**Guidelines for the Thesis Writing**

Master of Education in Mentoring Program

New Generation Pedagogical Research Center

National Institute of Education

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*Foreword*

This e-guidebook informs the procedures followed by the New Generation Pedagogical Research Center (NGPRC) for students who are writing theses for their master's degree in Mentoring. This e-manual is also intended to guide M.Ed. students in the elements and structure generally contained in a thesis report. It also contains recommendations about the writing and the revision process and a few tools in appendixes to facilitate the work. The graduate students are advised to refer to it regularly, at different stages of their research work.

# Table of Contents

# EXPECTATION

## What is Expected in a Thesis?

Thesis is known as academic research; it is an essential component of graduate studies and the highest level of learning. The thesis is often seen as the completion of graduate work. Nevertheless, a thesis is more than just a big assignment. It is the first step in becoming an expert in the field of your choice. It is also a research work that can bring concrete benefits to the community. You should approach this project with your potential readers in mind, not only the examiners who will score you at the end of your thesis defense, but all the people who might be interested in your topic. This point does not mean that all the theses should be groundbreaking. In fact, it is rather unlikely that it will revolutionize pedagogical knowledge. Major discoveries require a lot of time, resources, and luck. They are beyond the scope of a master's thesis. However, your thesis can make a change on a smaller scale. Take it as a model of the research you might have to conduct as a mentor, in your school, your district or your project. For instance, you might conduct interviews or organize a survey to inform your principal on the reasons why the students drop out of school, or to inform donors about the effectiveness of the pedagogical workshops they are funding. Similarly, your thesis can be significant for the students and the teachers at the schools where you do your investigations. It is better to find a small useful idea that is applicable in the classroom than to design a grandiose theory without evidence.

A thesis requires the work of many professional people in the field of study, in particular the *Major Supervisor* and the *Advisory Committee*. These two components help the master's student to create a significant professional experience and shape the resulting thesis. One of the essential aspects of graduate work is communication between the major supervisor and the student. Situations, approaches, and personalities vary and can make good communication challenging. In any case, the students are responsible for the progression and the quality of their work. They must take the initiative to solicit the help of their supervisor or other advisers when necessary.

## Basic Requirements

As a research work, a thesis requires some creativity. However, it is also a scholarly activity that follows strict rules and conventions. The thesis structure and conventions serve several purposes. One is to provide quality control to check the intellectual competences of the candidate and compare them with the standards of the field. The second reason is to

facilitate understanding by the readers of the thesis. Those readers are scholars, but not necessarily experts in your specific topic. However, the conventions are not intended to facilitate the understanding by people unfamiliar with academic writing. Academic writing has its own rules that differ from vulgarisation articles or from the daily press.

The mini thesis should be at least 30 pages long in English or 35 pages long in Khmer for the core content (chapters 1 to 6), without counting cover page, table of content, references, appendices etc. This requirement is less than the other master's degrees because students have an extended mentoring practicum by the end of the academic year.

## Language

To make the research findings accessible to Cambodian teachers and scholars, we encourage the trainees to write in Khmer, but the trainees can decide to write in English instead. That decision must be approved by the supervisor who will check the ability of the candidate to write long documents in that language.

In any case, the thesis should use sources and references in English, to ensure a wider and stronger academic basis in the international literature.

The abstract must be written in English and Khmer, for referencing.

## Communication with the Major Supervisor

In doing the thesis, communication with the assigned supervisor is crucial, and supervisees need to meet him/her every Wednesday. Supervisees must keep updating their work with the assigned supervisor, revise the tasks based on his/her comments, and follow the deadlines assigned by him/her.

## Academic Integrity

Scholastic honesty is required in this M.Ed. in Mentoring program at the New Generational Pedagogical Research Centre; it is a significant part of the academic community and contributes to your graduate degree's value. Therefore, all works submitted must be the original work of students. Copying or representing the work of anyone else (in print, from the internet and/or book, or another student) as your own is considered plagiarism and cheating; these actions are not acceptable in this M.Ed. in Mentoring program at the New Generational Pedagogical Research Centre.

To avoid plagiarism, students must understand different forms of academic crime and format their thesis in APA 7th edition (see *Appendix 4* below).

## Sources

Dhammi, I. K., & Haq, R. U. (2016). What is plagiarism and how to avoid it? *Indian Journal of Orthopaedics*, *50*(6), 581. 10.4103/0019-5413.193485

Plagiarism is the fact of presenting others' intellectual work as if it were your own work. Plagiarism is a crime punishable by law, as well as professional misdemeanor. Beside potential punishment, it undermines your professional credibility and compromises the skill set that you are supposed to acquire through your thesis writing. There are many forms of plagiarism.

**Verbatim plagiarism:** When one submits someone else's words verbatim in his/her own name without even acknowledging him publicly. Copying and pasting from a published article without referencing is a common form of verbatim plagiarism. Most commonly, it is seen in the introduction and discussion part of the manuscript.

Beside that very crude form of plagiarism, there are a few others, a little more subtle, but not more acceptable.

**Mosaic plagiarism:** In this type of plagiarism each word is not copied but it involves mixing one's own words in someone else's ideas and opinions. This is copying and pasting in a patchy manner.

**Paraphrasing:** If one rewrites any part/paragraph of the manuscript in his/her own words it is called paraphrasing. Paraphrasing is a restatement in your own words, of someone else's ideas. Changing a few words of the original sentences does not make it your writing. Just changing words cannot make it the property of the borrower; hence, this should be properly referenced. If it is not referenced, it will amount to plagiarism.

**Self-plagiarism:** "Publication of one's own data that have already been published is not acceptable since it distorts scientific record." Self-plagiarized publications do not contribute to scientific work; they just increase the number of papers published without justification in scientific research. The authors get benefits in the form of the increased number of published papers. Self-plagiarism involves dishonesty but not intellectual theft. In particular, it is forbidden to recycle a thesis or articles that you have already submitted to another university in order to graduate from NGPRC.

**Cyber plagiarism:** "Copying or downloading in part or in their entirety articles or research papers and ideas from the internet and not giving proper attribution is unethical and falls in the range of cyber plagiarism".

**Image plagiarism:** Using an image or video without receiving proper permission or providing appropriate citation is plagiarism.[7] "Images can be tampered on support findings, promote a specific technique over another to strengthen the correctness of poorly visualized findings, remove the defects of an image and to misrepresent an image from what it really is"?

*To avoid academic crime, also consult with https://www.scribbr.com/

# WRITING PROCEDURES

## Typing a Long Document

To avoid anything messy and save much time, the basic principle is to do as little formatting as possible until the document is fully revised, and you are sure that your text is final. First think. Then check. Finally, format. The only formatting that students should do during the writing stage consists in structuring the thesis by using the appropriate functionalities of the word processing software, namely Microsoft Word or Google Docs, as follows:

- Headings. No need to number the chapters and sections. Normally, you can do it automatically with the layout functions. This will allow you to create the table of content automatically.
- References. Use the APA style. Register each source individually in Microsoft Word or a dedicated software. Then, use the button "Insert Citation" or equivalent when needed. This will allow you to create the bibliography automatically and will avoid mistakes with the APA style.
- Similarly, add captions to all the tables, charts, or illustrations you insert.
- Bullet lists.

When you copy-paste a document, make sure that the formatting is consistent. Generally, the best pasting option is "text-only".

If necessary, you can copy any formatting by using Ctrl + Shift + C. Then, select whatever text you want to modify and press Ctrl + Shift + V.

