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Syllabus

Master's degree of Education in Mentoring

New Generation Pedagogical Research Center
NATIONAL INSTITUTE OF EDUCATION, PHNOM PENH

Curricular Program for Master's Degree of Education in Mentoring

Academic year 2022-2023

New Generation Pedagogical Research Center

Foreword of the current revision

The mission of the New Generation Pedagogical Research Center (NGPRC) is to contribute to the improvement of the Cambodian school system. It aims at creating a growth mindset among teacher through mentoring, i.e., through small but constant efforts based on observation, when a mentor visits his protégé in a non-threatening way, listens to his problems and provides him with appropriate feedback.

Instructors of NGPRC are committed to applying these principles in their own teaching and to demonstrating the growth mindset they are expecting from their trainees. To this effect, they conduct a yearly revision of their syllabus.

Procedure for the revision

This revision was based on several sets of evidence.

The first one is the feedback provided directly by each of the instructors who implement the syllabus. They propose modifications directly, either to improve the consistency of the course, or to distribute the workload more evenly.

The second is the surveys conducted at the end of the academic year among the students of the current cohort. They have shown a clear improvement since the first version of the syllabus. Some improvement is still to be made on the assessment of the course, by providing more feedback to the students, and clarifying the grading scales. But this doesn't affect very much the syllabus itself.

The third set of evidence is the research conducted among the alumni of NGPRC, who are currently working as mentors in secondary schools or teacher training institutions (NIE, TEC). For instance, the working experience in New Generation Schools (NGS) has led us to include topics on various in-service training programs or software that are used in NGS.

New features of the syllabus

This second revision is lighter than the previous one.

A few topics have been added in Stream one (Teacher Career Path, Continuous Professional Development, Professional Learning Community).

The modules in Stream 2 (Educational Research) have been reordered in a more logical way. In parallel with the modules, special assignments have been inserted in the syllabus to follow the thesis writing

process. The module on writing blocks has been replaced by a module on research instruments to ensure a better quality of the data collected for the thesis.

Stream 3 (ICT in Education) has received some minor modifications to facilitate the writing of the thesis (word processing software, spreadsheets). The references in module 7 (on computational thinking) have been updated to match the tools used in New Generation Schools.

In Stream 4 (Teaching Methodology), we have inserted a topic on student clubs to support an important practice of the New Generation Schools.

Contextualization

So far, a solid level in both written and spoken English is a prerequisite for this course. Because of that, the recruitment of new mentors has been strongly skewed in favor of teachers of English to the detriment of other subjects.

In order to include more teachers in the program, it has been decided last year to shift progressively toward Khmer language. This is a long process, because there are very few academic materials available in Khmer to cover the content of the course. This year, the instructors will continue to translate their course preparation, and, in a second time, they will translate or replace the reading materials. Reading international literature in English will continue to be a requirement for Research Methodology, due to the nature of that stream.

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Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 1: Definitions of Teacher Ethics, Theories of Moral Development, and Codes of Behavior (15 Hours)			
Topic 1.1: Teacher Ethics and the Relationship with Theories of Moral Development This topic explores the links between *Theories of Moral Development* and *Ethics.* The instructor will present various Theories of Moral Development including those developed by Kohlberg (1981) and Gilligan (1982). Following from a clear understanding of 'Ethics in Teaching', Trainees must then consider how we define ethical principles and how these principles can actually be applied to teacher behaviors. Trainees will employ what are known as *Moral Dilemma* stories to create situations that require the use of an ethical principle to actually guide one's behavior. *Key Discussion Questions:* 1. Who was your favorite teacher? Why? Identify the ethical dimensions inherent in the reasons you cite. 2. What is your philosophy of teaching? How does your philosophy of teachers communicate your personal ethical code? 3. Is it fair that teachers are held to a higher standard of conduct than other professions? Is it fair that these conduct expectations apply to a teacher's personal life as well as his or her private life? 4. How can teachers' individual lessons, classroom activities and interactions with students implicitly communicate their ethical perspective? **Hours:** 6	**1.1a:** Trainees can describe various Theories of Moral Development including Kohlberg's Taxonomy of Moral Development & Gilligan's Stages of Ethical Development. **1.1b:** Trainees can explain the relationship between Ethical Principles and Theories of Moral Development. **1.1c:** Trainees can demonstrate the links between specific moral principles and codes of moral behavior. **1.1d:** Trainees can use *moral dilemmas* to demonstrate the links between Ethical Principles and actual applications to codes of behavior.	*Professional Ethics and Commitment in Teacher Education* https://www.researchgate.net/publication/277632176_PROFESSIONAL_ETHICS_AND_COMMITMENT_IN_TEACHER_EDUCATION *The Ethics of Teaching* https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit1/Pages/The-Ethics-of-Teaching.aspx	• **Individual Presentations:** Using 'Moral Dilemmas' as a means apply ethical principles: In such exercises, Trainees will be expected to develop a Moral Dilemma on their own and then apply one or more sets of moral principles to justify a course of action.

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Topic 1.2: The Ethical Duties of a Professional Educator This topic helps Trainees to review codified standards of ethical behavior for educators in general. Trainees will be asked to consider key organizing principles in ethical codes such as Conduct Towards Students, Conduct as this Relates to Performance and Professional Practices, etc. Two exemplars are used in this topic for purposes of comparison and contrast. Trainees will be expected to find key commonalities in codes of conduct in the exemplars provided and determine how well Cambodian teachers generally comply with these ethical commonalities. Student assessments will likely be different requiring Trainees to provide justifications for their conclusions. *Key Discussion Questions:* 1. What are key commonalities and differences between the ethical codes of conduct considered? 2. Which principles of ethical conduct are the most important and should receive the highest priority in Cambodia? 3. Which ethical codes of behavior are Cambodian teachers most in compliance with and which codes are they most delinquent in addressing? **Hours:** 4	**1.2a** Trainees can identify the similarities and differences between various exemplars of teacher ethical codes. **1.2b** Trainees can determine key commonalities between codes of conduct for teachers that are most relevant to the Cambodian context. **1.2c** Trainees can determine how well Cambodian teachers in general comply with the key commonalities in teacher codes of conduct that they have identified.	*Code of Ethics for Educators* (an example from the United States) https://www.aaeteachers.org/index.php/about-us/aae-code-of-ethics *Code of Ethics for Professional Teachers* (an example from the Philippines) http://teachercodes.iiep.unesco.org/teachercodes/codes/Asia/Philippines.pdf	• **In-class Group Work:** Trainees will be asked to determine areas of compliance with selected ethical codes where Cambodian teachers are strongest and those where they are weaker. Each group will be required to justify their assessments should differences arise. This assignment will be undertaken as an in-class exercise.
Topic 1.3: Private & Professional Lives It is a widely accepted view that teachers must be moral exemplars in their community. In this unit, we explore the relationship between a teacher's personal behavior and his or her worth as a teacher. Usually, a teacher's performance is judged in terms of their knowledge of subject matter and	**1.3a** Trainees can clearly explain the relationship between personal and professional behaviors in the context of Teachers' Professional Ethics.	*Private and Professional Lives* https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit2/Pages/default.aspx	• **Writing Assignment:** Trainees will be asked to provide written papers that justify their conclusions on the relationship between personal and

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their ability to teach 'effectively.' But should personal behaviors involving spousal abuse, gambling, questionable sexual morals, and other behaviors affect their value as a good teacher. Trainees will examine some case studies to explore such issues and form their own conclusions about the relationship between personal and professional teacher behaviors. All conclusions must be justified with logical explanations. *Key Discussion Questions:* 1. Do the personal behaviors presented in the case studies have any direct impact on the teacher's performance in the classroom? 2. Should determinations of 'direct impact' on teaching be the primary consideration in determining whether personal behaviors violate certain codes of ethical behavior for teaching? 3. What are some specific areas where personal behaviors should not be allowed for a teacher and those that can. How do you justify your answer? **Hours:** 4	**1.3b** Trainees can make clear judgments about the personal behaviors that should NOT be allowed by teachers by providing clear explanations for the rationale for their determinations.		professional behaviors using a number of case studies presented in class.
Topic 1.4: Improper Personal or Financial Gain among Teachers Teaching is considered to be a 'helping profession.' That means that one enters the teaching profession to help children and students learn and grow. Nevertheless, the primary motivation for many individuals in Cambodia to enter the teaching profession is to make money. Discussions under this topic explore the conflicts of interest that arise when teachers seek financial gain from executing their responsibilities as teachers, especially for private tutoring. Trainees will also consider the broader implications of	**1.4a** Trainees can identify the conflicts of interest that arise from private tutoring for financial gain. **1.4b** Trainees can explain why most educators consider teaching to be a 'helping profession.' **1.4c** Trainees can provide a critique of teacher practices that relate to financial gain	*Curbing Private Tutoring and Informal Fees in Cambodia's Basic Education,* Phnom Penh: UNDP, 2015. (pp 3-8) *(To be distributed to Trainees)* *Hidden Privatization of public education in Cambodia: Equity implications of private tutoring. Journal for Educational Research Online,* Vol 6, No 1, 94-116. (Author: Brehm, W. & Silova, I. (2014))*	• **Individual Assignment:** Trainees must write a 5-page report that documents guidelines about financial gain among teachers in other countries and explore how these guidelines could be feasibly implemented in the Cambodian context.

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teachers' behaviors on the young people that they teach when they blatantly seek financial gain from those in their care (e.g., does it model corrupt behavior?). ***Key Discussion Questions:*** 1. Many educators consider teaching to be a 'Helping Profession.' Nevertheless, many Cambodian teachers routinely link their teaching to demands for money from their students. How do you reconcile the belief that teaching is a helping profession with this common behavior in Cambodian schools? 2. What sorts of conflicts of interest arise from tutoring one's own students? 3. In New Generation Schools, private classes for one's own students are strictly prohibited. What are some of the reasons that you think that this prohibition is in place? 4. Are there any conditions under which you can imagine that private classes might be allowed to occur? 5. The teacher in one of the case studies provided under this topic was nominated three times for Teacher of the Year award in her district. Do these accolades matter in how this situation would be handled in a criminal court? Should it matter in how the case would be adjudicated by a court? **Hours:** 6	based on reading exercises that they have read. **1.4d** Trainees can explain why New Generation Schools prohibit private classes during working hours. **1.4e** Trainees can document practices of integrity as these relate to financial gain among teachers by completing a written research assignment.	*Improper Personal or Financial Gain among Teachers* *https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit6/Pages/Introduction.aspx*	
Module 2: Definitions of Teacher Ethics, Theories of Moral Development, and Codes of Behavior (Part 2: Group Ethics) (15 Hrs)			
Topic 2.1: The Ethical Colleague This topic explores the relationships between teachers. It is often common to find that many schools in Cambodia are	**2.1a** Trainees can explain how different value sets, priorities, alternative	*The Ethical Colleague*	• **In-class Group Work:** Student groups will discuss two videos that they observed as part of

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riven by conflict and jealousies between teachers and school managers. Often these conflicts concern money. Given this context, Trainees will explore the idea of what it means to be a professional educator. Besides developing engaging lessons that meet the academic needs of students, a teacher needs to exercise good judgment and interact ethically with other colleagues in a professional manner. Teachers must also be mindful that even when interacting with colleagues the foremost guiding principle is that these interactions must always be in the best interest of students and the profession. Indeed, in many countries, a teacher who sees unethical behaviors in a colleague (e.g., sexual abuse of a student) is required by law to report the behavior to the authorities. In this module, we will examine different ways that the ethical expectations of teachers can impact how they work with colleagues and how they maintain a safe, professional environment in their schools. *Key Discussion Questions:* 1. When teachers display behaviors driven by jealousies and unethical considerations, do you think that such teachers should remain in the teaching profession? 2. Do you think that conflicts between colleagues is mainly the result of the educational setting in Cambodia or is this first and foremost a problem of how individuals have been socialized when they were young? 3. Based on the case study that you observed, how do you feel about the actions of the teacher's aide who reported a colleague? Do you believe the aide had a legal responsibility to report the misconduct? What	understandings of a particular issue and other factors may result in conflict between educators. **2.1b** Trainees can explain how conflicts between educators may result from the working culture of the school as well as from internal teacher characteristics. **2.1c** Trainees can provide justifications for alternative views when answering specific Discussion Questions.	*https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit7/Pages/Introduction.aspx* *Teacher versus Administration* *https://www.youtube.com/watch?v=3f1rbelSq1A*	the class and answer the following questions: 1. What is the source of the conflict? 2. Is this conflict driven by individual traits or the working environment of the school? **3.** If you were the school administrator in the case studies viewed, how would you have resolved the conflicts that arose? Be sure to justify your response.

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would have happened if the aide had not reported the misconduct? To what entity or entities should the misconduct be reported? 4. Do you believe that the teacher should be disciplined either on the local level or on the state level (certification)? **Hours:** 4			
Topic 2.2: Creating an Ethical School Climate This topic explores how teachers' behaviors in the classroom and school contribute or detract from the creation of an ethical school environment. Common teacher practices such as routinely charging students for access to the curriculum, unofficial school fees, parental payments for promotion and transfers, and other practices are examined with respect to their impact on the ethical climate within a school. Codes of professional practice in Cambodia outline the ethical expectations for teachers. While it is critical for teachers to see how these expectations can impact decisions in their personal life, it is also important for teachers to identify how these expectations impact their professional lives and how they translate into their classroom cultures. *Key Discussion Questions:* 1. Many Cambodian teachers limit access to the curriculum by students depending on how much money they can pay. How do you think this practice impacts on students' respect for the teacher? What do such behaviors say about the school manager who allows such behaviors? What long impacts	**2.2a** Trainees can effectively critique case studies that they read/view regarding ethical behavior and how these behaviors impact on a school's philosophical culture. **2.2b** Trainees can explain some key principles that define ethical school climate and how principles could be applied to the Cambodian context. **2.2c** Trainees can develop a continuum of rubrics defining an ethical climate in a Cambodian school.	*Creating an Ethical School Climate* *https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit8/Pages/Introduction.aspx* *Creating a Climate of Respect* *http://www.ascd.org/publications/educational-leadership/sept11/vol69/num01/Creating-a-Climate-of-Respect.aspx*	• **In-Class Group Work:** In their groups, Trainees will create 6 rubrics that describe an ethical school environment ranging from high to low. The principles explained in the article, *Creating a Climate of Respect,* should play a key role in developing these rubrics.

