់មក សុំចុះឈ្មោះចូលរៀនឡើងវិញ ហើយបានហែលឆ្លងជម្នះគ្រប់ឧបសគ្គជាច្រើនទំរាំឈានជើងចូលថ្នាក់ ឧត្តមសិក្សា។ ចំណុចល្អប្រសើររបស់និស្សិតនារីម្នាក់នេះក្នុងការតស៊ូរៀនសូត្រដល់កម្រិតនេះ គឺចេះ ផ្តល់កម្លាំងចិត្តឱ្យខ្លួនឯង និងមិនចុះចាញ់នឹងភាពអស់សង្ឃឹម ព្រមទាំងមិនខ្វល់ខ្វាយពាក្យពេជន៍ចេញ ពីក្នែកញាតិឬអ្នកដទៃឡើយ ឧទាហរណ៍ គាត់បានពណ៌នាថា "ដោយខ្លួនពិការជើងជិះកង់កាន់ ឈើច្រត់ទៅសាលារៀន បានឆ្លងកាត់ក្នែកអ្នកជិតឆ្ងាយអស់ផងទាំងពួង ហើយអ្នកខ្លះបានសម្តែងមតិ

ថា ខ្លួនពិការអីចឹងខំរៀនបានប្រយោជន៍អ្វី អ្នកមានកាយសម្បទាគ្រប់គ្រាន់ រៀនចប់ហើយនៅរកការងារធ្វើមិនបានផង ចុះទម្រាំឯងជាជនពិការ រកការងារអីបានធ្វើ តែខ្ញុំធ្វើមិនដឹងមិនឮ។ ទោះបីមានអារម្មណ៍តូចចិត្តខ្លួនឯងក្តី ពេលដែលខ្ញុំនឹងឃើញពាក្យសុភាសិតមួយឃ្លាដែលពោលថា "ជីវិតគឺការតស៊ូ" ធ្វើឱ្យនាងខ្ញុំមានកម្លាំងចិត្តឡើងវិញ ហើយហ៊ានកាន់ឈើច្រត់សុំលោកគ្រូចូលរៀន និងប្រឈមមុខជាមួយនឹងសិស្សដទៃទៀត។" ឆ្លងតាមការពិពណ៌នានេះអាចឆ្លុះបញ្ចាំងឱ្យឃើញថា សហគមន៍ដែលស្ថិតនៅជុំវិញគាត់មិនត្រឹមតែមិនចេះលើកទឹកចិត្តគ្នា និងឱ្យតម្លៃការអប់រំ តែបែរជារួមចំណែកជាន់ពន្លិចស្មារតីគ្នាបន្ថែមទៀតក្រោមហេតុផលជាជនពិការមិនមានកាយសម្បទាគ្រប់គ្រាន់ទៅវិញ ឬមួយមកពីការធ្លាក់ចុះភាពជំនឿជឿជាក់ និងទំនុកចិត្តលើវិស័យអប់រំដូនចំពោះជនពិការក្នុងសង្គម។ ជាទស្សនទានរបស់អ្នកស្រាវជ្រាវ ល្ពឹកណាសាធារណៈជនអស់ជំនឿជឿជាក់ និងបាត់បង់ទំនុកចិត្តលើវិស័យអប់រំ ល្ពឹកនោះប្រទេសជាតិនឹងជួបគ្រោះមហន្តរាយមិនខាន ដូច្នេះការចូលរួមលើកកម្ពស់វិស័យអប់រំទាំងអស់គ្នាដោយមិនប្រកាន់ពូជសាសន៍ ពណ៌សម្បុរ កាយសម្បទា ភេទជាដើម គឺជាការលុបបំបាត់ ការកាត់បន្ថយ និងការពារមិនឱ្យមានគ្រោះមហន្តរាយកើតឡើង នាថ្ងៃអនាគត ថែមទាំងជាការផ្តល់ឱកាសដល់ប្រទេសជាតិមានការរីកចម្រើន សុខដុមបនីយកម្ម និងវិបុលភាព។