## Emphasis

Use emphasis with parsimony. The most useful format is *italics*, especially for citations or foreign words. It emphasizes gently, without disturbing reading. But for long quotes, it is preferable to use the "Quote" style next to the headings. **Bold** is much more aggressive and should be used only for very special reasons. There is almost no good reason to underline or highlight anything. Using ***several methods*** to emphasize at the same time is tantamount to SCREAMING and is considered impolite.

## Fonts

Use fonts with parsimony. Generally, one or two different fonts and two or three font sizes are sufficient.

The most useful fonts are the following (see *Appendix 4: NGPRC Formatting Requirements*) for more details:

- **Khmer titles and headings:** Khmer OS Muol Light, size 14, no emphasis
- **Khmer body:** Khmer OS Siemreap, size 11, line spacing 1.5
- **English titles and headings:** Times New Roman, size 14, bold
- **English body:** Times New Roman, size 12, line spacing 2.0

Line spacing must be double for the English text to facilitate the revision process whereas Khmer text must be 1.5 only.

The best strategy is to use the fonts in the provided template without modifying them.

# REVISION PROCESS

## Naming Files

Your draft thesis will go back and forth between yourself, your supervisor, and other examiners. It is essential that you name your files properly to keep track of the latest versions.

Author_title of the document_version

**For example:**

KonVesna_ThesisProposal_V1

KonVeasna_ResearchInstruments_V1

KonVeasna_Thesis_V1

The reviewers, be it a supervisor or anyone else, will rename the file before making any comment, and activate the "Track Changes" button on Microsoft Word.

**For example:**

KonVesna_ThesisProposal_V1_Reviewed_Stanislas

When you receive the comments of your supervisor, create a copy of the file, and change the version number.

**For example:**

KonVesna_ThesisProposal_V2

Students are recommended to rename the document and increment the version number each time they share it with someone else. Do not be afraid of creating 10 or 15 versions of your document. It will make your life much easier. By doing so, you will avoid wasting your time and risking the loss of your precious work.

## Steps in the Writing Process

For the deadlines, please see the Appendix 3: Calendar.

## Choosing the Topic and Concept Note

The topics are chosen by the students with the approval of a supervisor of NGPRC. The supervisors can be any faculty member of NGPRC, depending on their availability.

The topics must be related to educational issues. Graduate students are strongly encouraged to choose a topic related to issues they have encountered or witnessed during their teaching practice. Remember that the ultimate goal of educational research is to improve student knowledge .

A good thesis topic should be specific and researchable within a reasonable amount of time.  Of course, the supervisors will ensure that the investigations can be conducted ethically, i.e., without harming anyone physically or morally. The thesis will receive special scrutiny if the participants of the study are children.

The topic must be explained in a concept note before the end of October.

That concept note will provide a general image of what kind of problem you are seeking to research. It explains to your supervisor why you have chosen your topic. With a clear understanding of your intentions, he will be able to provide you with better guidance. The concept note comprises:

- A research topic (the topic should be about a specific issue and based on what you are interested in, and also be attainable and feasible)
- Background (information related to what you are going to study, from the broad context to specific points)
- Research objectives
- Research questions

## Literature Review

The literature review is an important part of any research. It is an ongoing process that starts before the choice of the topic and might be achieved only when you draw your final conclusions. There are several reasons for doing a literature review.

The first one is to check whether your research is needed. Before you spend months investigating a topic, check what other scholars have said about it and look for gaps in the existing knowledge. Do not waste time looking for information that is already available in textbooks and official reports.

The second reason is to get background information on your topic. It is strongly recommended to start with a textbook related to it, for instance textbooks on teaching methodology or psychology in order to get a comprehensive picture before looking into the

details. It is ill-advised to jump into the latest academic articles without knowing how those articles take place in the existing knowledge. Most research articles are narrow in scope or take risks with their hypotheses. You will need background knowledge to evaluate their quality. Another way to get the big picture is to look at official publications from MoEYS or other institutions.

Another reason to do a literature review is to check facts. That is why you might need to complete your literature review even when you have almost finished your data analysis.

## Proposal Defense

The purpose of the proposal defense is to ensure that your research methodology is solid and that you have reasonable chances to find the information you want when you conduct your data collection.

The proposal defense must include:

- The background of the study,
- The statement of the problem,
- The significance of the study,
- The research objectives and research questions,
- The research methodology with a valid sampling method,
- And most importantly, complete research instruments, such as survey questionnaires, interview guides, observation guides and so on.

A strong literature review will justify your research topic and approaches but is not as critical as the above-mentioned points.

Students are advised to submit any draft that they have made when the deadline comes. The Proposal Defense is also an opportunity for the faculty of NGPRC to advise the students who might be stuck in the writing process.

For more guidance to make strategic decisions about your research project, please check the *Appendix 6: Questions to Choose the Topic and the Research Methodology*.

## Data Collection and Analysis

Your research methodology must be approved by your supervisor before you can collect your data. This precaution is essential. In effect, it is not always possible to redo a data collection that has been poorly managed. Respondents might be reluctant to contribute twice

to the same project, and data that are seriously biased might be impossible to interpret. With the proposal defense and the advice of your supervisor, you will make sure that your data collection has reasonable chances to be successful.

### Mock Defense

The mock defense will happen in August. For the mock defense, you should prepare a complete first draft of your thesis, with all the expected chapters. In particular, you will present your preliminary findings and your first conclusions. This defense is an opportunity for you to receive recommendations from the committee before doing the final revision of your thesis. It is not supposed to be perfect.

### Final Defense

It is the final stage that will decide your graduation. During the defense, the committee will decide whether to validate your thesis from an academic perspective.

**Before final defense**

The students should submit the draft of the thesis report to their supervisor first, at least 2 weeks before the official submission, and the printed thesis report should be submitted at least 3 weeks before the defense so that the advisory committee members can have enough time to proofread the papers in advance. An updated calendar will be provided.

**During and after the defense**

Students will receive some comments from the advisory committee members, and temporary scores will be given immediately on the defense date. Yet, students must fill in the correction form and revise their report within 2 weeks.

For more details on how to prepare your defense, please refer to the dedicated section below.

### Permission to Print

Students will have two weeks after the final defense to fill in the correction form (see *Appendix 1: Thesis Correction Report*) and revise the thesis according to the advisory committee members' comments.

Advisory committee members may spend between 2 to 3 weeks cross-checking the correction form and revised thesis report. Grades will be finalized after that if it has been evaluated as satisfactory.

Students can print five copies of the thesis when they see the official scores of their thesis report signed by the Minister of Education, Youth and Sport.

Copies of the thesis will be kept in the NGPRC building, in the NIE library and other libraries for anyone to read.

The electronic version might be shared with external partners to inform them on the topic of the thesis or to showcase the capacities of NGPRC students.

# THE THESIS DEFENSE

## What is Defense?

A defense does not mean that you must be aggressive in your argumentation, nor that the committee will try to make you fail. Instead, you must be ready to defend your point of view and your work in front of people who do not necessarily share the same opinions of yours.

## Having a Thesis to Defend

State your main idea clearly. A thesis is not just the document that you have produced. It is also the idea that you want to prove to your audience.

To find the core thesis, you start with sentences like: "After investigation the students' outcomes, I am convinced that…" or "I've found that… and I have evidence for it".

The committee wants to know about your conclusions. If you are not certain of them, you can at least say something like: "Here are the unexpected phenomena that I have observed, and I have a few hypotheses to explain them."

## Practical Organization

## Being Authorized to Defend

Your thesis must be approved by your supervisor before you are authorized to defend it in front of the committee.