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might such behavior have on students' moral development? 2. One of the case studies under this topic recounts that a teacher allowed a fight to occur in his classroom between two students. How would you feel if your son or daughter was in the classroom at the time of the fight? How would that impact the way you viewed the teacher and his effectiveness in teaching your child? 3. How did the teacher's actions in the classroom communicate his ethical position on using fighting and violence to resolve conflict? What type of classroom culture does this create in his classroom? 4. One of the articles that Trainees must read for this topic identify four measures that schools should observe to create an ethical climate in the school. How feasible is it to implement these measures in a Cambodian school? **Hours:** 4			
Topic 2.3: Teaching in a Diverse Society As a nation, Cambodia is becoming more and more diverse. There is more awareness about minority groups in society and their right to be different. Indigenous groups in the North are increasingly proud of their heritage and demand respect from other Cambodians. Similarly, different religious groups in Cambodia also expect better understanding of their culture and religious customs from their peers. Many classrooms in Cambodia now reflect this diversity. Teachers now work with students representing a variety of different backgrounds, religions and traditions.	**2.3a** Trainees can define good ethical practices that accommodate the social, ethnic, and religious differences of some of their students. **2.3b** Trainees can develop explicit guidelines that ensure ethical treatment of students in a diverse classroom.	*Teaching in a Diverse Society* *https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit5/Pages/Introduction.aspx*	• **In-class Group Work:** Student groups will develop a set of guidelines that accommodate the differences of one or more of the following groups in a classroom. For each guideline that groups create, try to provide an example that exemplifies how the guideline would be implemented. Be sure to

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In this module, we will examine teachers' ethical responsibilities for working with students from diverse backgrounds and with students who hold varying belief systems. We will also explore the potential conflicts engendered when your personal or the school's values conflict with those held by your students. *Key Discussion Questions:* 1. Teachers believe that they have educational freedom when developing lessons for their students. In an example provided from the United States, some students dressed in garb (Ku Klux Klan) that was offensive to minority students as part of a history project. What if something similar happened in a Cambodian classroom where some students dressed up in Pol Pot garb. Would it be appropriate to allow students to wear such clothing as part of a classroom assignment? 2. Should a teacher be suspended for instructional decisions that offend certain minority groups in society? 3. Should teachers in public schools accommodate the religious and cultural customs of students who are not Buddhists or ethnic Khmers? Why or Why not? **Hours:** 4	**2.3c** Trainees can critique case studies that describe some of the ethical challenges that teachers might encounter in a diverse classroom.		consider one or more of the following groups that contribute to diversity in your classroom: 1. Non-Buddhists (e.g. Cham Muslims) 2. Ethnic Minorities 3. Poor students 4. Physically challenged students 5. LGBT students
Topic 2.4: The Impact of Traditional School Culture in Cambodia on the Instruction of Morals and Civics Discussions under this topic focus on the contradiction between the policy of teaching civics and morals as part of the official curriculum and the actual behavior of teachers. The ministry's philosophy on civics and moral education are set out in the document, "Policy for Curriculum Development	**2.4a** Trainees can describe the factors in Cambodian culture (e.g., patronage networks, conformity, hierarchy, etc.) that undermine the instruction of morals and civics.	*Policy for Curriculum Development,* 2005-09 (MoEYS) *Two Views of Education: Promoting Civic and Moral Values in Cambodian Schools* https://www.researchgate.net/publication/223322785_Two_views_of_education_Promo	• **In-class Group Work:** Student groups will identify a list of measures that could be taken to improve the credibility of Moral and Civics Teachers. At least 5 measures should be

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2005-2009,' which focuses heavily on respecting human rights. However, the pervasiveness of immoral behaviors by teachers and school managers (e.g., extorting money from students, corporal punishment, etc.) undermines the ability of the education system to help students internalize the values that the policy seeks to promote. Discussions will focus on exploring the tensions between the Morals Curriculum and the traditional school culture in many school as well as how this tension can be defused. *Key Discussion Questions:* 1. How credible do you think teachers of morality and civics are with their students in Cambodia? 2. What other practices besides 'collecting money from students' do you think affects the credibility of teachers and administrators? 3. What measures could be taken to increase the credibility of morals and civics instruction? Do you think that these measures are feasible? **Hours:** 2	**2.4b** Trainees can make assessments about the degree to which the instruction of morals and civics is undermined by unprofessional teacher behaviors. **2.4c** Trainees can identify measures to improve the credibility of Morals and Civics instruction in Cambodian schools and determine the feasibility of their measures.	*ting_civic_and_moral_values_in_Cambodia_schools*	identified by each group. For each measure, Trainees should also assess the feasibility of each measure on a scale of 1 to 5.
Module 3: Ethics for Educational Leaders and Managers: In this module, Trainees will learn about the duties of those who work in a school. This is meant to help Trainees find their place in the school system. It also prepares them to expand their responsibilities at the school in the future. **(15 Hours)**			
Topic 3.1: Working Together as a Team In this module, trainees will learn about the roles of different stakeholders in a school and who among these stakeholders teachers should consult if they have to solve certain common problems. Stakeholders in this regard include not only school personnel, but also development partners who are assisting the MoEYS to implement NGS reforms.	**3.1.a** Trainees can explain the organization of a New Generation School in terms of the responsibilities of key stakeholders (e.g., school managers, administrative staff, librarians, development partners, etc.).	Richard E. Lange - *A Life Saver for New Teachers_ Mentoring Case Studies to Navigate the Initial Years* (2011, R&L Education) These case studies can be useful to design the lesson, but the answers are made for American schools and must therefore be adapted to a Cambodian context.	• **Written assignment, individually**: Trainees find solutions to a series of practical problems, including talking to the right person. • **The entire class discuss** about the feasibility and

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Key Discussion Questions: 1. Who should one address if one has administrative problems in carrying out one's teaching duties (e.g., classroom is in disrepair, electricity does not work, library is rarely open, labs have no supplies, etc.)? 2. Who should one talk to, if one has questions about teaching techniques? Identify all of the possible persons that may be consulted in order of their priority. 3. If a teacher needs supplies for teaching, to whom should they make a request? 4. Who is responsible for the safety of students? 5. Who is entitled to make important decisions about discipline in the classroom and in the school in general? 6. When should a teacher discuss difficult issues relating to a student's learning with his/her family? 7. Should teachers be held accountable for the learning of their students? If yes, to whom should they be accountable and why? **Hours:** 4	**3.1.b** Trainees can identify the right person to help them solve daily problems that a teacher might encounter during the course of a school day.		opportunity of those solutions.
Topic 3.2: Meaningful Delegation: Achieving a balance between the Needs for Teacher Autonomy and Classroom Monitoring As they try to increase quality of teaching, institutions such as schools, provinces or ministries produce a lot of norms and regulation. Eventually, those norms become a problem by themselves and do more harm than good, because they deprive common workers of the freedom that is necessary to accomplish their missions. In this topic, we will analyze the	**3.2.a** Trainees can explain the principle of subsidiarity and how it is applied in a school environment. **3.2.b** Trainees can identify the respective responsibilities of teachers, school directors and other leaders in the chain of command.	*https://www.youtube.com/watch?v=GD0mo Aiq22k* *https://catholicmoraltheology.com/subsidiar ity-is-a-two-sided-coin/* *https://acton.org/pub/religion-liberty/volume-6-number-4/principle-subsidiarity*	• ***Written assignment*, individually:** Trainees find out different sorts of decisions that are to be made in the Cambodian school system and explain which hierarchical levels are most suited to take those responsibilities.

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concept of subsidiarity and the process of decision-making in institutions. The main question is: who should be in charge? **Key Discussion Questions:** 1. Is it normal that a school director "corrects" the school reports written by teachers? 2. Can an inspector tell a teacher that his teaching methods are bad in front of the students? 3. Who should choose reading activities? 4. Who should design curricula? **Hours:** 2	**3.2.c** Trainees can establish links between power and responsibility and precise how they differ.	_http://www.europarl.europa.eu/ftu/pdf/en/FTU_1.2.2.pdf_ _https://campusrecmag.com/decentralized-command/_ _https://smallbusiness.chron.com/advantages-decentralized-organizational-structure-603.html_ _https://smallbusiness.chron.com/centralized-vs-decentralized-organizational-structure-2785.html_	• Trainees will compare their answers and discuss to reach a consensus.
Topic 3.3: Practical Organization as a Means to Improve Management Efficiency One of the most important factors that affect work efficiency in Cambodia is a lack of organization and punctuality. It is common for teachers and students to come late to school or to delay the preparation of major events. Too often, good ideas are wasted because workers rush when they have to apply them. In this topic, Trainees will learn how to use various resources, including software and checklists to increase their efficiency and organize collective work. **Key Discussion Questions:** 1. How do we have things done in time? 2. What to do when people don't do their assignment or are late?	**3.3.a** Trainees can prepare schedules for extra-curriculum activities such as parent night shows, cleaning operations, or staff meetings. **3.3.b** Trainees can evaluate their own working capacity, based on concrete sets of criteria. **3.3.c** Trainees can delegate tasks by writing precise instructions, as needed. **3.3d:** Trainees can develop useful checklists that will facilitate their daily and weekly planning.	Atul Gawande; _The Checklist Manifesto_, especially chapter 6 (suggested reading) _Checklist for checklists_ of the same author	• Trainees plan out their own work and those of others using commonly employed software for the purpose. Such planning should include the use of 'reminders.' • Using the _Checklist for checklists_, trainees design a checklist for important tasks they are likely to forget.

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3. What must I do if I think I won't be able to do my work on time? 4. What should we do, if we have to cancel an activity? 5. How can we better plan maintenance operations? 6. Who is in charge? **Hours:** 4			
Topic 3.4: Security & Well-Being of Students In this module, trainees will learn the basic rules regarding health and safety of children. They also consider the responsibility of teachers regarding those issues and the actions they have to take in case of emergency. *Key Discussion Questions:* 1. Addictions and risky behaviors 2. Education to health on a daily basis: what is the responsibility of the ordinary adults in the school? 3. The questions of the adolescents, how to answer them? What can school staff members do regarding to sexual and emotional education? Where is the limit? 4. How to act in case of emergency? 5. Disease prevention and hygiene. 6. When can an educator intervene himself? When should he rely on a specialist? **Hours**: 6	**3.4.a** Trainees can explain their responsibilities as educators and caretakers, as this relates to children's health and well-being. **3.4.b** Trainees can identify possible responses to emergencies or other events that threaten the health and well-being of a student.	Portals to many links on specific issues: *https://medlineplus.gov/schoolhealth.html* *https://noys.org/* *https://www.cdc.gov/Features/SafeSchools/* **Note:** These are standards for American schools. Care should be taken to adapt these readings to the Cambodian context, considering specifically the availability of professional health facilities.	• **Project work:** Trainees work together in small groups to determine possible accidents or issues that could arise at the school (as these relate to Child Protection) and identify possible responses that can be taken to address them. Groups may share in plenary and discuss the ideas that are presented. An example of a possible matrix to complete is provided below: **Issue that May Arise** / **Responses** 1. A child is injured while at school / ???

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
			2. A child ??? gets into a fight at school 3. ??? • **Examples of topics:** learning disabilities, epidemy of children diseases, prevention of sexually transmitted diseases, hygiene, nutrition etc.
Module 4: Valuing the Individual Student: Issues relating to Labeling, Differential Needs, & Student Classification (15 Hours)			
Topic 4.1: The Ethics of Ability Groupings and Student Tracking Before the 1970s, students in most countries were routinely grouped and tracked for educational purposes. Discussions under this topic recount why these practices began to recede after the 1970s but in the last ten years are now experiencing a resurgence. These trends are of great relevance in Cambodia where children are routinely ranked in terms of their performance every month. There are many questions about the ethics of such practices and how they affect children's self-confidence and attitudes towards school. Under this topic, Trainees will also explore such key concepts as 'self-fulfilling prophecy,' 'halo effect,' and 'stigma' and the role that these play in affecting teachers' expectations about students' performance.	**4.1a** Trainees can explain the meaning of key terms relating to ability grouping and tracking as these relate to the Cambodian context. **4.1b** Trainees can explain the merits and demerits of grouping and tracking in an educational context. **4.1c** Trainees can make a case for both discontinuing the practice of ranking and not ranking Trainees in Cambodian classrooms	*Ability Grouping, Tracking, and How Schools Work* *https://www.brookings.edu/research/ability-grouping-tracking-and-how-schools-work/* *The Resurgence of Ability Grouping and Persistence of Tracking* *https://www.brookings.edu/research/the-resurgence-of-ability-grouping-and-persistence-of-tracking/*	• **Writing Assignment:** Write a short report on your own personal experiences with 'performance classification' in Cambodia and whether you think this practice is justified or not. Your report should be 3 to 5 pages long.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Key Discussion Questions: 1. How do you feel about the practice of ranking children in Cambodian classrooms from a very early age? What effects do you think that this has on children as they develop? How might these effects be different for different students? 2. Many critics of grouping and tracking argue that such practices are discriminatory in terms of race and class? Are such arguments relevant in Cambodia? Are there any social groups that might be negatively affected by such practices? 3. If grouping and tracking were not used in Cambodian classrooms, do you see any other methodological alternatives to help students with different needs? **Hours:** 4			
Topic 4.2: Automatic Promotion as a Means to 'Value' the Student – Theory & Actual Practice The use of Automatic Promotion is widely used in many countries to avoid the stigmatization of children, particularly as they get older and are more aware of how others perceive them. Yet, the practice is also roundly criticized because it undermines accountability in school systems. With this background in mind, Trainees will explore the nature of promotion decisions in Cambodia, which largely reflect de facto automatic promotion and the ethics of promoting students to the next grade when they have not achieved mastery of the curriculum and receive no remedial support after they are promoted. Many organizations are now reporting that some students in junior high school are unable to read. Trainees will also examine whether automatic	**4.3a** Trainees can explain the merits and demerits of automatic promotion. **4.3b** Trainees can assess the ethics of both grade repetition and automatic promotion based on a set of moral standards that they create. **4.3c** Trainees can write a short paper recommending either the continuation or discontinuation of automatic promotion practices in Cambodia using ethical principles as the basis of their recommendations.	*Student Repetition in Cambodia: Causes, Consequences, and Its Effect on Learning (pp. 15 to 21)* *http://www.kapekh.org/files/report_file/1-Student-Repetition-In-Cambodia.pdf*	• **Written Assignment:** Trainees must write a short two or three-page statement of recommendations regarding the continuation or discontinuation of automatic promotion practices in Cambodia. The report that they write should have the following sections: **Section 1:** Background **Section 2:** Statement of Ethical Principles as the