អ្វីដែលអ្នកស្រាវជ្រាវចង់រំលេចចំពោះដំណើរជីវិតរបស់និស្សិត វីរ៉ា គឺទឹកចិត្តគ្រូបង្រៀនដែលស្ថិតនៅពីក្រោយភាពតស៊ូរបស់គាត់។ ទោះបីស្ថិតនៅក្នុងកាលៈទេសៈយ៉ាងណាក៏ដោយ គ្រូបង្រៀនតែងនៅកៀកគាត់ជានិច្ច និងផ្តល់ការលើកទឹកចិត្តប្រកបដោយភាពសុទិដ្ឋិនិយម ព្រមទាំងផ្តល់កម្មវិធីគាំទ្រដល់សិស្សគ្រប់រូបដោយតម្លៃស្មើភាពគ្នា ដូចគាត់បានលើកឡើងថា "លោកគ្រូអ្នកគ្រូបានលើកទឹកចិត្តខ្ញុំឱ្យខំរៀន នៅថ្ងៃខាងមុខគង់នឹងមានអនាគត ក្រៅពីនេះលោកគ្រូអ្នកគ្រូបានជួយឧបត្ថម្ភថវិកា និងបង្រៀនមិនយកប្រាក់ ផ្តល់អាហារូបករណ៍ ផ្តល់ភាពកក់ក្តៅនិងយកចិត្តទុកដាក់ដល់ខ្ញុំ ព្រមទាំងជួយជ្រោមជ្រែងគ្រប់បែបយ៉ាងធ្វើឱ្យខ្ញុំមានទំនុកចិត្តក្នុងការសិក្សាបន្ថែមទៀត" ជាឧទាហរណ៍ នៅពេលប្រឡងថ្នាក់ទី ១២ លោកគ្រូបានឱ្យថវិកាខ្ញុំទៅប្រឡង ហើយក៏ប្រឡងជាប់ដូចក្តីប្រាថ្នា ហើយក៏បន្តជួយតាមលទ្ធភាពពេលមករៀននៅសាកលវិទ្យាល័យ។ និស្សិត វីរ៉ា បានធ្វើការលើកសរសើរដោយស្មោះអស់ពីដួងចិត្តនូវទឹកចិត្តលោកគ្រូអ្នកគ្រូដែលតែងតែជួយជ្រោមជ្រែង និងគាំទ្រក្នុងអំឡុងពេលសិក្សារបស់គាត់ ដោយគាត់បានពោលពាក្យថា "លោកគ្រូអ្នកគ្រូនៅទីនេះ មានចិត្តល្អបានជួយខ្សែជីវិតនិស្សិតក្រីក្រនិងឧបត្ថម្ភបន្ថែមទៀត បានជួយផ្តល់ប្រាក់កាក់ទំនុកបម្រុងក្នុងការរៀនសូត្រ ផ្តល់សៀវភៅសិក្សា ក្លិបសិក្សាមិនយកលុយ ផ្តល់អាហារូបករណ៍។ល។ លោកគ្រូអ្នកគ្រូយកចិត្តទុកដាក់គ្រប់ពេលវេលាក្នុងការសិក្សារៀនសូត្ររបស់ខ្ញុំ ហើយខ្ញុំត្រូវពឹងលើគាត់ទាំងស្រុង។" និស្សិត វីរ៉ា ក៏ទទួលបានការ

ជួយជ្រោមជ្រែងខ្លះដែរពីសាសនាយេស៊ូនៅខេត្តព្រៃវែងលើការរៀនសូត្ររបស់គាត់។ ក្រៅពីនេះទៀត កត្តាមួយទៀតដែលគួរឱ្យកត់សម្គាល់នោះ គឺនិស្សិត វីរ៉ា ចេះជួយខ្លួនឯងទាំងការផ្តល់កម្លាំងចិត្ត និងការបង្កើតមុខរបរដោយខ្លួនឯង "ធ្វើផ្កាលក់នៅក្នុងសាលា" ហើយគាត់បានពោលថា "ខ្ញុំធ្លាប់ធ្វើផ្កាលក់តាំងពីវិទ្យាល័យមកម្លេះ ដោយខ្ញុំធ្វើផ្កាលក់នៅពេលយប់ រៀនផង ធ្វើផ្កាផង ធ្វើហើយយកមកលក់នៅសាលារៀន នៅពេលចូលឆ្នាំដើរលក់តាមភូមិ។ ពេលគេទិញច្រើន ខ្ញុំត្រូវធ្វើរហូតដល់ភ្លឺក៏មានដែរ ពុំសូវបានដេកឡើយ ហើយផ្កាដែលគាត់ធ្វើបានលក់ជាច់ផងដែរ។ ពេលត្រឡប់មកពីសាលារៀន ខ្ញុំឆ្លៀតដើររើសអេតចាយតាមផ្លូវរហូតដល់ផ្ទះ។ វាបានជួយសម្អាតបរិស្ថានផង និងយកមកលក់បានប្រាក់កម្រៃផ្គត់ផ្គង់ក្នុងការរៀនសូត្រផង។"