Your thesis must be complete, with all the annexes, literature review, and abstracts. It should be sent one month in advance to the faculty of NGPRC, who will forward it to the committee members.

## Time/Duration

The candidate will defend his/her thesis for 25 minutes. This will be followed by 35 minutes of questions and answers.

## Composition of the Committee

The committee is composed of the faculty members of NGPRC, with the exception of your supervisor.

Other scholars will be invited to join the committee, in order to provide an external point of view.

The Presentation

It is expected that you will support your defense with a slideshow, especially if you have statistical evidence to display. Keep it clean and simple. A slideshow is meant to support your speech, not to duplicate or replace it.

Practice your presentation. Microsoft PowerPoint has an integrated timer that appears when you start your show. It is useful to check the duration of each explanation.

Micorsoft PowerPoint allows you to write notes for yourself. These notes are not displayed in the slideshow but can help you do a better presentation. This can include comments about how to present, or additional facts you want to keep with you in case of a question, e.g., statistics that you think might prove your point, but you don't have time to explain.

Knowing Your Topic

Revise your findings.  Read your thesis again and again, including your data.

This will not only allow you to correct the last mistakes. It will also make you more familiar with the information you have gathered. You will need it to answer the questions of the committee, even unexpected questions.

Slide Design

- Have a maximum of 20 slides which cover from introduction chapter to the last chapter of conclusion and recommendations.
- Balance the number of slides for each chapter.
- In one slide, write 4 or 5 bullet points and 1 bullet point contains no more than 10 words (not a paragraph nor a full sentence).
- Use consistent format and layout and font size for the whole slide design (for font size at least 26 and no more than two font sizes are used).
- Include some clear and attractive graphs, charts, pictures and other visual aids in the slide design to capture attention and facilitate the understanding of examiners and audiences.
- Try to minimize the use of animations or avoid using them if possible.
- Use 1 or 2 colors to emphasize the important information.

## Presentation Delivery

- Never exceed the time given (25 minutes) or the examiners will stop your presentation.
- Make sure materials that you need for your presentation are available and usable and can be seen and heard by examiners and audiences.
- Never read and recite your work. Try to explain the points presented.
- Present your study accurately and fluently with the according speed.
- Make your presentation professional not personal. Avoid bias.
- Remember your gestures, eyes contact, and voice projection can improve the quality of your presentation.
- Start your presentation with a good warm-up and hook and end it by giving the floor for questions and comments.
- Rehearse your presentation before the real defense. It will help you realize the time you need to spend, inform you which parts you should add or exclude and increase your confidence.

## Preparing the Q&A Session

Prepare for the most likely questions but take time to listen to the committee members. There are no standardized questions. It depends on the understanding of the committee members. After your answer, it is safe and polite to check if it is satisfactory: "Does that answer your question?" You can also ask a committee member to clarify his question. It shows that you really care about his concerns.

Be ready to explain your methodological choices.

Make sure that you have clear definitions of your key concepts. Committee members might not be familiar with all the dimensions of your topic. For instance, they are not supposed to know all the schools and institutions that you mention. Be careful with acronyms that are significant only in a specific context.

On the contrary, it is perfectly possible that they master the topic so well that they can navigate between several operational definitions of the same concept. If so, they will ask you to clarify your vocabulary, without assuming that you are on the same page. Big ideas, such as constructivism or collaborative learning can have very different meanings depending on the author or the context.

Distinguish your findings and your hypotheses. Be aware of the limitations of your research. Do not try to hide them. Rather demonstrate your critical thinking. Suggest further steps to investigate your topic, imagining that you are given more time or resources to do it.

Make sure you understand questions clearly, if not, ask the examiners or audiences to repeat or simplify them for you. Always show respect and gratitude for questions and comments on your work from the examiners and audiences.

Note the questions and comments carefully. You can ask your classmate to help you with that.

Knowing all the locations of all information in your slides and thesis will help you quickly and accurately direct examiners and audiences to the information and show that you know your work well.

Answer the questions straight to the points with justification and explanation.

## Criteria

### Scientific Validity and Integrity

Scientific validity and integrity do not imply that all the parts of your thesis must be true. Researchers often make mistakes. Trials and errors are parts of the research process, and debates are essential to the search for the truth. Your thesis can be validated even if committee members disagree with your conclusions, as long as your position can be legitimately believed.

You must however demonstrate that you are genuinely and professionally aiming toward the truth:

- You follow recognized methods of investigation.
- You do not falsify your data, but you present them in an honest way, even if they don't seem to support your opinion.
- You accept critics on your work, and you try to improve it. You show that you are open-minded, especially during the Q and A session.
- You acknowledge the work of other researchers by quoting them along the rules and you don't commit plagiarism.
- You comply with the law in your data collection and in the way you use it.

- You take concrete measures to protect those who are involved in your research, especially your interviewees and the children (ethical consideration in your study).

## Interest of the Research

You demonstrate the originality of your research or at least its utility in a specific context. There are many criteria to judge of it. It is impossible to list everything but consider the following points:

- The completeness and the quality of your data
- Your analysis skills and the profoundness of your interpretation
- Your problem-solving skills and your ability to understand a concrete situation
- Use of up-to-date material (literature review) and investigation techniques
- Quality and relevance of the literature
- Your interpretation of your data in a concrete and meaningful way
- The practicality of your recommendations, if any.

## Respect of the Conventions of the Exercise

Follow the requested formats faithfully. It is a matter of clarity and politeness for those who read your work.

- Provide the expected abstracts (number of words).
- Use the APA style, for all quotes and references.

## Presentation Skills

- Politeness
- Clarity of your explanations
- Clarity of the concepts
- Knowledgeability and erudition
- Depth and accuracy of your answers.

## Decision of the Committee

After the defense the committee can make 3 kinds of decision:

- Approving your thesis,
- Asking you to make some minor changes before publication,
- Adjourning the thesis and requesting you to change your methodology or topic.

# SCORING SYSTEM

25% Model

There are three advisory committee members in the evaluation of the quality of the thesis report and each of them contributes 25% to the total scores: altogether 75%. In addition to the committee's evaluation, the major supervisor is also taking part in scoring his/her supervisee for another 25%.

The passing score is an average of 60 points over 100 points. However, this score does not mean that the thesis is ready for publishing. After the defense, the candidate will be asked to make minor or major revisions in order to provide a pristine text that can be published and shared with the partners of NGPRC. Beyond the validity of the graduation process, this is a matter of good reputation for both the NGPRC and the candidate.

For more information about the scoring criteria, please see the *Appendix 2: Scoring Rubric for Mini-Thesis Defense.*

## Appendix 1: Thesis Correction Report

**M.Ed. in Mentoring Program**

**Supervisee and Supervisor's Thesis Correction Report**

| Supervisee's Information | | | |
|---|---|---|---|
| Family Name | | Given Name | |
| Supervisor's Name | | | |
| Advisory Committee | | | |
| Title of the Thesis | | | |

**Part A: Detailed Report (To be completed by the supervisee)**

| Advisory Committee's Name | Extract of advisory committee's comments/requirements with page(s) included | Corrections/revisions made by the supervisee | Revised page reference |
|---|---|---|---|
| Mr. Kong Maneth | A. Revise the significance of the study (p. 9)<br>B. Specify research questions (p. 13)<br>C. Order the reference list into the alphabetical order (pp. 56-59) | A. ………………………………………<br>B. ………………………………………<br>C. ……………………………………… | pp. 9, 13, 56-59 |
| Dr. Sun Somara | A. Align the text of the thesis to the left to meet the APA format (all pages)<br>B. Revise the in-text citations on pages 22 to 35. They are not accurate to the APA format (pp. 22-35) | A. ………………………………………<br>B. ……………………………………… | pp. 22-25 |
| Mr. Stanislas Kowalski | A. The research instrument does not really match with the research purposes and questions. Revise the instrument (pp. 60-62) | A. ………………………………………<br>B. ……………………………………… | pp. 60-62 |

**Part B: Confirmation by the Supervisor and the Program Coordinator**

**Confirmation by the Supervisor**

I confirm that I have examined the corrected copies of the research proposal/thesis by the above-mentioned student

| |
|---|
| |

with the title of:

I have read the advisory committee' comments and requirements, and I can confirm that the candidate has completed the corrections as required by the advisory committee. I recommend that the thesis now be submitted for re-examination.