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
promotion as it is practiced in Cambodia is achieving its 'moral' objective of avoiding stigmatization or whether it has simply undermined accountability even further in a system that already has hardly any accountability for teachers or school directors. *Key Discussion Questions:* 1. Do you know of anyone who has repeated a grade? If yes, how did the experience of repeating a grade affect him or her? Would automatic promotion have led to a better academic result? 2. Based on your review of the literature, do you support the use of automatic promotion as a more ethical alterative to grade repetition? 3. Are there any conditions under which you might consider the use of automatic promotion and if so, what are these conditions? **Hours:** 4			Basis for the Recommendations **Section 3:** Specific Recommendations
Module 5: Authority in the Classroom (15 Hours)			
Topic 5.1: Factors Affecting a Teacher's Authority in the Classroom In this topic, the trainees explore the parameters of a teacher's authority and what the limits of this authority should be. By reading several authors on law enforcement and on psychology, Trainees will understand how force may or may not be necessary to produce obedience, and what other factors can be at play, including the power bestowed upon a teacher by an institution (i.e., the school), how a teacher's observed competence and charisma may affect his/her	**5.1b** Trainees can express an opinion that explains what the limits of a teacher's authority should be based on justifications that are both logical and reasonable. **5.1c** Based on a thorough understanding of the concepts discussed, Trainees can write a short essay explaining how a teacher can	Stanley Milgram, *Obedience to Authority: An Experimental View,* abstracts (Chapter 11 p.138-142) https://simplypsychology.org/milgram.html Cesare Beccaria: an abstract from *On crime and punishment* (about death penalty for major and minor offenses)	**Trainees provide examples to explain how the 5 following principles (adapted from Jordan Peterson, who speaks for a familial setting) can be applied to the classroom:** ✓ **Limit the rules.** ✓ **Use minimum necessary force.**

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
authority, and the degree to which a teacher's own behavior may affect his/her authority. Trainees will then determine how these components relate to school organization and teaching practices. Finally, Trainees determine key principles that will help them make effective decisions to confront anti-social behaviors including: 1. Proportionality 2. Consistency 3. Quick response 4. Hope 5. Confidence toward the authority 6. Act before you have to punish, punish before you get angry and lose control. *Key Discussion Questions:* 1. In your opinion, what are the general parameters of a teacher's authority in the classroom and what should the limits of this authority be? 2. Do you have a teacher that you respected more than any others? Why did you respect that teacher? 3. What made you accept a punishment when you were a child? 4. Why did you or your classmates reject the decision of an adult when you were a small child? 5. What kinds of personal qualities enhance a teacher's authority and which ones detract from that authority? Explain why you think so. 6. What are the similarities and differences between authority in the classroom and other contexts where authority is important (e.g., an office, a clinic, a business, etc.)?	maximize his or her authority in the classroom without excessive resort to fear or intimidation**.** **5.2a** Trainees can relate different behaviors to incentives. **5.2c** Trainees can identify the consequences of punishments or the lack of them on the long run, in both negative and positive way.	Short Excerpts from: *The Prince* by Nicola Machiavelli (about being feared or loved) or Video Jordan B. Peterson's book, the *12 Rules For Life*: chapter *Do not let your children do anything that makes you dislike them.*	✓ **Educators should work together.** ✓ **Educators should understand their own capacity to be harsh, vengeful, arrogant, resentful, angry and deceitful.** ✓ **Educators have a duty to act as proxies for the real world.**

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
7. Is a zero-tolerance policy for corporal punishment possible or even desirable? 8. How does fear affect cognitive abilities? **Hours:** 2			
Topic 5.2: Common Routines & Procedures in the Classroom Classroom management is more than just punishing, it is also, and probably mainly about setting up a good learning environment. In this topic, Trainees will review the official and unofficial actions (both positive and punitive) that schools use to maintain discipline. They will focus mainly on the routines and procedures that teachers can use to avoid problems in the first place, to structure the class work, and to make the learning activities run smoothly. They will reflect on the meaning of those routines and their positive or negative side-effects on student morality. *Key Discussion Questions:* 1. What are some of the most common types of punishment used in schools where you have ever worked? 2. Were these measures effective? If not, why? 3. What kinds of decisions do you think the teacher is entitled to make with regards to punishing students? 4. What does the teacher try to achieve with classroom routines?	**5.3a** Trainees can explain the merits and demerits of positive and punitive discipline. **5.4a** Trainees can develop set of routines to address the most common behavioral issues in the classroom (e.g., maintaining order). **5.4b** Trainees can explain the purpose of school routines. **5.4c** Trainees can design their own classroom routines if need be.	*Rethinking School Discipline* *http://www.championsofunity.org/education-resources/research-and-policy-outlook/rethinking-school-discipline* *The Positive Discipline School* *https://positivediscipline.org/resources/Documents/PDSbrchr-8-06.pdf* *Examples of school regulations in Cambodia* *Videos on school rituals around the world. Many are available on YouTube.* *http://egomet.sanqualis.com/rituals-and-routines-will-save-your-lessons/*	*Group Discussion:* The Trainees create their own routines to solve a set of common problems in the classroom: ✓ *Starting and finishing activities clearly* ✓ *Designating the speakers/ choosing respondents* ✓ *Preparing student minds before listening* ✓ *Preparing material that you use often* ✓ *Recalling the attention of tired students* ✓ *Stopping noise* ✓ *Avoiding conflicts*

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
5. Do such routines work in a Cambodian primary school? In a high school? 6. What can make the observance classroom routines fail or succeed? 7. Would it make the children happier, more obedient or more efficient? 8. What is the practical utility of classroom routines? 9. What is its moral advantage, if any? 10. What makes a good routine? 11. What routines have you experienced before? What was their purpose? **Hours:** 2			
Topic 5.3: Case Studies, Awkward Situations In this topic, Trainees analyze difficult situations that require actions from the teacher, including some dangerous ones that cannot be simulated. Trainees discuss in small groups to find a solution to each case. (In fact, some of them requires further investigation). The cases discussed in this topic can be submitted either by the instructor or by the trainees themselves. *Possible cases:* 1. Case #1: a fight between two boys. There is a crowd in the courtyard. M. is bleeding. A. is still holding a stone. 2. Case #2: F and T have made similar mistakes at the test. 3. Case #3: The class has become noisy, after a bad joke, involving one student. 4. Case #4: D. is playing with his smartphone. The teacher wants to confiscate it. D. refuses to comply to the teacher's orders.	**5.6a** Trainees can explain why certain problems in the classroom may be more complex than expected. **5.6b** Trainees can identify several solutions to a single problem. **5.6c** Trainees can explain their choices and the decision process. **5.6d** Trainees can draw links between their decisions and the principles exposed during the previous lessons.	Dr. Carolyn M. Orange - *25 Biggest Mistakes Teachers Make and How to Avoid Them,* Second Edition (2008) *Note:* This reading includes many interesting case studies regarding to discipline. The solutions proposed by the author are sometimes a little bit too simplistic, and make teachers feel unnecessarily guilty, but they are excellent for triggering reflection.	• **Written Assignment:** A final case study will serve as an assessment. Trainees are required to argue a particular case in writing. The quality of the arguments is more important than the answer itself.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
5. Case #5: S. has done his homework very poorly. As a punishment the teacher hit him. After that incident, S. refuses to talk to the teacher and to greet him. 6. Case #6: Most of the students have failed to pass a test. The teacher shouts at them and decides to punish those who have had the worst grades. 7. Case #7: A student has insulted another teacher. The teacher has burst into tears. But neither the teacher nor the school staff has taken action yet. 8. Case #8: D and S were playing marbles. D. complains that S. has stolen his marbles, while the later claims to have earned them in a fair game. 9. Case #9: P. is drunk after lunchtime. As a result, he isn't paying attention to the lesson. After a few remarks from the teacher he begins to insult different people violently. **Hours:** 4			
Topic 5.4: Practical Exercises, Voice, & Body Language (optional) Role-Play: Trainees are required to perform simple teaching tasks, such as launching an exercise or telling a story, and to deal with "unexpected" events. Those events are planned by the instructor with the help of other Trainees, of course. Feedback is provided to the actors. Trainees also learn how to organize the classroom according to their teaching objectives and style. Trainees will further learn how to prepare the students for different activities and how to monitor them (with special attention to blind spots, weak students and security).	**5.5a** Trainees can control their voice and body language in order to increase their confidence and authority. **5.5b** Trainees can employ different strategies to solve specific problems that might occur in the classroom and reduce coercion and disorder.	*https://www.edx.org/course/understanding-classroom-interaction-pennx-uci1x-0*	• Trainees practice Role-Play to simulate various classroom situations. • They are also required to comment and debrief the performance of their classmates.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment

Key Discussion Questions:
 	
1. How would you deal with the following situations that may arise in the classroom? What sorts of disciplinary measures would you employ that would be both ethical and appropriate to the infraction?
  • Students take advantage of the teacher's position to play.
  • Students wait for instructions before they perform even the simplest task.
  • 2 students have an argument in front of everybody.
  • A student comes late.
  • A student is sick and doesn't do anything.
  • A student knows better than the teacher himself.
  • A student disagrees with the content of the lesson and defends disturbing ideas (hate speech or the like).
  • The entire class is chatting.
  • A student from another class enters the classroom to take some material (no greetings, no permission asked).
  • A student protests that the punishment he/she received is unfair. Several others support him.
 	
Hours: 6			

Module 6: Mentoring as a Teacher Development Approach (Part 1: Theoretical Considerations) (15 Hours)			
Topic 6.1 Mentoring as an Approach to Changing Teaching Behaviors When studying this topic, Trainees will learn about the philosophical foundations of mentoring as a technique to help teachers improve their practice. In this respect, it is	**6.1.a** Trainees can explain why many people resist change in terms of the concepts of fear and safety. **6.1b** Trainees can explain some techniques suggested	*Videos for Discussion:* As a starter: Jordan Peterson on education and safe spaces. *https://www.youtube.com/watch?v=qim0W-_pkRQ*	• **Small Group Work:** In small groups, with the description of teaching approaches, Trainees write down the difficulties that could

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
routinely understood that teaching is about passing on knowledge to one's students. But it is also about changing behaviors to help students live effectively in society. Learning implies the risk of being intellectually challenged, which can be threatening to many people. So, the challenge for a mentor becomes how one changes people's behaviors without making them feel too threatened. Being trained as a teacher implies the risk of changing one's habits. Studies have shown (e.g., Joyce & Shower) that new teaching practices are difficult to implement, even when teachers are willing to do so. Empirical research suggests that teachers must practice a technique at least 20 times before it is internalized. Therefore, some kind of follow-up is required, to address the main difficulties encountered during the implementation itself. This is the mission of a mentor. This topic will, therefore, seek to demonstrate how mentoring is a critical step in ensuring that ideas presented in workshops are adopted in the classroom. *Key Discussion Questions:* 1. In the two videos that you watched, what do you understand to be some of the most important ways that educators can use to change students' behaviors (e.g., exposure to uncomfortable ideas, creating non-safe places, etc.)? Do you agree with these ideas? Why or why not? 2. How have you been able to change your own behavior? Give some concrete examples of how you changed your behavior? 3. Should the imitation of a new teaching model be the sole purpose of change? Why or why not?	in their readings about how to change people's behaviors. **6.1c** Trainees can evaluate the strengths and weaknesses of techniques for changing behavior (e.g., creating intellectually challenging learning environments, unsafe environments, etc.) and whether they agree with the effectiveness of these techniques or not. **6.1d** Trainees can express an opinion about whether a supervisor can also be a mentor. **6.1e** Trainees can identify the major obstacles that may occur that prevent the adoption of new teaching techniques by teachers.	Obama: *https://www.youtube.com/watch?v=ilqTgGsl9YM*) *Can a Mentor also be your Supervisor?* *https://www.youtube.com/watch?v=9ChK3TbF9Ug&frags=pl%2Cwn* and *https://www.youtube.com/watch?v=vfTRbYhKCOo&frags=pl%2Cwn* Additional Readings: Joyce and Shower, *Student Achievement Through Staff Development*, especially chapter 6 and the "levels of transfer" p102. Also, Chapter 5 *Designing Training and Peer Coaching: Our Needs for Learning* (difficult chapter)	prevent a teacher from implementing them. They then summarize what kind of support mentors would need to provide in order to overcome these difficulties. - **Written Assignment:** Each student in the class should take a position about whether a mentor can also be a supervisor and vice versa. In less than two pages, they should be able to make a logical case one way or a another and be ready to present their viewpoint to the class.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
4. How can one make sure that changes in teaching practice that we observe in a teacher are both real and relevant? 5. Do you think a mentor can be a supervisor or vice versa? Why or why not? 6. How can mentors effectively facilitate implementation of new techniques learned during workshops? **Hours:** 4 (Classroom-based) **Hours:** 3 Hours (Linked to ICT in Education Stream, e.g., Observic)			
Topic 6.2. Mentoring versus Inspection School Inspectors have long cast a dark shadow on the way in which teacher supervision has been carried out in Cambodia. Contrary to what an inspector does, a mentor does not 'assess' an expected capability of a teacher, but rather should seek to help his/her mentee to progress, whatever level the person may be at. This often means accepting the beginning teacher as well as the more experienced one. This topic presents the different kinds of classroom observation that are specific to a mentor's work and how their outcomes differ from those that an inspector might carry out. This includes: • Team teaching • Mentors observing mentees • Mentees observing mentors • Both the mentor and mentee observing other teachers *Key Discussion Questions:*	**6.2a** Trainees can explain what the difference is between an inspector and a mentor using examples and metaphors (e.g., policeman, facilitator, etc.). **6.2b** Trainees can explain why mentors are likely to be more effective in helping teachers to improve their classroom practice. **6.2c** Trainees can explain the purpose of classroom observation. **6.2d** They can effectively prepare for an observation by discussing a lesson plan that will be implemented during the observation.	**Bruce R. Joyce, Beverly Showers** - *Student Achievement Through Staff Development (3rd Edition)* Chapter 5: *Designing Training and Peer Coaching: Our Needs for Learning* (especially about demonstration, modeling and practice)	• **Small Group Work:** In small groups, using lesson plans and textbooks, Trainees prepare a classroom observation, by writing their teaching objectives and relating them to a few attention points for observers (such as classroom management, students' attitude, accuracy or clarity). In short: what could go wrong?