ជាក្មេងកំព្រាឪពុក ថែមទាំងសមាជិកបីរូបក្នុងចំណោមបួនរូបក្នុងគ្រួសារជាជនពិការ និស្សិត វីរ៉ា ពិតជាទទួលរងសម្ពាធទាំងផ្លូវកាយ និងផ្លូវចិត្តជាច្រើនអនេក។ ម្តាយ វីរ៉ា ជាចាស់ជរាមានអាយុ ៧៦ឆ្នាំ ភ្នែកមើលមិនសូវឃើញ ហើយសុខភាពក៏មិនសូវល្អដែរ ចំណែកបងស្រីគាត់ម្នាក់ទៀតមានជំងឺសរសៃប្រសាទមើលមិនជាឡើយ ឯបងស្រីគាត់ម្នាក់ទៀតទោះបីមានកាយសម្បទាគ្រប់គ្រាន់ក្តី តែគាត់ត្រូវទទួលរងបន្ទុកដោះស្រាយបំណុលដែលបានកម្ចីពីធនាគារឯកជន។ គាត់បានសម្តែងចេញពីចិត្តរបស់គាត់ថា "បើមើលពីសម្បកក្រៅ គឺឃើញខ្ញុំមានអារម្មណ៍សប្បាយចិត្តរីករាយរាល់ថ្ងៃ តែក្នុងចិត្តពោរពេញដោយទុក្ខព្រួយ ព្រោះគ្មានអ្នកទីពឹង គ្មានប្រាក់ចំណូលគ្រប់គ្រាន់ និងគ្មានផ្ទះស្នាក់នៅ។ ទាំងផ្ទះបងស្រី និងផ្ទះម្តាយត្រូវភ្លើងឆេះអស់នៅឯស្រុកកំណើត។"

តាមរយៈដំណើរជីវិតសិក្សារបស់និស្សិត វីរ៉ា ខាងលើ អាចលាតត្រដាងឱ្យយើងឃើញថា គាត់ជានិស្សិតម្នាក់ដែលត្រូវការលើកទឹកចិត្តខ្ពស់ទាំងផ្នែកស្មារតី និងធនធានថវិកាដោយសារគាត់ជាជនពិការ និងមិនមានសមាជិកគ្រួសារណាម្នាក់ជាគោលដំហរច្បាស់លាស់សម្រាប់ពឹងពាក់អាស្រ័យឡើយនៅអំឡុងពេលសិក្សា។

ភាពអត់ធ្មត់តស៊ូរហូតសម្រេចការសិក្សាមកដល់ពេលនេះ គឺតាមរយៈចេះផ្តល់កម្លាំងចិត្ត និងចេះបង្កើតការងារដោយខ្លួនឯង ជាពិសេសនោះគឺទឹកចិត្តគ្រូបង្រៀនតែម្តងដែលជាកត្តាលេចធ្លោជាងគេបំផុត។

ជាចុងបញ្ចប់ និស្សិតនារីម្នាក់នេះបានសុំអំពាវនាវដល់ក្រសួងពាក់ព័ន្ធនានា សប្បុរជនជិតឆ្ងាយជាពិសេសសាលារៀនតែម្តង សូមបន្តជួយផ្គត់ផ្គង់ការរៀនសូត្ររបស់គាត់ឱ្យបានដល់គោលដៅ។ ក្តីស្រមៃគាត់នាថ្ងៃអនាគត គឺគាត់ចង់មានការងារធ្វើល្អមួយ។