Supervisor's signature: _____

Date: _____

**Confirmation by the M.Ed. in Mentoring Program Coordinator**

I confirm that I have re-examined the corrected copy of the thesis by the above mentioned student with the title of:

|  |
|---|
|  |

The responses and adjustments to the comments and requirements have been appropriately addressed, and, therefore, the thesis has met the requirement for submission. I strongly recommend the final revised thesis be accepted and worth grading.

Coordinator's signature: _____

Date: _____

Appendix 2: Scoring Rubric for Mini-Thesis Defense

## Academic Year: 2022-2023

Defense Date    : _____
Student Name    : _____
Thesis Title      : _____
_____

**Scoring procedures for the thesis committee**

- Examiners score the candidate's thesis from **aspects 1 to 5** a few days before the defense date, score **aspects 6 and 7** during the defense, and score **aspect 8** right after the defense.

**Scoring procedures for the major supervisor**

- The major supervisor scores the supervisee's thesis from **aspects 1 to 8** expect aspects 6 and 7**.** Since the supervisor has worked with the candidate for the whole year, **aspect 8** can be scored up to **50 points** rather than **30 points**.

| Aspect | Scale | Comment & Feedback | Score |
|---|---|---|---|
| **1. Introduction (rational and problem statement, research objectives, and research questions)** | ☐ ⑤ **Excellent (9-10) -** provides a complete and excellent well-organized overview statement, problem statement, and clear and researchable objectives with researchable questions. <br> ☐ ④ **Very Good (7-8) -** contains a complete and well-organized overview statement, problem statement, research objectives, and research questions. <br> ☐ ③ **Good (5-6) -** Contains a complete but somewhat disorganized overview statement, problem statement, research objectives, and questions. <br> ☐ ② **Fair (3-4) -** provides short and unclear research objectives and questions. <br> ☐ ① **Poor (0-2) -** provides no overview statement, very vague research objectives and questions. | | |
| **2. Literature Review** | ☐ ⑤ **Excellent (9-10) -** provides relevant and excellent organized literature that supports the objective(s) of the study. <br> ☐ ④ **Very Good (8-9) -** provides relevant and well-organized literature that supports the objective(s) of the study. <br> ☐ ③ **Good (6-7) -** provides somewhat relevant and well-organized literature. | | |

| | | | | |
|---|---|---|---|---|
| | | ☐ ② **Fair (3-5)** - provides very few relevant and it is not well-organized. | | |
| | | ☐ ① **Poor (0-2)**: provides irrelevant and disorganized. | | |
| 3. | **Methodology** | ☐ ⑤ **Excellent (9-10)**: provides a complete and excellent research design, sample size and sampling techniques, data collection procedure, research instrument, and ethical consideration. <br> ☐ ④ **Very Good (7-8)**: provides a clear research design, sample size and sampling techniques, data collection procedure, research instrument, and ethical consideration <br> ☐ ③ **Good (5-6)**: provides a complete but somewhat unclear research design, with sample and sampling techniques, data collection procedure, research instrument, and ethical consideration. <br> ☐ ② **Fair (3-4)**: provides unclear on that chapter. <br> ☐ ① **Poor (0-2)**: very vague and irrelevant to the objective. | | |
| 4. | **Results/findings (analysis) and discussion** | ☐ ⑤ **Excellent (9-10)**: made significant findings that are evidence-based, accurate, and clearly expressed. <br> ☐ ④ **Very Good (7-8)**: made significant findings that are somehow accurate and clearly expressed. <br> ☐ ③ **Good (5-6)**: made some significant findings or findings are inconclusive. <br> ☐ ② **Fair (3-4)**: made few significant findings and some have not met objectives. <br> ☐ ① **Poor (0-2)**: made no significant findings and has not met the objectives. | | |
| 5. | **Conclusions and Recommendations** | ☐ ⑤ **Excellent (9-10)**: provides a concrete conclusion and appropriate recommendations. <br> ☐ ④ **Very Good (7-8)**: provides a good conclusion and appropriate recommendations. <br> ☐ ③ **Good (5-6)**: provides somewhat clear conclusion and somewhat appropriate commendations. <br> ☐ ② **Fair (3-4)**: provides unclear on that chapter. <br> ☐ ① **Poor (0-2)**: not provide the conclusion of the finding and recommendations. | | |
| 6. | **Organization on Slide Presentation** | ☐ ⑤ **Excellent (9-10)**: is excellently organized, moving from general topics to specific details; provides an excellent explanation of the work. <br> ☐ ④ **Very Good (7-8)**: is well-organized, moving from general topics to specific details; provides a good explanation of the work. <br> ☐ ③ **Good (5-6)**: is mostly well organized and provides a good explanation. <br> ☐ ② **Fair (3-4):** is somewhat disorganized and provides too much detail without giving a good explanation of the work. <br> ☐ ① **Poor (0-2)**: is disorganized and deals completely with details without providing a broad explanation of the work. | | |
| 7. | **Response Questions and Answers** | ☐ ⑤ **Excellent (9-10)**: answers all questions clearly, precisely, and accurately. <br> ☐ ④ **Very Good (7-8)**: answers most of the questions clearly and accurately. <br> ☐ ③ **Good (5-6)**: answers some of the questions clearly and accurately. <br> ☐ ② **Fair (3-4)**: answers a few questions well. <br> ☐ ① **Poor (0-2)**: answers none of the answer questions well. | | |

| | | | |
|---|---|---|---|
| **8. Mini Thesis Paper (Overall Content Evaluation)** | ☐ ⑤ **Excellent (25-30)**: Demonstrates a high level of mastery of knowledge related to the field of study, the selected topic, and research design. Is appropriate for publication or presentation with little or no revision.<br>☐ ④ **Very Good (19-24)**: Demonstrates a proficient level of knowledge related to the field of study, the selected topic, and research design. May be appropriate for publication or presentation with major revision.<br>☐ ③ **Good (13-18)**: Demonstrates a basic level of knowledge in the field of study, the selected topic, and research design. Is not appropriate for publication or presentation without significant revision.<br>☐ ② **Fair (7-12)**: Demonstrates lack of knowledge in the field of study, the selected topic, and research design. Not appropriate for publication or presentation.<br>☐ ① **Poor (0-6)**: Demonstrates poor knowledge in the field of study, the selected topic, and research design. Not appropriate for publication or presentation. | | |
| | | **Total Score (100%)** | |

**Evaluation Possibilities for the Final Defense**

| ☐ ① Poor (a score of 0 to 30) | ☐ ② Fair (a score of 30 to 50) | ☐ ③ Good (a score of 50 to 70) | ☐ ④ Very Good (a score of 70 to 85) | ☐ ⑤ Excellent (a score of 85 to 100) |
|---|---|---|---|---|
| The students who get a score in this range will be asked to redo the thesis. | The students who get a score in this range will not be allowed to publish and need major revision. | The students who get a score in this range will graduate after doing major revisions to publish. | The students who get a score in this range will be approved to publish the thesis or made some changes. | The students who get a score in this range will be approved to publish the thesis or made minor changes. |

**Overall Comments:**

Signature : _____

Examiner's Name : _____

Date : _____

## Appendix 3: Calendar

Here are the main steps in the research process. Your supervisor might decide other milestones to ensure that the deadlines are respected. For instance, he can tell you when to complete the literature review, when to submit a draft of the research instruments and so on.