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
1. Inspectors have traditionally played the role of a 'policeman' in Cambodia's schools. Do you think this is an effective model to help teachers to improve their classroom practice? Why or why not? 2. What in your opinion are the differences between an 'inspector' and a 'mentor'? 3. Ideally, what should the purpose of a classroom observation be? 4. How should one prepare for a classroom observation, so that it becomes a useful learning opportunity for the teacher? 5. What kind of activities should we prefer for classroom observation? **Hours:** 4			
Topic 6.3: The Difference between Mentoring & Teacher Supervision In this topic, Trainees will learn that aggressive promotion of new teaching techniques can lead to bad decisions in the classroom, not only because teachers are reluctant to implement them when they feel threatened, but rather because the given techniques may not be relevant to the situation at hand. This topic explores how a mentor can guide the decisions of his mentee, with objectives and advice rather than orders and mandatory advisories. It emphasizes the consistency between teacher's training and students' achievement. *Key Discussion Questions:* 1. When should a teacher try a new technique in order to fulfill his/her own training, without compromising	**6.3.a** Trainees make links between student achievement and implementation of new techniques. **6.3.b** They can define priorities in teacher training by looking at the needs of students.	Bruce R. Joyce, Beverly Showers - *Student Achievement Through Staff Development (3rd Edition)* Chapter 1: *Student Learning as the Goal: Learning by Everyone as an Ethos*	• **Case Study Review:** Considering different indicators such as school records, disciplinary reports, and parents' complaints, Trainees suggest training courses, even if they are not expert in the field.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
students learning? How to find the good occasion to implement it? 2. Who chooses pedagogical approaches? How should we link teaching strategies to specific objectives? How can we evaluate the relevance of a strategy to a given situation? **Hours:** 4			
Topic 6.4: Teacher Career Path The Teacher Career Path is an official protocol of MoEYS to encourage the teachers to improve their skills during their service, track down their progress and promote them. Although it is largely self-directed, it is important for mentors to accompany the teachers who might have difficulties to navigate through that administrative system. Mentors have also can also help the teachers to be more lucid in their self-assessment. *Key Discussion Questions:* 1. Why is TCP important for the teachers? 2. What can the teachers get from it? 3. How can they fill the forms and write relevant and reasonable career objectives.	**6.4.a:** Trainees can explain the general organization of TCP. **6.4.b:** Trainees can fill the form in use in NGS to make self-assessment and write down career objectives. **6.5.c:** Trainees can provide feedback on the TCP assessment and objectives of other teachers.		• **Peer-review:** Trainees fill the TCP form of NGS individually for themselves. They exchange the result with their peers to provide and receive feedback.
Topic 6.5: Continuous Professional Development The Continuous Professional Development program (CPD) is an official strategy of MoEYS to provide in-service training to teachers. Through CPD, teachers can receive credits in order to upgrade their qualifications. Even though the CPD are normally granted by accredited providers (such as the NIE or NGOs), there is a possibility to validate mentoring activities and convert them into CPD	**6.5.a:** Trainees are aware of the general organization of CPD and of the opportunities offered by this system. **6.5.b:** They can make recommendations to their mentees and school	Official documents related to CPD, in particular: • *CPD Handbook* • *CPD Framework* *To be updated with the release of complementary documentation by the CPD Management Office.*	• **Lecturing**

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
credits. Also, mentoring can be an integrated component of an official CPD offering. No matter in which setting the CPD is supposed to happen, it is important that mentors are aware of the opportunities offered by this system to advise their mentees properly. This topic is mostly informative.	principals regarding CPD programs.		
Topic 6.6: Professional Learning Community Professional Learning Communities are constituted of the teachers of a school or of a subject. They hold regular meetings and activities to harmonize their practice, to organize projects and also to do capacity-building and professional training. In this module, the Trainees will explore the various opportunities offered by a well-functioning team of teachers, in terms of professional development. They will clarify the roles and responsibilities of the different stakeholders of a school (director, technical team leader etc.) in a common effort to improve the skills of the teachers and the quality of the school. *Key Discussion Questions:* 1. What are the missions of the PLC? 2. Who participates in the PLC? 3. How to evaluate the strengths and weaknesses of the PLC? 4. How to make action plans? 5. How to organize internal training for the teachers?	**6.6.a:** Trainees can navigate through official documents in order to extract key information regarding their roles and duties. **6.6.b:** Trainees can make concrete proposals to implement PLC in their school, based on the official recommendations.	Official guidelines from MoEYS regarding PLC	• **Group work:** Each group is assigned a specific kind of PLC and must analyze the official guidelines related to it in order to make a presentation. The presentation includes roles, duties and opportunities, with some examples of projects that could be done to implement the guidelines.
Module 7: Mentoring as a Teacher Development Approach (Part 2: Practical Applications) (15 Hours)			

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Topic 7.1: Establishing the Credibility of a Mentor Trainees will explore specific situations in which they may be challenged to establish their credibility as a mentor. For example, older teachers may not wish acknowledge of a teacher in a mentoring role who is younger than he or she is (especially in Cambodia). Trainees will participate in discussions that provide strategies for dealing with such situations in order to help other teachers change/improve their classroom practice. These techniques will be vital to help future mentors identify the factors and behaviors that can either favor or hinder their credibility. Some of the techniques reviewed under this topic include the concept of 'continuous learning,' 'ego control,' 'disarming conversation' and the effective use of 'humor.' Trainees will also learn to identify some of the main channels for 'self-education' and 'co-education.' *Key Discussion Questions:* 1. How can a mentor improve his/her own knowledge in in their subject and in their teaching practice? 2. Should a mentor hide his or her mistakes and will doing so improve credibility? Why or why not? 3. When will I know I am ready to become a mentor? 4. What can make older teachers listen to me? 5. What can be done when we don't have the answer? 6. What kinds of practices should one try to change in a mentee? Who should determine these practices? 7. What practices should perhaps remain the same? 8. Should a mentor be a role model or a facilitator or both? Explain your answer.	**7.1a** Trainees can identify key techniques that a mentor can use to improve his or her credibility (e.g., ego control, honesty in admitting mistakes, etc.). **7.1b** Trainees can identify suitable solutions to specific challenges that a mentor might face that relate to his or her credibility. **7.1c** Trainees can design their own objectives for professional and academic improvement.	Short Mentorship Video*: How to Gain Credibility and Trust:* https://www.youtube.com/watch?v=VBeb1HWmeCY Bruce R. Joyce, Beverly Showers - *Student Achievement Through Staff Development (3rd Edition)* Chapter 3: '*Sources of Tested Content: Inquiries on Teaching and Learning'*	• **Small Group Work:** In small groups, Trainees should identify 5 challenges that mentor might face and identify suitable responses by mentor to these challenges. Some of the challenges may be suggested by the Instructor to get the groups moving on their assignment. Each group should then present their scenarios and solutions to the whole group and be prepared to defend their responses. • The following Matrix might be used for this exercise: **Challenge** — **Solution** 1. A Mentee expects the mentor to be perfect. 2. A Mentee rejects a mentor's

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Topic 7.1: Establishing the Credibility of a Mentor Trainees will explore specific situations in which they may be challenged to establish their credibility as a mentor. For example, older teachers may not wish acknowledge of a teacher in a mentoring role who is younger than he or she is (especially in Cambodia). Trainees will participate in discussions that provide strategies for dealing with such situations in order to help other teachers change/improve their classroom practice. These techniques will be vital to help future mentors identify the factors and behaviors that can either favor or hinder their credibility. Some of the techniques reviewed under this topic include the concept of 'continuous learning,' 'ego control,' 'disarming conversation' and the effective use of 'humor.' Trainees will also learn to identify some of the main channels for 'self-education' and 'co-education.' *Key Discussion Questions:* 1. How can a mentor improve his/her own knowledge in in their subject and in their teaching practice? 2. Should a mentor hide his or her mistakes and will doing so improve credibility? Why or why not? 3. When will I know I am ready to become a mentor? 4. What can make older teachers listen to me? 5. What can be done when we don't have the answer? 6. What kinds of practices should one try to change in a mentee? Who should determine these practices? 7. What practices should perhaps remain the same? 8. Should a mentor be a role model or a facilitator or both? Explain your answer.	**7.1a** Trainees can identify key techniques that a mentor can use to improve his or her credibility (e.g., ego control, honesty in admitting mistakes, etc.). **7.1b** Trainees can identify suitable solutions to specific challenges that a mentor might face that relate to his or her credibility. **7.1c** Trainees can design their own objectives for professional and academic improvement.	Short Mentorship Video*: How to Gain Credibility and Trust:* https://www.youtube.com/watch?v=VBeb1HWmeCY Bruce R. Joyce, Beverly Showers - *Student Achievement Through Staff Development (3rd Edition)* Chapter 3: '*Sources of Tested Content: Inquiries on Teaching and Learning'*	• **Small Group Work:** In small groups, Trainees should identify 5 challenges that mentor might face and identify suitable responses by mentor to these challenges. Some of the challenges may be suggested by the Instructor to get the groups moving on their assignment. Each group should then present their scenarios and solutions to the whole group and be prepared to defend their responses. • The following Matrix might be used for this exercise: **Challenge** — **Solution** 1. A Mentee expects the mentor to be perfect. 2. A Mentee rejects a mentor's