- **និស្សិត លីម ស្រីនាង**

និស្សិត លីម ស្រីនាង ក៏មិនខុសអ្វីពីនិស្សិតខាងលើដែរ ពីព្រោះអាហារូបករណ៍គឺជាចលករមួយដ៏សំខាន់បំផុតក្នុងផ្តល់ឱកាសអភិវឌ្ឍន៍សមត្ថភាពសម្រាប់អនាគតគាត់និងប្រទេសជាតិ។ ដោយសារការខិតខំប្រឹងប្រែងសិក្សា គាត់បានទទួលអាហារូបករណ៍សិក្សាថ្នាក់ឧត្តមសិក្សា បច្ចុប្បន្នស្រីនាងជានិស្សិតឆ្នាំទី១ ផ្នែកភាសាអង់គ្លេសនៅសាកលវិទ្យាល័យត្បូងឃ្មុំ។ គាត់ក៏ធ្លាប់ឆ្លងកាត់ជាសិស្សរៀនត្រួតថ្នាក់ និងធ្លាប់បោះបង់ការសិក្សាដែរ តែដោយសារការគិតគូពីឪពុកម្តាយ ធ្វើឱ្យគាត់សម្រេចចិត្តស៊ូបន្តការសិក្សារហូតដល់បច្ចុប្បន្ន គាត់បានរៀបរាប់ថា "នៅថ្នាក់ទី៣ ខ្ញុំបានរៀនត្រួតថ្នាក់ម្តង ហើយចេះតែបន្តរៀនរហូតដល់ថ្នាក់ទី១០ ខ្ញុំក៏បានសម្រេចចិត្តបោះបង់ការសិក្សាចោល ពីព្រោះជីវភាពគ្រួសារជួបការលំបាកយ៉ាប់យឺនខ្លាំងពេក។ ខ្ញុំបានទៅធ្វើការជាអ្នកបម្រើប្រហែលជាកន្លះឆ្នាំដែរ តែដោយសារការអាណិត និងការទទូចរបស់ឪពុកម្តាយ ធ្វើឱ្យខ្ញុំសម្រេចចិត្តចូលរៀនវិញ។" ជីវភាពពិតជាអាចធ្វើឱ្យស្រីនាងហ៊ានបោះបង់ការសិក្សា និងលុបបំបាត់ឱកាសខ្លួនឯងដើម្បីក្លាយជាធនធានមួយរូបដែលអាចលះបង់ចំណេះដឹងដើម្បីអភិវឌ្ឍន៍សង្គមបាន តែដោយសារតែទឹកចិត្តឪពុកម្តាយធំធេងពេក មិនអាចអនុញ្ញាតឱ្យជីវភាពជារបាំងរារាំងឱកាសការសិក្សាកូនបានឡើយ។ ទោះបីក្នុងកាលៈទេសៈលំបាកយ៉ាងណាក៏ដោយ ក៏លោកទាំងពីរតស៊ូដើម្បីកូន និងខំប្រឹងអូសទាញកូនមកចូលរៀនវិញ កុំអីកម្ពុជាត្រូវបាត់បង់ធនធានម្នាក់នេះបាត់ទៅហើយ ស្រីនាងបានលើកឡើងថា "គាត់ស៊ូលំបាកឱ្យតែខ្ញុំបានចូលរៀនវិញ។" តាមរយៈនេះអាចបញ្ជាក់បានថា កត្តាឪពុកម្តាយគឺជាផ្នែកមួយដ៏មានឥទ្ធិពលបំផុតក្នុងការចូលរួមសម្រេចភាពជោគជ័យនៃការសិក្សារបស់កូន និងការលុបបំបាត់អត្រាបោះបង់ការសិក្សារបស់សិស្ស។ ការបណ្តុះផ្នត់គំនិតក្តីស្រឡាញ់ និងជំនឿចិត្តរបស់ឪពុកម្តាយចំពោះវិស័យអប់រំ គឺជាការកសាងសង្គមពុទ្ធិមួយប្រកបដោយប្រសិទ្ធភាព។ បន្ថែមពីនេះទៀត និស្សិត លីម ស្រីនាង ក៏មានជំនឿចិត្តថា មានតែការសិក្សាទេដែលអាចជួយគាត់ឱ្យរួចផុតពីទុក្ខលំបាក ដូចដែលគាត់បាននិយាយថា "មានតែការសិក្សាមានចំណេះដឹងទើបគេចផុតពីភាពលំបាកក្រខ្សត់។ ហើយគាត់បានសង្កត់ធ្ងន់ថា បើខ្ញុំឈប់រៀន ខ្ញុំនឹងលំបាក ហើយលំបាកដល់ឪពុកម្តាយថែមទៀត តែបើខ្ញុំរៀនវិញ គឺលំបាកតែពេលឪពុកម្តាយរកលុយឱ្យរៀនប៉ុណ្ណោះ ដល់ពេលខ្ញុំរៀនយូរទៅ ខ្ញុំនឹងអាចធ្វើការ និងជួយឪពុកម្តាយវិញ។"