- **20th September 2022:** Choice of a supervisor. The students express their wish regarding the choice of a supervisor.
- **October 2022:** Concept note. The exact date of submission is decided by the supervisor.
- **8th February 2023:** Submission of the thesis proposal (soft copy).
- **22nd February 2023:** Proposal defense.
- **Between March and June:** Data collection. The students must obtain the approval of their supervisor and a permission letter from the manager of NGPRC before collecting the data.
- **June and July:** Data analysis.
- **28th July2023:** Submission of the thesis draft in preparation for the mock defense (soft copy).
- **14th to 16th August 2023:** Mock defense.
- **November 2023:** Submission of the final thesis (soft copy first, then hard copy with plastic cover).
- **December 2023:** Final defense.
- **February 2024:** Submission of 5 hard copies of the thesis (blue cover) for storage in libraries.

# Appendix 4: NGPRC Formatting Requirements

## Sample of the Cover Pages of Thesis (English Version)

**វិទ្យាស្ថានជាតិអប់រំ**

**NATIONAL INSTITUTE OF EDUCATION**

**មជ្ឈមណ្ឌលស្រាវជ្រាវគរុកោសល្យជំនាន់ថ្មី**

**NEW GENERATION PEDAGOGICAL RESEARCH CENTER**

ការអប់រំពីចម្ងាយអំឡុងពេលជំងឺរាតត្បាត កូវីដ-១៩ នៅសាលា
បឋមសិក្សាកំរុស្រុកស្ទឹងនិគម៖ មតិយោបល់ របស់គ្រូ និងសិស្ស
ស្ដីពីបញ្ហាប្រឈម

**Distance Education during Covid-19 Pandemic
at Komru Srok Sotnikum Primary School: Teacher's and
Student's Voices on Challenges**

**A Mini-Thesis
In Partial Fulfilment of the Requirement for
Master's Degree of Education in Mentoring**

**Ean Ratha**

**August 2022**

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**វិទ្យាស្ថានជាតិអប់រំ**

**NATIONAL INSTITUTE OF EDUCATION**

**មជ្ឈមណ្ឌលស្រាវជ្រាវគរុកោសល្យជំនាន់ថ្មី**

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បឋមសិក្សាកំរុស្រុកស្ទឹងនិគម៖ មតិយោបល់របស់គ្រូ និងសិស្សស្ដី
ពីបញ្ហាប្រឈម

**Distance Education during Covid-19 Pandemic
at Komru Srok Sotnikum Primary School: Teacher's and
Student's Voices on Challenges**

| | | |
|---|---|---|
| **Supervisee** | : | **Ean Ratha** |
| **Supervisor** | : | **Mr. Stanislas Kowalski** |
| **Thesis Committee** | : | 1. H.E. Dr. Chan Roath |
| | | 2. Dr. Sun Somara |
| | | 3. Mr. Kong Maneth |
| | | 4. Mr. Chi Kim Y |

**August 2022**

## Sample of the Cover Pages of Thesis (Khmer Version)

**វិទ្យាស្ថានជាតិអប់រំ**

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ការយល់ឃើញរបស់គ្រូនិងសិស្សនៅលើការអនុវត្តវិធីសាស្ត្រ
បង្រៀនតាមបែបរិះរក លើមុខវិជ្ជាគីមីវិទ្យានៅកម្រិតមធ្យមសិក្សា
ទុតិយភូមិ នៅសាលារៀនជំនាន់ថ្មី នៃវិទ្យាល័យ
ព្រះស៊ីសុវត្ថិ

**Perceptions of Teachers and Students on Implementing
Inquiry-Based Learning of Chemistry Subject at Upper
Secondary Level in New Generation School of Preah Sisowath
High School**

សារណាថ្មី
សម្រាប់ផ្គត់ផ្គង់បញ្ញាបត្រជាន់ខ្ពស់អប់រំ ឯកទេសប្រឹក្សាគរុកោសល្យ

**ឈិន លីន**

**សីហា ២០២២**

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**វិទ្យាស្ថានជាតិអប់រំ**

**NATIONAL INSTITUTE OF EDUCATION**

**មជ្ឈមណ្ឌលស្រាវជ្រាវគរុកោសល្យជំនាន់ថ្មី**

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បង្រៀនតាមបែបរិះរក លើមុខវិជ្ជាគីមីវិទ្យានៅកម្រិតមធ្យមសិក្សា
ទុតិយភូមិ នៅសាលារៀនជំនាន់ថ្មី នៃវិទ្យាល័យ
ព្រះស៊ីសុវត្ថិ

**Perceptions of Teachers and Students on Implementing Inquiry-
Based Learning of Chemistry Subject at Upper Secondary Level
in New Generation School of Preah Sisowath High School**

| | | |
|---|---|---|
| បេក្ខជន | : | ឈិន លីន |
| គ្រូណែនាំ | : | លោក បាញ ហានម៉ាន់ |
| គណៈកម្មការការពារសារណា | ១. | បណ្ឌិតសភាចារ្យ ច័ន្ទ រ័ត្ន |
| | ២. | បណ្ឌិត សុន សុម៉ារ៉ា |
| | ៣. | លោក គង់ ម៉ានែត |
| | ៤. | លោក ជី គីមអ៊ី |

**សីហា ២០២២**

Alignment, Margin, and Line Spacing (English Version)

Indent: 0.5 inches

Line spacing: 2.0

Alignment: to the left

## CHAPTER 1: INTRODUCTION

This chapter introduces the causes of how and why this study happened. This chapter presents the background of the study, statement of the problem, research purposes, research objectives, research questions, significance of the study, and operational definition of key terms.

### 1.1 Background of the study

Since Cambodian educational reform started in 2014, building teacher quality is prior to improve education (Hang, 2018). Ministry of Education, Youth, and Sport (MoEYS) and donors have funded seminars on various topics over the years as their primary goal of enhancing classroom instruction (NGPRC, 2021). The expectation is that the teachers possess content knowledge and teaching skills that lead to the success of all learners in today's classroom. However, studies have indicated that only 10% of the apparent change in teachers' actions can be attributed to direct training (NGPRC, 2021). About 70% of observed change is attributable to direct and quick feedback from practitioners regarding their teaching (for example, via mentoring).

With the popularity of mentoring, numerous scholars have found mentoring is a method to assist teachers as it introduces teachers to the reality of the classroom. The mentor is a fundamental element of the mentoring process (Wyre et al., 2016). Mentors are the most critical resource for teachers' teaching. Mentors supervise the teachers while providing them opportunities to make instructional decisions independently. In addition, mentors engage teachers in reflecting on the evidence of their teaching, which positively affects the teachers' practice and self-confidence (Darling-Hammond, 2006). Teachers who are given complete autonomy and full support from a highly effective mentor may be able to achieve success in the classroom.