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
9. How can one learn from those whom we are also supposed to train? **Hours:** 4			advice because she is too young. 3. ???
Topic 7.2: A Mentor's Need to Build Trust and an Effective Relationship Skilled and enthusiastic practitioners are generally eager to pass on their knowledge to younger ones. Young and inexperienced teachers are generally eager to learn and recognize their need for improvement. Too often, however, their good intentions don't match what actually happens, because of mistakes in communication and misunderstandings. Trainees will learn about the dynamics of these interactions, how they can be avoided, and how a mentor can build trust with his or her mentee. *Key Discussion Questions:* 1. Part of your initial responsibility as a mentor is to establish rapport and start building trust. List some strategies you would employ to begin developing a positive mentor-mentee relationship. 2. What are some common communication barriers to successful interpersonal communication highlighted in the module? 3. During an unofficial observation, you notice a new teacher is struggling with classroom management.	After completing this topic, Trainees will be able to do the following: **7.2.a** Examine who they are as a mentor. **7.2.b** Plan and conduct a 'getting to know you' conversation. **7.2c** Explore ways to promote and enhance communication. **7.2d** Avoid miscommunication by harmonizing verbal and nonverbal signals.	*https://mentormodules.com/* The videos are quite interesting, although they are a little bit artificial. Trust and Relationship Building*:* *https://mentormodules.com/lesson/trust-and-relationship-building/* *https://www.teachingchannel.org/video/mentoring-for-new-teachers*	• **Large Group Discussion:** Trainees will observe a video of a mentor and mentee and be able to critique what worked well in the interaction and what did not work well.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
You kindly ask if you two can meet to discuss her management skills, but she insists that everything is fine. How can you help her understand your point of view and begin problem solving without causing her to become defensive? **Hours:** 4			
Topic 7.3: Enhancing a Mentee's Knowledge of Subject Expertise and Standards Increasing a mentee's expertise in subject curricular expertise is a big part of the mentor's job. It's not unusual for a new teacher to get excited about a new lesson that may not be so relevant to the curriculum. As a future mentor, Trainees will want to maintain that enthusiasm while ensuring that the lesson will fulfill instructional objectives and be managed in the most effective way. Advising a new teacher about curricular standards without squashing enthusiasm is a big challenge for mentors that Trainees will study under this topic. *Key Discussion Questions:* 1. In addition to grade level standards, what other considerations should new teachers focus on when designing lesson plans for students? 2. How can a mentor support a new teacher to plan and deliver instruction focused on the key concepts in the curriculum? **Next, think back to your initial responses and consider the questions below.** 1. After working through the resources in this module, do you still agree with your initial thoughts?	After completing this topic, Trainees will be able to do the following: **7.3a** Support new teachers as they examine subject matter and grade level standards **7.3b** Help new teachers to connect their instruction to official curricular standards, especially as these may relate to the Bac II Examination. **7.3c** Support new teachers as they differentiate instruction and integrate multicultural education into the official curricular standards of MoEYS.	Improving a Mentee's Knowledge of Standards: *https://mentormodules.com/lesson/knowledge-of-standards/*	• **Large Group Discussion:** Trainees will observe a video of a mentor and mentee and be able to critique what worked well in the interaction and what did not work well.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
2. Has your perspective shifted in any way? If so, what aspects of your responses would you change? 3. As a mentor, where would you begin with supporting a new teacher who has a lot of exciting new ideas about teaching but may not fully understand the curriculum? 4. What questions should a new teacher ask herself as they relate to unit/lesson planning and instruction? **Hours:** 4			
Topic 7.4: Useful Methods Through Which to Create a Professional Relationship between a Mentor and a Mentee The relationship between a mentor and his protégé is often a long-term one. It can also be very personal. This topic will explore various techniques for building effective relationships in order to help Trainees build strong but constructive relationships with their mentor/ mentee. They consider both sides of the relationship. *Key Discussion Questions:* 1. Have you ever mentored anyone before/been mentored by anyone before? 2. What made the relationship work for you? What things hurt the relationship? 3. How often do you think mentors and mentees should meet? 4. What sort of relationship should a mentor and mentee have outside the school? 5. How can mentors and mentees work together to define self-improvement objectives? 6. Who should take the initiative in mentor/mentee relationship?	**7.4a** Trainees can cite specific techniques to use to build a professional relationship with a mentor/mentee. **7.4b** Trainees understand the expectations of others regarding professional relationships. **7.4c** Trainees can negotiate an organization.	Hal Portner, *Being mentored* Reading the entire book is highly recommended.	• Trainees begin to write a journal of their own difficulties and questions. • They describe a situation when they experienced loss of confidence and explain why it occurred. • They discuss in small groups to find solutions to those situations.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
7. Should you favor short-term or long-term objectives? 8. Can we assume that "no news" means "good news"? How can we help someone who doesn't call for help? **Hours:** 2			
Topic 7.5: How Mentors Should Deal with Unethical Behaviors When They Occur In this topic, Trainees will learn how to react when they witness or hear about colleagues who have engaged in unethical behaviors or acts, especially when there are only suspicions. Through case studies, Trainees will consider the main dangers that can occur in tense situations involving unethical behavior and devise strategies to protect the different actors involved (e.g., victims, third parties, themselves, etc.) and a school's reputation. Trainees will also gain some insight into the laws regarding the issues that might have occurred. *Key Discussion Questions:* 1. What are some examples of unethical behaviors or acts that might occur in a school involving school personnel? 2. Should one investigate an observed case of unethical behavior by oneself? 3. How does one evaluate the seriousness of a situation involving an unethical act (e.g., has a criminal act been committed, how many persons are involved, etc.)? 4. What is the legal responsibility of a mentor as a witness?	**7.5a** Trainees can explain their legal and moral obligations as witnesses of criminal or unethical behaviors. **7.5b** Trainees can determine one or more proper courses of action to follow when an unethical act occurs based on case studies that they read. **7.5c** Trainees can identify suitable precautions that they may observe in order to minimize the impact of a particular incident of unethical behavior on the school and its students.	*Teacher Professional Code.* Richard E. Lange - *A Life Saver for New Teachers_ Mentoring Case Studies to Navigate the Initial Years* (2011, R&L Education) **Note:** These Case studies can be useful to design lessons and activities on this topic though they may need to be adapted to the Cambodian context by the instructor)	• Trainees describe in writing the good relationship between a mentor and a mentee and the obligations of both of them. • They compare their expectations, see if they match and negotiate to design a monthly schedule. • With the entire group, we discuss how the negotiation took place.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
5. Should one intervene directly when an unethical act occurs? When should one hand over the case to the authorities? 6. How does one avoid doing harm to the authority or reputation of a colleague who may have been falsely accused? 7. What should one do if more than one person is involved? 8. What should one do if one has a special relationship with the person involved in an unethical act (e.g., he is my mentee)? 9. What should one do if one's initial assessment was wrong? **Hours:** 6			
Topic 7.6: Understanding the Influence of Observation on Behavior In this topic, future mentors will explore how their own behavior can influence the answers of other teachers and negatively or positively affect how they engage into a professional discussion. Through "active listening" techniques, Trainees will learn how to facilitate the reflection of their future protégés and to give well-oriented advice when they are requested to do so by an observed colleague. Trainees will also learn how to take advantage of a conference to improve one's classroom practice, if they one is a mentee, or to conduct it, if one is to become a mentor. *Key Discussion Questions:* 1. Why do you think it is important not to rush to judgment about an observed classroom?	**7.6a** Trainees can conduct a conference (e.g., in the context of a role play) using "active listening" skills to both avoid premature or inappropriate judgment and facilitate communication between mentor and mentee.	Definition of active listening: *https://www.thebalancecareers.com/active-listening-skills-with-examples-2059684* Carl Rogers Exercises: *https://www.trainingzone.co.uk/develop/cpd/trainers-tips-active-listening-exercises* *https://blog.udemy.com/listening-skills-exercises/* *http://www.people-communicating.com/listening-exercises.html*	• **Role Play:** Following a discussion of techniques to use when conducting a one-on-one teacher conference, Trainees should be asked to take on the roles of a mentor and a mentee and apply these techniques appropriately. These techniques should include: o Active Listening o Avoidance of Judgment o Promoting self-evaluation through

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
2. What is the difference between the description of how a lesson was delivered and an interpretation of how the lesson was delivered? 3. Do you always share your opinion about something? Do you ever think it is important not to express one's opinion? In what instances might withholding one's opinion be most advised? 4. Do you always ask the questions you might have about something? What might prevent you from doing so? **Hours:** 4			Socratic questioning o Discriminating between 'description' and 'interpretation', etc. • Other Trainees should observe and give their impressions of what occurred. Multiple role play sessions may be organized to give all participants a chance to use their skills.
Module 8: Models of schools in Cambodia and School Reforms (15 Hours)			
Topic 8.1: An Overview of New Generation School This topic provides an overview of the philosophical foundation of a New Generation School. In this respect, Trainees will learn that MoEYS has identified Five Core Principles defining what a New Generation School is, described in the diagram below. Trainees will explore how the principles of governance, professionalism, autonomy, accreditation, and rationalized resource allocation each play out in a New Generation School. The core principle underlying a New Generation School relates above all to its new governance structure. Trainees will be led through a discussion about how and why the features identified distinguish a New Generation School from a normal school. As part of the learning process, Trainees will compare their	**8.1a** Trainees can define a New Generation School in terms of its Five Core Principles. **8.1b** Trainees can compare and contrast their previous and current understanding of a New Generation School based on their readings and discussions with other trainees. **8.1c** Trainees can explain how the principle of 'Good Governance' affects the	MoEYS (2018), *New Generation School Operational Guidelines,* Phnom Penh: MoEYS. (pp 1-9) MoEYS (2016), *New Generation School Policy,* Phnom Penh: MoEYS. Short Documentary on New Generation Schools: *https://www.facebook.com/MissionOfTheWeek/videos/2121776947873596/UzpfSTUwMTY5NDIyMzE5MzcwODoyMjgxMjYzNDg1MjM2NzY0/*	• **Individual Writing Assignment (Before and After):** Before reading assigned reading assignments, each Trainee should write down their current understanding of a New Generation School BEFORE the class begins, focusing on key definitions and characteristics of such schools. They should then write down their understanding of key

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
prior understanding of a New Generation School to what they have learned in the class and through their readings. *Key Discussion Questions:* 1. What was your previous understanding of a New Generation School based on what you had heard and read? 2. How has your understanding of a New Generation School evolved based on your subsequent readings and current discussions? 3. Accountability is seen as the most central element of a New Generation School. Based on your understanding of a New Generation School, how does this principle influence and reinforce the other four elements indicated in the diagram? **Hours:** 4	implementation of the other four Core Elements of a New Generation School.		characteristics of a New Generation School AFTER discussions have been completed. Trainees may use the table below to help organize their thoughts. *My Understanding of a New Generation School.* **Before** **After** • • • • • • • • • After completing the table above, Trainees can then share how their understanding of a New Generation School has changed from their previous conceptions.
Topic 8.2: The Charter School Models New Generation Schools are Cambodian one implementation of a broader model called charter schools, alongside with SBM (School-Based Management) and other programs. A charter school is a publicly funded tuition-free school of choice that has greater autonomy than a traditional public school. In exchange for increased autonomy, charter schools are held accountable for improving student achievement and meeting other provisions of their charters. Charter schools are most often new schools that were not in existence before	**8.2a** Trainees can explain the basic principles of charter schools. **8.2b** Trainees can analyze how the status of a school can influence its governance and ultimately its academic performances.	*Charter Schools, Lessons in School Reform*; LIANE BROUILLETTE https://en.wikipedia.org/wiki/Charter_school https://en.wikipedia.org/wiki/Charter_schools_in_the_United_States	• In small groups, using official websites, trainees compare different charter schools in terms of pedagogical choices, styles and governance.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
the charter was granted; a traditional public or private school may also convert to charter school status. This topic will explore various implementations of the charter school model, to understand its advantages and challenges, in comparison with traditional private and public schools. *Key Discussion Questions:* 1. What are the main characteristics that distinguish a charter school from other status (public, private)? 2. What are the institutional conditions of educational innovation? 3. What should be the limitations of school autonomy? 4. What sorts of regulation prevent abuses in different sorts of schools (i.e. private, public, charter)? 5. In practice what does accountability mean in schools with different status? 6. How much does parents' choice contribute to good governance? How much does public supervision? 7. What should happen if a charter school fails to meet the requirements? How does the failure of a school affect the school system as a whole? 8. How does competition affect equity? Are the two concepts incompatible?	**8.2c** They can relate status, incentives and behaviors. **8.2d** They can define school governance as a comprehensive concept and analyze its main dimensions. **8.2e** They can synthesize the praises and criticism received by the charter school model.		
Topic 8.3: Resource Schools and Other Initiatives Many programs are trying to improve the educational landscape of Cambodia. Some are implemented by NGOs or UN agencies. This topic will explorer more specifically the different sorts of schools where the mentors are to be posted after graduation.	**8.3a** Trainees can describe the specificities of the schools and institutions where the are to be posted.	Depending on the priorities of the ministry and the schools that have been selected for receiving mentors: official documents describing the relevant programs.	• In small groups, trainees collect information about the schools where they might be posted and present them to the class.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
It has a very practical purpose to prepare them to their future challenges and missions. The objective is to help them make educated choices during the placement fair that will assign them to specific schools. *Key Discussion Questions:* 1. Should I prioritize working conditions, salary or professional development? 2. How can I balance professional and personal life? 3. What sort of mission should I favor? 4. How important is the location?	**8.3b** They can identify possible challenges of their future positions. **8.3c** They can express their preferences in terms of working conditions and professional development.		
Topic 8.4: Teacher Continuous Training (INSET) Teacher education doesn't stop after the induction process has been completed. The Teacher Policy Action Plan has established several strategies to promote continuous learning among the teachers. Mentoring is one important strategy by itself, but also has a pivotal role to support other strategies as well. In this topic, would-be mentors will learn how the INSET training is organized is Cambodia and what can be expected from mentors in activities such as CPD trainings, PLC, Career Pathways and so on. The approach is mostly informative. *Key Discussion Questions:* 1. What kind of training a mentor can organize or supervise?	**8.4a** Trainees can explain the legal frameworks that regulate in-service teacher training (INSET). **8.4b** They can navigate through the administrative requirements to organize activities related to formal INSET trainings. **8.4c** They can support teachers in setting their professional development	Please, note that the following resources are administrative and legal documents that are subject to constant modifications and improvement. Trainees and mentors are therefore required to update their information on a regular basis. • *Teacher Policy Action Plan (TPAP) 2015* • *Continuous Professional Development Framework for Teachers and School Directors 2019-2023* • *CPD Handbook* • *Teacher Career Pathway* • *Cambodian Secondary Education Blueprint*	• Trainees design a teacher training action (workshop or other) in order to meet the specifications of the CPD framework.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
2. How such a training can match with the mentor's expertise and the needs of the teachers?	goals through the Teacher Career Pathway.		

SYLLABUS STREAM 2: Educational Research in English

Syllabus Stream 2: Educational Research in English
(6 Modules – 6 Credits)

Module 1: How to Identify Logical Fallacies and Cognitive Biases in Daily Life

Topic 1.1: Describing and Detecting Logical Fallacies in Educational Research

Topic 1.2: Describing and Detecting Cognitive Biases

Module 2: Understanding Educational Research and Its Academic Sources

Topic 2.1: Understanding Primary Research Articles, Review Articles and Meta-Analysis, and Their Differences

Topic 2.2: Helpful Guidelines in Getting, Reading, and Critiquing Research Articles and How to Use Academic Sources Properly

Module 3: Understanding Methods & Procedures Used in Qualitative Research

Topic 3.1: Understanding the Basic Principles of Qualitative Research

Topic 3.2: Understanding the Narrative Research Design and Its Application

Topic 3.3: Understanding the Case Study Research Design and Its Application

Module 4: Developing Research Instrument and Analyzing Collected Data in Qualitative Research

Topic 4.1: Interview as a Technique for Qualitative Data Collection

Topic 4.2: Observation as a Technique for Qualitative Data Collection

Module 5: Understanding Methods & Procedures Used in Quantitative Research

Topic 5.1: Understanding the Basic Principles of Quantitative Research

Topic 5.2: Understanding the Survey Research Design and its application

Topic 5.3: Understanding the Experimental Research Design and its application

Module 6: How to Perform Statistics by Using Analytical Tools in Educational Research

Topic 6.1: The Use of Descriptive Statistics in Educational Research and How to Perform by Using Analytical Tools

Topic 6.2: The Use of Inferential Statistics in Educational Research and How to Perform by Using Analytical Tools