កម្រិតការអប់រំរបស់ឪពុកម្តាយស្រីនាងបានរៀនសូត្រត្រឹមថ្នាក់ទី១ប៉ុណ្ណោះ ឪពុកជាអ្នកលើកអុសដាក់ឡានបានប្រាក់កម្រៃ ១៥០០០ ទៅ ២០០០០រៀលក្នុងមួយថ្ងៃ រីឯម្តាយវិញជាអ្នកធ្វើការនៅរោងចក្រកែច្នៃដំណាប់ស្វាយទទួលបានប្រាក់ខែ ៦០ម៉ឺនរៀលក្នុងមួយខែ។ ឪពុកម្តាយរបស់ស្រីនាងមានលទ្ធភាពផ្តល់ប្រាក់ឧបត្ថម្ភឱ្យកូនប្រហែល ៥ម៉ឺនរៀលក្នុងមួយខែសម្រាប់ការចំណាយទូទៅលើការសិក្សា

ដូចជា៖ ម្ហូបអាហារ សម្ភារសិក្សា សំលៀកបំពាក់ ថ្លៃធ្វើដំណើរ។ល។ ចំណែកការស្នាក់នៅមិនត្រូវបានចំណាយទេ ដោយសារមានការផ្តត់ផ្តង់ពីសាកលវិទ្យាល័យ ប៉ុន្តែស្រីនាងបានបង្ហាញក្តីកង្វល់ថា "នៅពេលខាងមុខ សាលាតម្រូវឱ្យសិស្ស ម្នាក់ៗជួយបង់ថ្លៃអនាម័យនិងសន្តិសុខចំនួន១ម៉ឺនរៀលក្នុងមួយខែ។" ដោយមើលឃើញឪពុកម្តាយលំបាកក្នុងការរកលុយឱ្យគាត់រៀននិងមានជីវភាពគ្រួសារជួបការខ្វះខាតខ្លាំងពេក ស្រីនាងចំណាយលុយត្រឹម១ពាន់រៀលក្នុងមួយថ្ងៃជាមួយមិត្តរួមបន្ទប់ (៨រូប) សម្រាប់អាហារប្រចាំថ្ងៃប៉ុណ្ណោះ។ ស្ថិតក្នុងគ្រួសារដែលមានជីវភាពមិនសូវស្តុកស្តម្ភ ស្រីនាងទទួលស្គាល់ខ្លួនឯងថា នាងមិនមានសុខភាពល្អបរិបូរណ៌ដោយសារការបរិភោគមិនគ្រប់គ្រាន់ធ្វើឱ្យសុខភាពនាងខ្សោយនិងឆាប់ហត់។

ជាចុងបញ្ចប់ និស្សិត លីម ស្រីនាង ទទូចសុំការឧបត្ថម្ភបន្ថែមរួមទាំង ម្ហូបអាហារ សម្ភារសិក្សា ថវិកាសំលៀកបំពាក់ និងសុំកុំយកថ្លៃផ្ទើកង់ម៉ូតូ ដោយសារម្តាយរបស់ស្រីនាងមានលទ្ធភាពផ្តល់ឱ្យកូនប្រហែល៥ម៉ឺនរៀលក្នុងមួយខែ។ ចំពោះអនាគតវិញ ស្រីនាងសង្ឃឹមថា គាត់នឹងអាចរកបានការងារល្អធ្វើ គាត់នឹងជួយបណ្តុះបណ្តាលក្មេងៗឱ្យខិតខំរៀនសូត្រឱ្យមានចំណេះដឹងខ្ពង់ខ្ពស់ដើម្បីជួយដល់សង្គម។