Alignment, Margin, and Line Spacing (Khmer Version)

Indent: 0.5 inches

Line spacing: 1.5

Alignment: to the left

## ជំពូក ១៖ សេចក្ដីផ្ដើម

នៅក្នុងជំពូកនេះ អ្នកស្រាវជ្រាវនឹងបង្ហាញអំពីសារវ័ន្តនៃការស្រាវជ្រាវ និងចំណោទបញ្ហាជុំវិញ ប្រធានបទដែលកំពុងស្រាវជ្រាវ។ ទន្ទឹមនឹងនេះ អ្នកស្រាវជ្រាវនឹងបង្ហាញអំពីគោលដៅ រួមទាំងគោល បំណងនៃការស្រាវជ្រាវ ដោយផ្តោតជាមួយសំណួរស្រាវជ្រាវដើម្បីរកឱ្យឃើញនូវការឆ្លើយឆ្លើយរបស់គ្រូ បង្រៀននិងសិស្ស។ អ្នកស្រាវជ្រាវក៏បានបង្ហាញនូវសារៈសំខាន់នៃការស្រាវជ្រាវមួយនេះ ចំពោះអ្នកដែល ពាក់ព័ន្ធមួយចំនួនផងដែរ។ ជាពិសេស នៅចុងនៃជំពូកនេះ អ្នកស្រាវជ្រាវនឹងបង្ហាញអំពីនិយមន័យ ប្រតិបត្តិនៃពាក្យគន្លឹះមួយចំនួន ដើម្បីជាប្រយោជន៍ក្នុងការអានសារណាស្រាវជ្រាវមួយនេះឱ្យកាន់តែយល់ ច្បាស់។

### ១.១ សាវតារនៃការស្រាវជ្រាវ

ការអប់រំនៅប្រទេសកម្ពុជាកំពុងជួបនូវបញ្ហាប្រឈមជាច្រើន នៅពេលឈានចូលដល់សតវត្សរ៍ទី ២១ ក្នុងការបណ្ដុះបណ្ដាលអ្នកសិក្សាឱ្យទទួលបាននូវចំណេះដឹងពេញលេញ និងជំនាញដែលត្រូវតាម តម្រូវការនៃការអប់រំសតវត្សរ៍ទី២១។ យោងតាម Chu et al. (2016) បានបង្ហាញនូវសមាសភាពមួយចំនួន នៃការអប់រំសតវត្សរ៍ទី២១មានដូចជា ចំណេះដឹងស្នូល ការគិតស៊ីជម្រៅនិងការដោះស្រាយបញ្ហា ការទំនាក់ ទំនង ការសហការ ការវិច្ឆ្បប្រឌិត ចំណេះដឹងព័ត៌មានវិទ្យា បច្ចេកវិទ្យា និងភាពជាអ្នកដឹកនាំជាដើម។ ដើម្បី បណ្ដុះបណ្ដាលអ្នកសិក្សាឱ្យទទួលបានជំនាញទាំងអស់នោះ ក្រសួងអប់រំ យុវជននិងកីឡាបាននឹងកំពុង រៀបចំកំណែទម្រង់នៃការអប់រំគ្រប់ផ្នែក ដើម្បីជានាបានឱ្យការអប់រំមួយរបៀបបានយ៉ាងគុណភាពនិងឆ្លើយតប ទៅនឹងការអប់រំនាសតវត្សរ៍ទី២១ ដូចជារៀបចំការបណ្ដុះបណ្ដាលនិងបំប៉នគ្រូបង្រៀនគ្រប់កម្រិតដោយ ផ្ដោតជាពិសេសលើចំណេះដឹងមូលដ្ឋាន វិធីសាស្ត្របង្រៀន បច្ចេកវិទ្យា និងការសិក្សាស្រាវជ្រាវមេរៀន ព្រម ទាំងអភិវឌ្ឍន៍នូវកម្មវិធីសិក្សាឱ្យកាន់តែល្អ ជាមួយនឹងការពង្រឹងទៅលើការសិក្សានិងការប្រលងផងដែរ។ ជាពិសេសក្រសួងអប់រំ យុវជន និងកីឡា បានបង្កើតឱ្យមាននូវសាលារៀនជំនាន់ថ្មីជាបន្តបន្ទាប់ ដើម្បីជា ផ្នែកមួយក្នុងការជួយដោះស្រាយនូវបញ្ហាប្រឈមទាំងនោះ។ តាមរយៈការលើកកម្ពស់គុណភាពនៃការ បង្រៀននិងរៀន។ យោងតាមហាង់ជួន(២០២១) បានលើកឡើងថាសាលារៀនជំនាន់ថ្មីជាសាលារៀន

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The 17 Most Notable Changes from APA 6th to 7th Edition

Download PowerPoint: https://cdn.scribbr.com/wp-content/uploads//2020/02/APA-7th-edition-lecture-slides-Scribbr.pptx

## Appendix 5: Understanding the APA Style

Throughout your thesis, you need to apply the following APA format guidelines:

**English Version of the Thesis**

- Set page margins to 1 inch on all sides.

- Double-space all text, including headings.

- Indent the first line of every paragraph 0.5 inches.

- Use an accessible font (e.g., Times New Roman 12pt. or Arial 11pt.).

- Include a page number on every page.

- Align the content with the left margin.

APA Referencing Formats

References

Author's last name, Initial(s). (Year of publication). *Title of the book*. Publisher.

    https://doi.org/DOI

Author's last name, Initial(s). (Year of publication). Title of the article. *Title of Journal*, *Volume*(Issue),

    Pages. https://doi.org/DOI

Author's last name, Initial(s). (Year, Month Day of publication). *Title of the work*. Website.

    https://URL

Author's last name, Initial(s). (Year of publication). Title of the article. *Newspaper*. https://URL

Last name, Initial(s). [Channel]. (Year, Month Day of publication). *Title of the video* [Video].

    Website. https://URL

Organization. (Year of publication). Word. In *Dictionary*. Publisher. https://URL

Textbook

Journal Article

Webpage

Newspaper Article

Online (YouTube) Video

Dictionary

APA Table and Figure

APA Table

**Table 1**

Capitalized the table title

*Table Title*

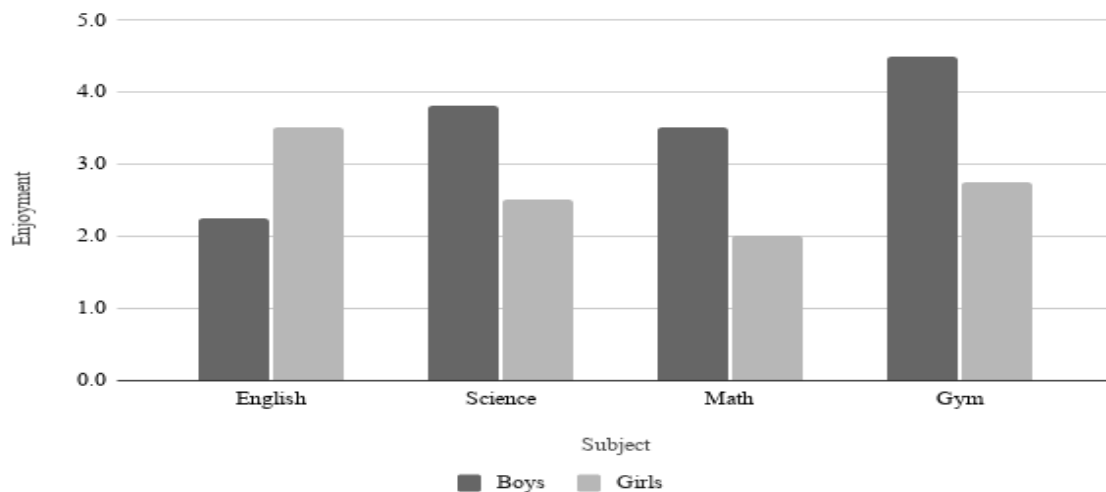| College | New students | Graduating students | Change |
|---|---|---|---|
| Cedar University | 110 | 103 | +7 |
| Elm College | 223 | 214 | +9 |
| Maple Academy | 197 | 120 | +77 |
| Pine College | 134 | 121 | +13 |
| Oak Institute | 202 | 210 | -8 |
| Total | 866 | 768 | 98 |

*Note.* Adapted from *Book Example*, by A. Author, 2020, p. 100. Copyright 2020 by Scribbr.