Topic & Description	Expected Learning Outcomes	Documents and Reading Materials	Assignment & Project Work
Plenary Session			
Module 1: How to Identify Logical Fallacies and Cognitive Biases in Daily Life			
Topic 1.1: Describing and Detecting Logical Fallacies in Educational Research Under this topic, trainees will become familiar with the many examples of logical fallacies that often undermine the integrity of a conclusion or point of view. This includes such fallacies known as *post hoc, argumentum ad hominem, false equivalencies, etc.* Trainees will learn that logical fallacies are reasoning errors that ultimately weaken an argument. Trainees will then explore ways to avoid fallacies starting with the first step, which is to know how to recognize them. To help trainees better recognize Logical Fallacies, they will be presented with definitions and specific examples of each. Trainees will then review actual examples of fallacious writing on education issues where they will be expected to identify the fallacies present and justify their analysis. **Key Discussion Questions** 1. Do you think that logical fallacies are always deliberate? If not, then why	**1.1a:** Trainees will be able to define various examples of logical fallacies as described in course documents **1.1b:** Trainees will be able to identify specific examples of logical fallacies when they occur in a given piece of research that they are critiquing and also in their daily life **1.1c:** Trainees will be able to give multiple examples of logical fallacies that they think of on their own **1.1d:** Trainees will be able to develop their critical thinking	*Summary of Logical Fallacies* *(To be provided to trainees as a Handout)* *TIME Magazine (2016) Screens in Schools are a $60 billion Hoax* http://time.com/4474496/screens-schools-hoax/ *The Logical Fallacies of TIME Magazine's Technology Hoax Article* http://ajjuliani.com/the-logical-fallacies-of-time-magazines-technology-hoax-article/ Creswell, J. W. (2011). Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.). Pearson. [1] Fraenkel, J., Wallen, N., & Hyun, H. (2011). How to Design and Evaluate Research in Education (8th ed.) [E-book]. McGraw-Hill Education. [2] Lunenburg, F. C., & Irby, B. J. (2007). Writing a Successful Thesis or Dissertation: Tips and Strategies	*** Group Presentation 1:** Trainees will work in small groups to identify at least one example that exemplifies a specific logical fallacy discussed during class. Each group should identify examples for at least five logical fallacies that have been discussed. The examples should be presented to the class to determine whether they are appropriate examples or not. **** Research Task 1: Operationalizing a statement of the problem** Trainees will be asked to do independent reading on "how to write or operationalize a statement of the problem. Each student will be required to write and submit the statement of the problem and conduct 5 to 10 minutes presentation to the whole class.

do they occur so often in written literature? 2. Based on your new understanding of Logical Fallacies, have you ever wittingly or unwittingly used such fallacies in your writing or conversations with friends? Can you give some examples? 3. How does the ability to root out logical fallacies from academic research help to improve the effectiveness of educators? 4. How can teachers use their own knowledge of logical fallacies to improve their teaching? Be sure to give some specific examples. **Hours:** 7.5 Hours		for Students in the Social and Behavioral Sciences (1st ed.). Corwin. [3] Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Applications (11th ed.). Pearson. [4]	
Topic 1.2: Describing and Detecting Cognitive Biases Cognitive bias is a systematic error in thinking that occurs when people are processing and interpreting information in the world around them and affects the decisions and judgments that they make. Under this topic, trainees will learn what are cognitive biases, its causes, and its types. This kind of knowledge will promote trainees' critical thinking. After understanding the basic concept of cognitive biases, trainees will learn some techniques to detect cognitive biases. **Key Discussion Questions**	**1.2a:** Trainees will be able to differentiate cognitive bias and logical fallacy **1.2b:** Trainees will be able to describe what cognitive biases are and its type **1.2c:** Trainees will be able to describe common types of cognitive biases that can distort their thinking **1.2d:** Trainees will be able to detect cognitive biases which are really helpful for them	What Is Cognitive Bias? *https://www.verywellmind.com/what-is-a-cognitive-bias-2794963* *5 tips for identifying—and avoiding—cognitive bias during a crisis* *https://www.prdaily.com/5-tips-for-identifying-and-avoiding-cognitive-bias-during-a-crisis/* *10 Cognitive Biases That Distort Your Thinking* *https://www.verywellmind.com/cognitive-biases-distort-thinking-2794763*	*** Group Presentation 2:** Trainees need to reflect their own experience so far when they committed cognitive biases. They have to explain kind of cognitive bias that they committed, what were the causes, and what were the decision makings. After that, they have to reflect such situation with what they have learn in this topic. At the end each trainee has proposed some solutions toward such cognitive bias that they committed in groups. **** Research Task 2:**

1. Based on your understanding, why cognitive biased is importance in your daily life? 2. How to apply cognitive biases in your teaching? 3. What are the causes of cognitive biases? 4. To what extent the social pressure causes cognitive biases? **Hours:** 7.5 Hours			**Constructing research questions and hypotheses** Trainees will need to write research questions and hypotheses related to the statement of the problem in the research task 1. Then everyone will present their research questions and hypotheses to the whole class for peers' and instructor's feedback.

Module 2: Understanding Educational Research and Its Academic Sources

Topic 2.1: Understanding Primary Research Articles, Review Articles and/or Meta-Analysis, and Their Differences This topic introduces trainees to different genres of research writing. There are essentially two broad categories of research writing in this regard, namely: (i) Primary Research Articles, (ii) Review Articles, and Meta-Analysis (sometimes also referred to as Systematic Reviews). Within these genres, there are also sub-genres such as Editorial Reviews and Book Reviews, which are both forms of the Review Article. In studying the difference between these two genres of articles, trainees will be presented with key English terms, which they will be expected to define and use in discussions. Key terminology in this respect includes such words as, empirical, primary data, secondary data, experimental, sample,	**2.1a:** Trainees will be able to define the differences between various genres of educational research **2.1b:** Trainees will be able to classify research articles according to the genre that they represent **2.1c:** Trainees will be able to discuss the structure and content of research articles of all genres **2.1d:** Trainees will be able to use the academic sources for their literature review	*What's the Difference between a Research Article and a Review Article?* *Sample Primary Research Articles:* *Nonoyama-Tarumi, Y., & Bredenberg, K. (2009). Impact of school readiness program interventions on children's learning in Cambodia. International Journal of Educational Development, 29(1), 39-45.* **(Article 1)** *No, F., & Hirakawa, Y. (2012). Identifying causes of dropout through longitudinal quantitative analysis in rural Cambodian basic schools. Journal of International Development and Cooperation, 19(1), 25-39.* **(Article 2)**	**** Group Presentation 3:*** In small groups, read the article given by the instructor and summarize it in the presentation slides and then present it to the whole class. Each group should answer the following questions: - What type of academic paper is it (e.g., research article, review article or meta-analysis article)? Why? - What is the structure of the paper? *- What are the main points of the paper? (3 to 5 points)* *- What are you interested in in this article?* **** Research Task 3:**

random, non-random, etc. Trainees will read a number of articles under this topic and will be expected to classify them and define the basis for their classifications. **Key Discussion Questions:** 1. What kinds of articles do you think are the most difficult to write? Explain your answer. 2. Which of these two research genres do you find easier to read? Explain your answer. Which of these research genres do you have the most experience in reading? 3. Can you describe each of the sample genre articles that you read using at least five of the technical terms from the List of Key Terms Handout? (e.g., empirical, primary data, secondary data, experimental, etc.). 4. Can an article be non-empirical but still scholarly? Why or why not? When is an article considered to have 'scholarly' credentials? 5. What research genre is best for generating new ideas and concepts? Which genre is best for reinforcing or supporting existing theories? **Hours:** 6 Hours		*Sample Review Articles* *Kim, C.-Y., & Rouse, M. (2011). Reviewing the role of teachers in achieving Education for All in Cambodia. Prospects, 41(3), 415-428. doi:10.1007/s11125-011-9201-y* **(Article 3)** Tan, C. (2007). Education reforms in Cambodia: issues and concerns. *Educational Research for Policy and Practice,* 6(1), 15-24. doi:10.1007/s10671-007-9020-3 **(Article 4)** *Sample Meta-Analysis Article* *Kyriakides, L., Christoforou, C., & Charalambous, C. Y. (2013). What matters for student learning outcomes: A meta-analysis of studies exploring factors of effective teaching. Teaching and Teacher Education, 36, 143-152. doi:http://dx.doi.org/10.1016/j.tate.2013.07.010* **(Article 5)**	**Writing research purposes and objectives** Trainees will need to write research purposes and objective related to the statement of the problem and research questions/hypothesis in the research task 1 and 2. Then everyone will present their research purposes and objectives to the whole class for peers' and instructor's feedback.
Topic 2.2: How to Get, Read, Critique and Use Academic Sources Properly This topic introduces trainees to different ways of getting scholarly articles on	**2.2a:** Trainees will be able to get access to academic sources in various approaches **2.2b:** Trainees will be able to use some guidelines for reading and critiquing research article	*How to Read and Understand a Scientific Paper: A Guide for Non-scientists* *https://violentmetaphors.com/2013/08/25/how-to-read-and-understand-a-scientific-paper-2/*	*** Individual Presentation 1:** Each trainee has to make a collection based on their thesis topic by using various sites. In the collection, there must be different types of articles such as research articles, reviewed

Google Scholar, Open Access Journal, JSTOR, etc. After getting the sources, reading is an essential skill that trainees need to obtain. Trainees will start with some basic guidelines to read scholarly sources effectively and also to critique their strengths and weaknesses. Last but not least, trainees learn how to cite those sources in a proper way by using APA 7th Edition Style. ICT software (EndNote) and ICT platform (https://www.scribbr.com/apa-citation-generator/) will be introduced in order to manage citation effectively. Trainees need to make a collection of academic sources, namely journal articles, book, book chapter, and report which are related to their thesis topic and store them properly and then summary strengths and weaknesses in order to practice what they have learned in this topic. **Key Discussion Questions:** 1. How to evaluate the scholarly sources? 2. When should we use direct quote, summary, and paraphrase when we review scholarly sources? 3. Why do we need to put citation when we use the idea from scholar's paper? **Hours:** 9 Hours	**2.2c:** Trainees will be able to cite the academic sources properly by using APA 7th Edition **2.2d:** Trainees will be able to use the academic sources properly	*American Psychological Association. (2019). Publication Manual of the American Psychological Association (7th ed.): Author.*	articles, book chapters, and books (at least 1 for each type). After getting all those sources, trainees have to make citations manually or by using any ICT software. Trainees need to summarize, paraphrase, or use direct quote/block quotation where the information is really interesting, at least one for each paper and put in-text citation and export the reference list. *** Quiz:** Each trainee does a quiz about using direct quotes, summarizing, and paraphrasing academic sources, along with APA 7th Edition referencing, which response to the individual assignment 1. https://quizizz.com/ will be used for administrating the quiz.
Module 3: Understanding Methods & Procedures Used in Qualitative Research			

Topic 3.1: Understanding the Basic Principles of Qualitative Research Under this topic, trainees will review the key characteristics of qualitative research and its types such as narrative, case study, ethnographic, and grounded theory, which are the common designs in qualitative study. This will not go deeply into that, but only focus on general characteristics. Additionally, the stesp for conducting qualitative research will be discussed in the class. Then, trainees will discuss about the way of analysis qualitative data by reviewing many research articles which use qualitative research design. Some concepts such as (1) content analysis, (2) case study, and (3) grounded theory will be discussed in the class. During the discussion of this topic, trainees will get a better understanding of the importance of qualitative research and understand the means of its analysis. **Key Discussion Questions** 1. What is Qualitative Research? Explain its nature and characteristics 2. What are the steps of qualitative research? 3. Explain each type of qualitative research designs which use in educational field. 4. Explain each type of data analysis techniques used in qualitative research and reflect on the articles that are provided.	3.1a: Trainees will be able to explain what qualitative research and its nature is 3.1b: Trainees will be able to explain the designs of qualitative research and its characteristics 3.1c: Trainees will be able to reflect the type of data analysis techniques with some research article 3.1d: Trainees will be able to distinguish between qualitative and quantitative research approach	*Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to Design and Evaluate Research in Education (8th ed.). New York: McGraw-Hill. (Part 6: Qualitative Research Methodologies)* *(To be provided to trainees as a Handout)* *Additional* *Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 12: Narrative Research, Chapter 13: Ethnographic Research, Chapter 14: Case Study)* Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Boston: Pearson Education. (Chapter 1)	*** Group Presentation 4:** Trainees work in groups of three or four. There are four topics, and each group has to response to one topic as follows: (1) Key Characteristics of Qualitative Research, (2) Step in Qualitative Research (emphasize sample and sampling techniques), (3) Qualitative Data Analysis, and (4) Generalization and its limitations (including validity and reliability and ethics). They have to use the textbook and other sources as references for their work and each group has 1 hour to deliver the content of the given topic (45 minutes for presentation and 15 minutes for Q &A). Trainees can use varied techniques such as slide presentations, ask other trainees to do exercises, have group discussion, etc. The final aim is that to make other trainees clearly understand on each topic.

Hours: 4.5 Hours			**** Research Task 4:** **Writing significance of the study and ethical consideration** Trainees will need to write the significance of the study related to research tasks 1, 2 and 3. Then everyone will present them to the whole class for peers' and instructor's feedback.
Topic 3.2: Understanding the Narrative Research Design and its application Narrative research is the study of how different humans experience the world around them, and it involves a methodology that allows people to tell the stories of their "storied lives". Under this topic, trainees will review the key characteristics and purposes of narrative research, by reviewing many articles. The process of narrative research will be identified and taken into discussion. Like the other type of research designs, narrative method involves: (1) identify the purpose of research, (2) identify individuals who can learn from, (3) develop narrative research questions, (4) consider the researcher's role and define the research settings, (5) establish the relationship with participants to construct the narrative and validate the accuracy of the story. The challenges and limitations of narrative study will be reviewed based on examples of read articles.	**3.2a:** Trainees will be able to identify the major purposes and characteristics of narrative research **3.2b:** Trainees will be able to explain each step in narrative research **3.2c:** Trainees will be able to explore the validation process of narrative research in the educational field **3.2d:** Trainees will be able to identify key important element in narrative research	*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 12: Narrative Research)* *(To be provided to trainees as a Resource Document)*	**** Research Task 5:** **Writing research topic, the rationale of the research site, and potential participants** Trainees will need to write research topic, the rationale of the research site, and rationale of the potential participants related to tasks 1, 2, 3 and 4. Then everyone will present them to the whole class for peers' and instructor's feedback.