៥. សេចក្តីសន្និដ្ឋាន

ការសិក្សានេះដើម្បីស្វែងយល់ពីជីវិតការសិក្សា និងការរស់នៅនៃនិស្សិតនារីនៅកម្រិតថ្នាក់ឧត្តមសិក្សា ដោយប្រើវិធីសាស្ត្របរិមាណវិស័យ និងគុណវិស័យពេលចុះប្រមូលទិន្នន័យតាមសាលា។ ឆ្លងតាមអ្នកស្រាវជ្រាវបានរកឃើញថា ទន្ទឹមនឹងការទទួលបានឱកាស និស្សិតនារីក៏មានបញ្ហាប្រឈមជាច្រើនក្នុងអំឡុងពេលសិក្សា ដូចជា កង្វះអាហារូបត្ថម្ភ កង្វះអគារអន្តេវាសិកដ្ឋាន និងការថែទាំអនាម័យក្នុងបន្ទប់ ការទទួលរងបន្ទុកគ្រួសារ បញ្ហាសុខភាព កង្វះសេវាផ្តល់ប្រឹក្សាក្នុងសាលា។ ដើម្បីដោះស្រាយជីវភាពក្នុងអំឡុងពេលសិក្សា និស្សិតនារីភាគច្រើនបានអនុវត្តន៍ "រៀនបណ្តើរ ធ្វើការបណ្តើរ" រហូតដល់មាននិស្សិតខ្លះអាចឈានទៅដល់ការធ្វើប្រាក់ជូនក្រុមគ្រួសារថែមទៀត។ ជាការកត់សម្គាល់ឧបសគ្គធំបំផុតដែលបង្កឱ្យសិស្សនារីអាចឈានទៅរកការបោះបង់ការសិក្សា គឺកត្តាជីវភាពក្រីក្រតែម្តង ដូច្នេះការកាត់បន្ថយភាពក្រីក្រ ក៏មានន័យជាការចូលរួមចំណែកលើកកម្ពស់គុណភាពអប់រំដល់សិស្សនារីផងដែរ។ លើសពីនេះ ទឹកចិត្តគ្រូបង្រៀនបានដើរតួយ៉ាងសំខាន់ដូចនឹងពាក្យថា "គ្រូបង្រៀនជាវិស្វករព្រលឹង" ក្នុងការបណ្តុះស្មារតី ការលើកទឹកចិត្ត និងការទំនុកបម្រុងក្នុងដំណើរភាពជោគជ័យនៃការសិក្សារបស់សិស្សនារីនៅពេលមានបញ្ហាប្រឈមនៃភាពអស់សង្ឃឹម និងការបាក់ទឹកចិត្តជាដើម។ ជាសន្និដ្ឋានរួម កាលណាកម្រិតជីវភាពឪពុកម្តាយកាន់តែលំបាក និស្សិតនារី នឹងទទួលរងផលប៉ះពាល់ពីសម្ពាធគ្រួសារកាន់តែធ្ងន់ ហើយចុងក្រោយអាចឈានទៅរកការបោះបង់សិក្សា។ ជាអនុសាសន៍

ចំពោះការកែលម្អ និងសាងសង់អគារអន្តេវាសិកដ្ឋាន៖ ពង្រឹង និងពង្រីកគោលនយោបាយនៃការបន្ត អភិវឌ្ឍការកសាងអគារអន្តេវាសិកដ្ឋានក្នុងសាកលវិទ្យាល័យ ដើម្បីសម្រួលបន្ទុកនៃការចំណាយរបស់ និស្សិត និងកាត់បន្ថយក្តីបារម្ភពីសំណាក់ឪពុកម្តាយក្នុងអំឡុងពេលសិក្សា។ ចំនួននិស្សិតស្នាក់នៅគួរ តែរៀបចំត្រឹម៤រូប ឬ៦រូបច្រើនបំផុតក្នុងមួយបន្ទប់ ហើយគួរបំពាក់គ្រែដែលមានពីរជាន់(ថ្នាក់) ដើម្បី សន្សំទីកន្លែង និងសម្រួលដល់និស្សិតធ្វើស្ងួយសិក្សា។ ក្រសួងអប់រំគួរពិចារណាសិក្សាលទ្ធភាពក្នុងការ តម្លើងប្រាក់អាហារូបករណ៍ជូនដល់និស្សិត បើក្រសួងមិនមានលទ្ធភាពតម្លើងប្រាក់អាហារូបករណ៍ដល់ និស្សិតទាំងអស់ទេ (១០០%) ជាទស្សនអ្នកស្រាវជ្រាវគឺសុំត្រឹមនិស្សិតអាហារូបករណ៍នារី (១៥%) និស្សិតជួបការលំបាក (២០%) និងតំបន់ដាច់ស្រយាល (៥%) ដើម្បីលើកកម្ពស់សុខភាពរស់នៅ និងការអប់រំដល់ប្រជាពលរដ្ឋ។ តាមទស្សន:និស្សិតនារីម្នាក់សំណើសុំតម្លើងរហូតដល់ចំនួន ១៥ ម៉ឺន រៀល ពីលើប្រាក់ខែបច្ចុប្បន្នក្នុងមួយខែ ចំណែកទស្សន:សាកលវិទ្យាធិការ(រង) និងសាស្ត្រាចារ្យ ទទួលបន្ទុកសំណើសុំតម្លើងរហូតដល់ ២០ម៉ឺន ទៅ ២៨ម៉ឺនរៀល ក្នុងមួយខែ។

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