APA Figure

**Figure 1**

Capitalized the figure title

*Figure Title*



*Note.* Number of boys = 30, number of girls = 31, total $N$ = 61.

## Appendix 6: Questions to Choose the Topic and the Research Methodology

Good research, like any good reflection, starts with a good inquiry. The most useful skill of a scholar is the ability to ask relevant questions. This document will guide you in that process. Hopefully, it will help you do a better thesis. It should also help you make faster decisions. After all, there are not an infinite number of options that are available for a master's thesis. In most cases, your research instruments will be a couple of pages long (if you opt for interviews) or maybe 4 or 5 pages for a very long survey. It isn't that long to write when you know what you want.

### What is the common knowledge on my topic?

The first step of a thesis is to get familiar with the topic, even before writing research objectives or a proposal. Reading a book containing the general state of science is a must. Normally, a textbook will do the job. If you want to learn about IBL, start with a training manual on IBL. Just choose one with a good reputation, or one that has had many editions. A textbook that is in its 7$^{th}$ edition has passed the trial of time.

It will provide:

- The big picture on the topic,
- A bibliography with selected resources,
- A reference point from which you'll be able to evaluate the quality of the other documents.

When you have that general knowledge, and only then, you can look for the most recent articles on Google Scholar and check if your information is still valid. It's a pity when a student is ecstatic when mentioning the most trivial opinions, that people have had basically forever. Please, don't try to convince us that education is important. Don't try to prove the novelty of IBL with an article published in 2019. The term IBL has been proposed several decades ago and the practice exists since Socrates, more than 2400 years ago.

To follow up, during the literature review:

1. What is consensual?
2. What is controversial?

Both questions are important. The first one will prevent you from saying stupid things. The second one will give you hints about what needs to be investigated. After all, you want to learn something new.

### What do I really want to learn?

Remember that a thesis is not a long presentation of what you already know. It is very different from the essays that you might have done during your exams. It is about what you don't know (and maybe nobody knows) and what you would like to know. Research starts from doubts. Normally, at some point, you will not know what to believe anymore. It's a good sign because it means that you are thinking.

### Why should anyone read my thesis?

It's a question that you might ask yourself several times during the writing process:

- When you write the statement of the problem: **Why is it important to investigate the question?** You can answer that question by reflecting on your experience or by considering the gaps in the literature. It might also be about a problem that you have observed in a specific context. **What problem do they have in that school that I'd like to solve, or at least to understand?**
- When you write the significance of the study: **Who will benefit from my study and why?** In other words, **who should be my readers?** Remember that "the scholars" isn't a good answer. Scholars have already thousands of books to read.
- When you check the style of your work. **Is it boring? Is all the information relevant and useful?** Remember that reading a thesis takes time. Don't waste the time of other people.

### Do I want to evaluate a situation, or do I want to find an expert who can guide me toward a solution?

This question will determine where you will conduct your research and whom you will question. To some extent, it will also determine your research design. Remember that generally people who have problems don't have the solutions (or their problem would disappear).

### Am I planning to interrogate ordinary people to understand their needs, or experts to find solutions?

Both approaches are valid for research, but you don't have the same expectations.

If you are looking for experts, you will probably use open-ended written questions, or interviews, or the Delphi method (if you want to confront the opinions of several experts). Observation can be considered, but only with the explanations of the expert.

If you are aiming toward the analysis of a situation, ask yourself:

<span style="color:red">Do I want to collect the concerns of the stakeholders (their perception) or do I want to evaluate their practice?</span>

If you are interested in their concerns, you will probably opt for an interview or a survey, depending on the hypotheses you can make. A mixed approach can be useful, especially to select the respondents for an interview (survey first, then interview). It can also be interesting, if you have time and want to check whether the opinions of your interviewees are commonly shared (interviews first, then large-scale survey).

Evaluating their practice will probably orient you toward something like an observational study, or at least a research design that comprises some sort of test or observation, alongside with other research instruments.

If you want to evaluate their practice:

<span style="color:red">Do I have assessment tools? Am I enough of an expert to judge other people's work?</span>

<span style="color:red">Who has the information I need?</span>

This will determine your sampling technique and your sample size.

Again, it depends if you want to evaluate a problem or to obtain expertise. The stakeholders are the best to talk about their own problems and concerns, but they are not the best to find the solutions. Don't ask someone about the opinions of someone else. If you want to know what the students have in their mind, don't ask the teachers, don't ask the parents. Ask the students.

Remember that different stakeholders might have a part of the information you need.

Also remember that everything at school is done for the students.

When you're preparing your sampling technique and your research design, consider the following questions:

1. How can I reach the relevant respondents?
2. Will they be able to respond by the means that I am considering?

3.  Will they accept to respond to my questions?

Be careful with online surveys, especially for vulnerable populations. Even literacy is a problem. Do what it takes to make it easy for the respondents:

- Doing it on the phone
- Going to the school
- Going to their house
- Printing the questionnaire on paper
- Asking the questions verbally (if they cannot write)
- Etc.

### Where should I conduct the study?

Am I doing it in that school only because it's easy or because I have friends there? Please, reconsider. These are NOT valid reasons.

Are there enough people who can answer my questions in that school? Check the number of teachers, the number of students etc. If it isn't sufficient, consider another place. You can also include more places, but you need to be consistent in your choice. For instance, you can choose the most important primary schools in the same cluster, or the network schools around a resource school.

Is the school facing the problem that you are investigating?

Does it implement the practice that you are investigating? Are the teachers there recognized as experts?

### How many people should I question or observe?

1.  Is it possible to question all the relevant stakeholders?
2.  How much time would it take to question them?
3.  Does it imply some cost?

As a principle, the more the best. If there are 10 teachers in the school, question them all. You will avoid all the problems related to sampling. If you are planning to do a survey for a quantitative analysis, and if it concerns only one school, consider sending it to all the students of the concerned grades. This is the best option.

If there are more potential respondents than you can question, or if there is a risk that many participants will fail to respond (for instance to an online survey) you'll have to do some sort of sampling. It is essential that you can explain your choices.

**Can you randomize?** Selecting the participants randomly will avoid biases. It is the second-best strategy, but you need a very large sample for it to be effective. There are tables to evaluate the sample size that you need. If you cannot do it, you'll have to do a purposive sampling.

For any kind of sampling, but especially a purposive one:

**What are the possible factors that can influence the responses?** In general, you should consider things like gender, age, academic level, socio-economic status. Choose what is relevant to your research questions. In any case, explain your choice, for instance X girls and Y boys.

**Do I have a neutral way to choose the respondents?** For instance, do I have access to the school records to select the slow learners that I need to question? If it isn't possible, and only if it isn't possible, you will resort to snowball sampling. It means that you'll ask the first respondents (for instance teachers) to designate the next ones (the students with the specific problem that you are investigating). Snowballing introduces a selection bias, since the first respondents will orient you toward people that they like.

Do I have hypotheses that I can test?

This will determine your research design.