Key Discussion Questions

1. Explain the states and major purposes of narrative study and how important it is in the educational field.
2. What are the steps involving in narrative method and explain each step with precise example?
3. What are the key important elements of narrative research? How to build "Trust" with participants?
4. There are some potential challenges and limitations of narrative research, what are they? How to eliminate or minimize those challenges?
5. How to validate narrative research findings?

Hours: 6 Hours

Topic 3.3: Understanding the Case Study Research Design and its application Case study research is a qualitative research approach in which a researcher focuses on a unit of study known as a bounded system (e.g., individual teachers, a classroom, or a school). Under this topic, trainees will review the key characteristics of case study research in school context. Trainees have to explain its purpose and importance by reviewing many articles employed cast study research. There are many types of case study research such as (1) a single case study, (2) multiple case study, and (3) collective case study. Trainees will learn	**3.3a:** Trainees will be able to identify the major purposes and characteristics of case research **3.3b:** Trainees will be able to explain each step in case research **3.3c:** Trainees can identify some issues in the selection process **3.3d:** Trainees will be able to use data analysis tools to perform with many types of case study research (e.g., a single case study) **3.3e:** Trainees will be able to distinguish the differences between narrative and case study research	*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 14: Case Study Research)* *(To be provided to trainees as a Resource Document)*	**** Combing research tasks 1 to 5:** Trainees will be asked to compile their research tasks into one file document and provide a short presentation to the class so that their classmates can provide some useful comments. Trainees may spend 15 minutes for the presentation and 10 minutes for comments and questions from the audience.

how to use these methods in an appropriate way. There is not much difference from other research design, cast study method involves: (1) define the purpose of the study, (2) develop initial research questions, (3) review related literature, (4) develop a rational of case selection, (5) determine data collection method, and (6) conduct data analysis and interpretation. Trainees will review detail on these steps and reflect on some related articles. The challenges and limitations of case study will be discussed in the whole class.

Key Discussion Questions

1. Why is case study research needed in the educational field?
2. How to formulate appropriate questions for case study research?
3. What are the critical issues in selection sample for case study research? How do these issues affect the findings? AND how to minimize these kinds of issues?
4. How to make data analysis for multiple case selection?
5. What are the differences between narrative method and case study method?
6. There is a "**researcher bias**" in qualitative research, as a researcher, how do you deal with this?

Hours: 6 Hours

Module 4: Developing Research Instrument and Analyzing Collected Data in Qualitative Research

Topic 4.1: Interview as a Technique for Qualitative Data Collection In this topic, trainees will likely start with chapter questions and discuss with each other. Trainees will see some examples of "good" and "bad" interview techniques. Then, trainees will start developing interview questions and practice with their classmates. They will come up with some difficulties when they practice interviewing and share them in the big class so everyone can reflect and learn. The informed consent will be introduced by providing some samples and trainees have to develop their own consent form for their mini-thesis. **Key Discussion Questions** 1. According to the text, how is an interview different to a conversation? 2. What do qualitative researchers hope to learn from collecting data via interviews? 3. What skills are needed in order to conduct "good" qualitative interviews? 4. What should interviewers do at the *beginning* of an interview, *during* an interview, and *at the conclusion* of an interview? **Hours:** 7.5 Hours	**4.1a:** Trainees will be able to identify 'good' and 'bad' practice of interview techniques **4.1b:** Trainees will be able to identify the activities that interviewers should do at the beginning, during, and at the end of interview **4.1c:** Trainees will be able to understand and apply some skills in order to conduct 'good' qualitative interview	*Denscombe, Martyn. (2017). The good research guide: For small-scale social research projects (6th ed.). London, UK: Open University Press. [Chapter 13 and chapter 14]* *Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to Design and Evaluate Research in Education (8th ed.). New York: McGraw-Hill. (Part 6: Qualitative Research Methodologies)*	*** Individual Assignment 1:** **Interview** Trainees have to create an interview protocol which mainly includes interview questions that are related to their mini-thesis topic. The questions must be in the form of semi-structure or in-depth interview questions which enable trainees to probe and prompt for getting more details. After that, they need to practice asking such questions with their peers. During the interview, they have to record their voice, so they are able to make a transcript which is an important step in qualitative research. After being done with this process, trainees have to analyze the data and create an outline of the emerging themes. Summary of the required tasks: 1) Creating an interview protocol 2) Interviewing participant(s) and transcribing the audio recording 3) Analyzing the data and creating an outline

Topic 4.2: Observation as a Technique for Qualitative Data Collection Observation as a technique for qualitative data collection will be introduced by giving the trainees a trail to practice unstructured observation. Trainees will also learn the other types of observation that are useful for research as well as their roles as mentors. **Key Discussion Questions** 1. What is systematic observation and how do researchers doing systematic observation ensure they observe the same *things*? 2. What is participant observation? What types of *participation* are possible? Explain. 3. What are some advantages of systematic observation and participant observation? What are some disadvantages? **Hours:** 7.5 Hours	**4.2a:** Trainees will be able to understand and distinguish between different kinds of observation **4.2b:** Trainees will be able to identify the advantages and disadvantages of observation **4.2c:** Trainees will be able to understand and apply some skills in order to conduct 'good' qualitative observation		*** Individual Assignment 2: Observation** Trainees have to do observation in a normal setting. It can be done at a canteen, a library, a convenience store, or whatever place the trainees are interested in. By using this kind of observation, trainees should not be disruptive at all. Just keep silent or get involved with activities at that place (e.g., eat something at the canteen). Before the observation, trainees need to create an observation form, sheet, or checklist to align with the 5 research tasks being done so far. After that, trainees can go to the field and conduct observations and take notes on what they can see. After observation, trainees need to analyze the data being observed and create an outline. Summary of the required tasks: 4) Creating an observation form 5) Going to the field and collecting the data 6) Analyzing the data and creating an outline

Module 5: Understanding Methods & Procedures Used in Quantitative Research			
Topic 5.1: Understanding the Basic Principles of Quantitative Research: Research Question, Variables and hypotheses, Sample and Sampling, and Validity and Reliability Under this topic, trainees will review the basic principles of quantitative research such as the establishment of research questions, the meaning and use of variables and hypotheses, how to select appropriate sample size and use of sampling technique (e.g., probability and non-probability sampling), and the consideration of validity and reliability in research. Discussion will include the practical use of variables (dependent and independent variables) in research and how to form hypotheses to test. Also, the pros and cons of sampling technique and how to use any technique appropriately will be brought into discussion. Last but not least, trainees will be expected to present the use of validity and reliability in research. **Key Discussion Questions** 1. What is a research question? What are the criteria to consider a good research question? 2. What is a variable (dependent versus independent variable, quantitative	**5.1a:** Trainees will be able to establish good research questions **5.1b:** Trainees will be able to define and form the variables and hypotheses in research and can also identify what its advantages are **5.1c:** Trainees will be able to explain different type of sampling techniques and its importance in research. Trainees will also be able to define the use of each sampling technique in appropriate situation **5.1d:** Trainees will be able to explain the meaning of validity and define its use of instrument in educational research and also able to explain the meaning of reliability and define its use in educational research	*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Part 1: Foundational Concept and Process)* *(To be provided to trainees as a Handout)* *Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to Design and Evaluate Research in Education (8th ed.). New York: McGraw-Hill. (Part 2: The Basics of Educational Research)* *(To be provided to trainees as a Handout)*	*** Group Presentation 5:** Trainees are divided into four groups (4 each group). There are four topics and each group must respond to one topic. The topics are (1) Research Problem, Research Question, Variables, and Hypotheses in research, (w) Sample and Sampling in Research, (3) Instrumentation in quantitative research, and (4) Validity and Reliability. They have to use Textbook and other sources as references of their work and each group have 1 hours to deliver the content of given topic. Trainees should include some practical things in the presentation so that the audience can understand clearly. **** Research Task 6:** **Writing research design** Trainees will need to provide rationale in the research design they have chosen for their research proposal.

versus categorical variable, extraneous variables)?			
3. What is hypothesis? What are the advantages and disadvantages of research hypothesis stating in addition to research question?			
4. What is a sample and why it is needed in research? What are the advantages and disadvantages of probability and non-probability sampling techniques? Explain the appropriate situation to use any sampling technique.			
5. What is validity and reliability? Define the validity and reliability used in some research study, explain the problem of validity and reliability in research, and how to deal with such problems?			
Hours: 4.5 Hours			
Topic 5.2: Understanding the Survey Research Design and Its application Under this topic, trainees will be able to describe what survey research is, its characteristics, and its process. Each type of survey research (Cross-sectional and Longitudinal) will be put into discussion in the class so that they can get familiar with it. The steps involved are (1) state the problem, (2) construct or locate research tool, (3) pilot test the questionnaire, (4) prepare the cover letter, (5) administer the questionnaire, (6) tabulate the questionnaire responses, (7) analyze data,			*** Individual Assignment 3: Survey** Trainees must create a set of questionnaires to collect the data as an online survey or paper-based survey mode. After that, trainees need to organize the data properly in the Excel sheet for further use. The instructor will guide trainees to compute those statistics. Summary of the required tasks: 7) Creating a set of questionnaires

and (8) write the report. In the discussion, some research papers that employ the survey research method will be used to make trainees understand better. After that, trainees will have a chance to discuss the challenges and limitations of survey research design in the educational field. **Key Discussion Questions** 1. Why is survey research so popular? 2. When should we employ the survey research method? 3. Please explain why nonresponse is a problem in survey research design 4. What are the threats to external validity in survey research? **Hours:** 9 Hours			8) Compute descriptive statistics 9) Explain the statistics
Topic 5.3: Understanding the Experimental Research Design and its application Under this topic, trainees will review the key characteristics of Experimental Research Studies, which are perhaps the most difficult to design and execute given their use of treatment and control groups. Unlike other research methods, researchers using Experimental Methods directly control one or more independent variables, control one or more other relevant variables, and observe the effect on one or more dependent variables. Trainees will understand that the Experimental Method is the most valid method for testing hypotheses	**5.3a:** Trainees will be able to define the Experimental Research method in terms of its key characteristics and in the way that it manipulates variables **5.3b:** Trainees will be able to explain the purpose of treatment and control groups **5.3c:** Trainees will be able to briefly describe internal and external validity as this applies to the Experimental Method. **5.3d:** Trainees will be able to describe the major steps in designing and conducting an Experimental Research Study (i.e., definition of the problem, selection of subjects, construction of tools, validation of tools, etc.).	*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 10: The Experimental Method, pp. 297-370)* *(To be provided to trainees as a Resource Document)* *School to School International (2018), E-books 4 Khmer Project Assessment Report, Washington, DC: All Children Reading-USAID.* *http://www.kapekh.org/files/report_file/94-en.pdf*	*** Group Presentation 6:** Trainees will work in groups of 3 or 4 people to review an Experimental Research study that they choose together. During the presentation, which should last about 10 to 15 minutes, trainees will summarize the key problems identified in the study, its conclusions, and a critique of the validity of the conclusions made. Each presentation will be followed by a plenary discussion of the study in which trainees can have an informed exchange of ideas and opinions about the study.

concerning cause-and-effect relationships because of the opportunity for direct manipulation of variables afforded by this method. This refers to provisions to organize treatment and control conditions. Trainees will also learn how to distinguish between multiple kinds of Experimental Research Studies, namely (i) Pre-experimental Research Designs (in which a single group is tested in a pre- and post-test condition); (ii) Quasi-experimental Research Designs (in which subjects may not be randomly assigned to different treatment conditions to ensure equivalence); and (iii) True Experimental Designs (in which the design can control for nearly all sources of invalidity). Trainees will learn how to critique Experimental Research Studies by reviewing the way that they address internal (e.g., history of subjects, maturation effects, contamination from pre-tests, etc.) and external validity (e.g., the generalizability of the study to a broader population or environment). The steps involved in conducting Experimental Research Studies are the same as for other types of research and involve (i) the definition of a problem; (ii) formulation of hypotheses or research questions; (iii) systematic collection of data; (iv) objective evaluation of data; and (v) confirmation or disconfirmation of one's research questions. Trainees will also receive exposure to specific examples of Experimental Research	**5.3e:** Trainees will be able to describe the different kinds of Experimental Research Designs including (i) Pre-experimental Designs; (ii) Quasi-experimental Designs; and (iii) True Experimental Designs. **5.3f:** Trainees will be able to summarize the methods, results, and conclusions of selected Experimental Research Studies. **5.3g:** Trainees will be able to critique Experimental Research Studies using principles relating to data collection tools, sampling procedures, how they deal with non-response, the quality of the data analysis, and threats to experimental validity. **5.3h:** Trainees will be able to identify useful applications (i.e., identifying important issues in need of experimental investigation) of the Experimental Research method in Cambodia, being sure to justify the appropriateness of this method for the investigation of the issues that they identify.		** Research Task 7: **Writing research methodology including sample and sample technique, data collection procedure, and data analysis** Trainees will need to provide the rationale of the methods being adopted for their research proposal.

Studies that they will be expected to review together as a small group. During the discussions on this topic, trainees will better understand the merits and limitations of Experimental Research Studies and how to rigorously assess the validity of the conclusions reached. **Key Discussion Questions** 1. How are studies that use the Experimental Research Method different from all other methods that have been studied so far? Are there any similarities between Experimental Research and other methods? 2. What do you see as some of the merits and limitations of Experimental Research Studies? 3. Do you see any moral concerns in how control and treatment groups are formed under an Experimental Research Design, especially where children are concerned? 4. What are some of the factors that may undermine the equivalence between subjects in a treatment group and those in a control group? How does one address issues of equivalence? 5. Do you see any useful applications of Experimental Research Studies to the Cambodian context? Can you give some examples of areas that would be interesting to investigate using			

this method? Be sure to justify your answer(s). **Hours:** 6 Hours			

<table>
<tr><td colspan="4" align="center">Module 6: How to Perform Statistics by Using Analytical Tools in Educational Research</td></tr>
<tr>
<td>Topic 6.1: The Use of Descriptive Statistics in Educational Research and How to Perform by Using Analytical Tools

Under this topic, trainees will review the meaning of terms relating to Descriptive Statistics and their use in educational research. This includes using measures of variability (e.g., standard deviation), central tendency (e.g., mode, median, and mean), relative position (e.g., percentiles) and relationship (e.g., correlation coefficients) to meaningfully describe many data points with a small number of indices. Discussions will review not only the meaning of terms relating to Descriptive Statistics but also how they are calculated and applied. Finally, trainees will be responsible for doing written assignments in English in which they review data generated by EMIS and make basic analyses of national level data using Descriptive Statistics.