Quantitative designs are stronger in their conclusions (if done properly) but are easy to butcher entirely, if you don't have reasonable hypotheses to test.

**Do I have enough prior knowledge that can be used to make the hypothesis?**

**Is there any previous study that could provide me with sufficient background information?** For instance, the conclusions of a qualitative study, or a case study cannot be generalized, but can serve as a starting point for a qualitative study that will provide a general assessment that is still missing.

If no such study has been conducted about the area or topic that interest you, it is probably better to go for a qualitative design to explore the problem first.

Are my survey questions or my interview questions valid?

The most important part of your research methodology is the research instruments (observation guidelines, questionnaires, interview questions etc.).

Are the respondents likely to answer honestly?

- **Can a normal respondent provide whatever answer he likes without being embarrassed?** If not, rephrase the question. Don't ask people to confess that they are incompetent, or lazy, or that they have done something bad.

- **Is the question implying a specific response? Is the question written in the negative form ("don't you think")?** If so, your question is biased. Rephrase it.

- **Do you tell them at any point the sort of findings that you would like to get?** If so, your protocol is biased. Revise it to make it more neutral.

- **In a survey, is it possible to be even slightly embarrassed by a given question, or to not have an opinion?** If so, had a column to your Likert scale: "not concerned", "don't want to respond", "no opinion".

Is it easy to answer my questions?

- **Does the question contain difficult words or grammatical structures?** If so, simplify. If it is not possible to simplify, provide a definition and/or an example, but make sure that the example will not influence the respondent.

- **Will the respondent have the answer readily available?** If not, for instance the number of girls in the class, consider sending the question in advance.

- **Am I sure that the respondent will use the words with the same meaning that I do?** Always ask if they are doing something and what they are doing exactly before you ask them why.

- **How much time does it take to answer all the questions seriously?** If it's to be done in the classroom, no more than 10 minutes. A survey should not take more than 15 minutes, or it should be announced. For an interview, always announce the duration, but generally, it should not take more than one hour (30 minutes for children).

For an interview:

**Do I have a plan if the respondents don't provide me with the kind of information I need?** Make sure that you have prompt questions to clarify what you want. Be ready to ask for concrete examples or for a definition: "What do you mean by that?"

## Do I want to write in Khmer or in English?

**Is my level in English sufficient to write a long text? Am I proficient enough in English grammar?**

If not, opt for Khmer. Be careful. It might seem more comfortable to write your thesis in the language used in your sources. But it is probably a mistake. Remember that you cannot just copy and paste citations. You have to rewrite and synthesize. By the way, you don't need to translate your sources. You will rephrase with your own words. And it is much easier to do in your native tongue.

Terminology can be a little bit tricky sometimes. Just prepare your glossary when you encounter a technical word. Terminology is also something that you can discuss with your supervisor or your classmate. It is much easier to discuss the translation of two dozen words than to correct the syntax over the entire length of your thesis.

**Do my potential readers know English?** If not, opt for Khmer.

## Appendix 7: Checklists

Those checklists will help both the student and the supervisor revise the quality of the thesis.

### Checklist on the Content Validity

Use this checklist after you have checked the general structure of the thesis. This checklist will help you go through the details of the content.

### Facts

- All statistical facts are up-to-date.
- All the dates are accurate.
- The names of places and people are spelled properly.
- The facts and theories are scientifically correct.
- Pedagogical simplifications are mentioned as such (for instance, "to simplify", "approximately").

### Terminology

- The terminology is scientifically accurate.
- Key terms are emphasized.
- Key terms are defined clearly and accurately.

### Writing Conventions

- Symbols and units are consistent and follow the standards of the field.
- The formulas follow the conventions of the field.

### Writing style

- The sentences are clear and *not* ambiguous.
- The sentences are as simple as possible.
- Unnecessary words are removed.

### Checklist on Grammar and Spelling

Use the checklist after the content has been thoroughly checked and before checking the layout.

### General Check

Do a general reading without focusing on specific grammar rules, to understand the general meaning of the text and spot mistakes that might not be listed here. Then read again for the details. Employing a correction tool, such as Grammarly is strongly recommended. However, it is not sufficient, and you should also use your own judgement.

### Detailed Check

Do a second reading but, this time, focus on specific grammatical and spelling mistakes that you are likely to make. If your spelling skills are relatively low, don't hesitate to do a third, a fourth, or even a fifth reading.

Here are some of the most common mistakes made by Khmer speakers in English:

- Wrong parts of speech (verb for noun, adjectives for adverbs and so on),
- Passive instead of active forms (-ed and -ing), and vice-versa,
- Missing relative pronouns,
- Missing verbs
- "Have" with the meaning of "there is",
- Lack of punctuation,
- Wrong transition words.

Please add your own mistakes to the list:

- …………………………………………………………………………………..

### Second General Check

Do a general reading without focusing on specific grammar rules, to spot mistakes that might not be on this checklist.

Checklist on the Layout of the Thesis

Use this checklist only when all the other aspects of the thesis have been thoroughly revised.

To write long documents, one should apply the principle: think first, design later. The only form of layout that should be authorized during the writing process is structuring the text, with heading, cross-references and the like. Use tables wisely, only when necessary. Don't put ordinary text into tables.

Please, go through this checklist in the correct order. Any modification requested by the reviewer might affect the layout of the book. It might be necessary to restart this checklist several times.

This checklist is not a course on typography. Just a reminder to avoid the most common mistakes made by a lack of attention. In doubt, please, refer to proper manuals.

Structure

- All the headings are at the correct level.
- The general structure is obvious when the reader opens the thesis.
- Bulleted lists are organized at the correct level and use consistent styles (for each level).
- Numbered lists use consistent styles for a given level or purpose (Khmer, Arab or Roman numbers).

References

- References are in the correct format (APA style).
- References are registered with the proper functionalities of Microsoft Word, i.e., *not* entered by hand.

Fonts

- Fonts are consistent with the provided template.
- There are *not* too many fonts.
- Colors are limited to what is strictly necessary.
- Emphasis is used with parsimony (only 1 sort of emphasis, **bold** or *italics*, at a time).
- The emphasis method is consistent for a given kind of information.
- Underlining is not used to emphasize.

## Illustrations, Charts, and Tables

- All the illustrations are useful to support the content of the thesis.
- The illustrations are pleasant to look at.
- The style of the illustrations is consistent.
- All the illustrations have captions.
- All the illustrations are referenced in the table of illustrations.
- The styles of the tables and charts are consistent (APA style).
- As much as possible, tables should not be cut.
- If they are cut, make sure that they are cut in a logical place, and are still easy to read.
- All the tables and charts are referenced in the table of references.

## Copyright and Plagiarism

- The sources of charts and statistics are mentioned below each of them, if they come from the literature review and not from your own data collection.
- The sources are credited properly.
- All the illustrations are referenced properly in the table of illustrations.
- All the illustrations are credited if they don't come from your own data collection.
- A plagiarism check has been completed with the proper tools ([Grammarly: Free Online Writing Assistant](#)).

## Space Management

- Unnecessary spaces are removed inside the lines.
- Unnecessary blank lines are removed.
- Page breaks are inserted in the necessary locations.
- The alignment (to the left or justified) is consistent.

## Finalizing the Document

- Page numbers are inserted.
- Update the reference fields (automatically),
- Update the list of tables (automatically),
- Update the list of illustrations (automatically),
- Update the index (automatically).
- Update the table of content (automatically).
- Export in pdf.

- Visual check. If anything has to be corrected, restart at the update of the reference fields.
- Print.
- Last visual check. If anything must be corrected, restart at the update of the reference fields.