Key Discussion Questions

1. Make a list of possible applications where measures of central tendency could be useful (e.g., school efficiency data, test scores, etc.).

2. What are the strengths and weaknesses of the mode, median,</td>
<td>6.1a: Trainees will be able to explain in English the meaning of technical terms relating to Descriptive Statistics (e.g., measures of central tendency, variability, mean, standard deviation, percentage, etc.).

6.1b: Trainees will be able to answer interpretive questions (in English) relating to the meaning of various Descriptive Statistics when expressed as specific values.

6.1c: Trainees will be able to understand and perform statistical analysis tool for descriptive statistics</td>
<td>*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 12: Descriptive Statistics)*
(To be provided to trainees as a Handout)

List of Descriptive Statistical Terms and Definitions
(To be provided to trainees as a Handout)

Downing, D., (1989), Statistics the Easy Way, New York: Barron's Education Series.
(Exercises from this text to be provided to trainees as Handouts, p. 21)

Educational Management & Information Statistics (2018)</td>
<td>* Individual Assignment 4: Descriptive Statistics
Trainees have to analyze the data provided by the instructor.

Each trainee must find:
1. Central tendency and variability
- Mean, Mode, Median, Variance, and Standard Deviation
2. Relative Position
- Percentile rank and probability of observed value

After computation, they have to interpret those statistics in their own words.</td>
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and mean. Give specific examples to support your case. 3. Make a list of possible applications where measures of variability could be useful (e.g., test scores, income levels, etc.). What sorts of questions can a measure of variability help to answer? 4. How can measures of relative position help you to interpret the distribution of A, B, C, D, E, and F scores on the Bac II Examination? 5. What are some of the strengths and weaknesses of measures of relationship when making statistical analyses? **Hours:** 7.5 Hours			
Topic 6.2: The Use of Inferential Statistics in Educational Research and How to Perform by Using Analytical Tools Under this topic, trainees will review the meaning of terms relating to Inferential Statistics and their use in educational research. This includes the use of concepts such as **standard error, tests of significance, t-tests, chi-square tests, and regressions to make inferences** about how likely an impact is real or due to chance and what the size of that impact is. Discussions will review not only the meaning of terms relating to Inferential Statistics but also how they are calculated and interpreted. Finally, trainees will be	**6.2a:** Trainees will be able to explain in English the meaning of technical terms relating to inferential statistics (e.g., significance, probability, standard error, confidence interval, regression, etc.). **6.2b:** Trainees will be able to answer interpretive questions (in English) relating to the meaning of various inferential statistics when expressed as specific values. **6.2c:** Trainees will be able to carry out simple analyses of data distributions to determine whether there are any significant differences between them. **6.2d:** Trainees will be able to write a short description of the conclusions	*Mills, G. E., & Gay, L. R. (2016). Educational Research: Competencies for Analysis and Application (11th ed.). London: Pearson Education Limited. (Chapter 13: Inferential Statistics)* *(To be provided to trainees as a Handout)* *List of Descriptive Statistical Terms and Definitions* *(To be provided to trainees as a Handout)* *Downing, D., (1989), Statistics the Easy Way, New York: Barron's Education Series.*	*** Individual Assignment 5: Inferential Statistics** By using the given datasheet, trainees have to analyze data by employing inferential statistics such as t-test, ANOVA, Chi-square, and simple linear regression. Then, they have to put the results in prepared table and write down a short interpretation of the analysis. All of the exercises can be done in SPSS or in Excel. If trainees perform analysis in SPSS, please save the datasheet and output of each analysis and submit them to the instructor.

responsible for doing written assignments in English in which they review sample studies that present analyses of data points that use Inferential Statistics and provide an interpretation of the conclusions implied. **Key Discussion Questions:** 1. Based on your understanding of Descriptive and Inferential Statistics, what is the most important difference between these two kinds of measures? 2. What is the difference between nominal, ordinal, interval, and ratio data? Why is it important to distinguish between these kinds of data? 3. Is it possible for something to be 'almost' significant? Why or why not? 4. Do significance levels tell you anything about how big the differences between two sets of scores might be? Explain your answer. 5. What is the difference between 'statistical significance' and 'confidence interval'? What sorts of information do each of these things indicate? **Hours:** 9 Hours	implied by a review of inferential statistics provided in a specific article or other written context.	*(Exercises from this text to be provided to trainees as Handouts, p. 206-208)* *du Prei (2009) Confidence Interval or p-Value?, Deutsche Arzteblatt International, Vol. 106 (19)* *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2689604/*	**** Research Task 8:** **Writing literature review chapter** Trainees will be required to write a literature review chapter with at least 10 academic sources that are aligned with their research proposal. (It should be started bit by bit from the very beginning of the first semester) Trainees need to organize the literature into themes and sub-themes that are reader-friendly. Reviewing more than 10 sources is encouraged and it is considered a bonus.

SYLLABUS STREAM 3: ICT in education

Syllabus stream 3: ICT in education
List of topics

Module 1: Using Technology to Support Learning Management and Content Creation

Topic 1.1: Introduction to Education Information Management Systems

Topic 1.2: Using Social Media in Education

Topic 1.3: Creating and Sharing Documents and Presentations

Topic 1.4: Tools for Mathematical Expressions

Module 2: E-safety and Digital Citizenship

Topic 2.1: What is Digital Citizenship?

Topic 2.2: Maintaining Professionalism in the Digital World

Topic 2.3: Misuse of Smartphones in the Classroom

Topic 2.4: Privacy, confidentiality and public life

Module 3: Using the Internet as an Educational Resource

Topic 3.1: Guiding Students to Check the Reliability of the Information

Topic 3.2: Using the Internet as a Resource for the Teacher (finding good quality websites for continuous learning and teaching material)

Topic 3.3: Creating Online Resources

Module 4: Using Technology to Teacher Professional Development

Topic 4.1: Collaborative Tools for Remote Communication (video-conferencing and collaborative documents)

Topic 4.2: Using Mobile Devices to Make Videos

Topic 4.3: Introduction to Dedicated Mentoring Software

Topic 4.4: Mentoring procedure with Observic (self-assessment and mentee's point of view)

Topic 4.5 Providing feedback (mentor's point of view)

Module 5: Using Technology to Support Self-Learning and Student-Centered Learning

Topic 5.1: Using Extensive Reading to Promote Self-Learning

Topic 5.2: Creating Quizzes, Tests and Activities (tools for Formative and Summative Assessment)

Topic 5.3: How to Guide Students for Inquiry-based Learning

Module 6: Using Technology to Support Problem- and Project-based Learning

Topic 6.1: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: Why Coding?

Topic 6.2: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: How to Introduce Coding?

Topic 6.3: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: Real-world Problem Solving with Coding

Module 7: Computational Thinking as a pedagogical tool

Topic 7.1: Introducing Computational Thinking for Teaching

Topic 7.2: How Would You Teach Computational Thinking?

Topic 7.3: Tools for Self-reflection and Evaluating Computational Thinking

Module 8: Distance and Blended Learning

Topic 8.1: E-Learning

Topic 8.2: Remote Classroom Management

Topic 8.3: Blended Learning

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 1: Using Technology to Support Learning Management and Content Creation			
Topic 1.1: Introduction to Education Information Management Systems Electronic Education Information Management Systems (EIMS) enable educators to communicate educational information such as sharing the learning content and tracking student assignments. These systems typically include tools for general School Information Management as well as Student Information Management. In this topic, the Trainees learn particularly how to navigate the Classroom Management and Learning Management Systems used during the M. Ed. in Mentoring program at NGPRC. *Key Discussion Questions:* 1. How to effectively apply Electronic Information Management Systems for teaching and learning? **Hours: 3**	Trainees will be able to **1.1a** Create an account and Login to EIMS systems used during the program **1.1b** Find shared learning content and assignment descriptions **1.1c** Upload the student assignments and track their progress	Overview of Google Classroom: *https://edu.google.com/products/classroom/*	The Trainees will create a Google Classroom account (or any account on other similar platform) and upload document to given assignment.
Topic 1.2: Using Social Media in Education Social Media plays an increasingly more prevalent role in our societies across the globe. It enables effective real-time communication but can also create distraction, particularly in educational settings. In this topic, the Trainees learn how to effectively apply the Social Media tools used for communication during the M. Ed. in Mentoring program at NGPRC.	Trainees will be able to **1.2a** Create an account and Login to Social Media tools used during the program both on laptop and on smartphone **1.2b** Apply the Social Media tools to join and create new Groups, Channels and Private Chats	Overview of Telegram Messenger: *https://telegram.org/* Facebook page of NGPRC: *https://www.facebook.com/NGPRC.Cambodia/*	The Trainees will create a Telegram Messenger account, join the stream Group and create own groups and private chats with peers

Key Discussion Questions: 1. How to effectively apply Social Media tools in education related communication? **Hours: 3**	**1.2c** Apply advanced features such as to create new Stickers and and install Khmer Font		
Topic 1.3: Creating and Sharing Documents and Presentations As mentors, in their respective schools the trainees will have to produce a large variety of documents to support teachers, students and other stakeholders. As a resource center, NGPRC must also be able to publish documents for other schools. During presentations, technology can be used to help make the message easier to convey by supplementing the speech of the presenter, for example, with a slideshow. However, the lure of technology has sometimes the reverse effect, by rendering the presentation more artificial or confusing. In this topic, the Trainees will be introduced to technology tools that enable creation and sharing of documents and presentations, particularly applied to preparing effective and engaging lessons as well as student activities and assignments. The Trainees will learn how to choose appropriate tools depending on their needs and objectives as well as how to articulate their presentations (e.g. with student-centered activities). *Special attention will be given to the functionalities that are necessary to write long documents (theses). Those functionalities include headings, reference, citations, captions, cross-references, to generate the related tables and bibliography automatically. The review functionalities and procedures will also be explained in order to facilitate the supervision of the research process.*	Trainees will be able to **1.3a** Type and organize text (including table of content, appropriate styling and document formatting, referencing) with the available typesetting tools such as Google Docs, MS Word and Wolfram Notebook **1.3b** Navigate through different versions of a digital document. **1.3c** Create interactive documents and presentations (including images, tables, charts and interactive components such as expandable accordion elements) using tools such as Google Slides and Sheets MS PowerPoint and Excel or Wolfram Notebook and Dataset **1.3d** Save and share document and presentations using cloud-based storage systems such as Google	Overview of Google Suite products: *https://edu.google.com/products/gsuite-for-education/* Overview of Microsoft Office products: *https://www.microsoft.com/en-us/education/products/office* Overview of Wolfram Cloud: *https://www.wolfram.com/cloud/* Tutorials for using Wolfram Notebook Interface for documents: *https://reference.wolfram.com/language/tutorial/WorkingWithTheNotebookInterfaceOverview.html* Tips for presentations: ● *https://visualhackers.com/blog/18-powerpoint-dos-and-donts/* *Thesis Guidelines* of NGPRC	● Trainees create, present and share a simple (existing) lesson plan with the introduced tools. ● Trainees create pedagogical brochures based on texts provided by the instructor (as much as possible, those texts will be used for real applications based on needs at KAPE/NGS/MoEYS such as handouts for training workshops, flyers, advertisements etc., in Khmer and/or English) ● The Trainees will prepare, present and share their lesson plans, or other pedagogical demonstrations (such as a slideshow to present a teaching technique of their choice for a hypothetical or future real workshop).

Key Discussion Questions: 1. How to organize my thinking using interactive software tools for typesetting? 2. What is the purpose of my document? Who is supposed to read it? 3. Are there any conventions I must follow to create the document (e.g. does my organization have any policy about branding or layout)? 4. How to create effective and interactive documents and presentations? 5. What is the most suitable format for the output? (e.g., .pdf .docx .epub) **Hours: 6**	Drive, MS OneDrive and Wolfram Cloud	● *https://thevisualcommunicationguy.com/2013/09/24/top-12-most-annoying-powerpoint-presentation-mistakes/* ● *https://www.slideshare.net/rahkout/powerpoint-101-what-not-to-do* Other reference materials (to be shared or created): ● *Handout of typography in Khmer* ● *Branding policy of NGPRC (and other institutions as relevant).*	
Topic 1.4: Tools for Mathematical Expressions Mathematical expressions appear frequently in documents related to mathematics and sciences. In addition, oftentimes it is needed, or useful, to include them in documents also even outside of those fields, such as in economics, geography, or even history and arts. However, inserting mathematical expressions into documents and presentations can be quite challenging. In this topic, the Trainees learn how to use software tools to create proper mathematical formulas and expressions and insert them into documents and presentations, including interactive components, or mathematical expressions that can be evaluated and computed. *In particular, the Trainees learn how to use spreadsheets to do the basic calculations that they might need for their theses. The formulas to be learned include:* ● *Average* ● *Median* ● *Standard deviation*	Trainees will be able to **1.4a** Write basic mathematical expressions using introduced typesetting and presentation tools such as Google Docs/Slides/Sheets, MS Word/PowerPoint/Excel or Wolfram Notebook/Datasets **1.4b** Save and export basic mathematical expressions and use them in different documents and presentations as applicable **1.4.c** make basic calculations in a spreadsheet.	Guide for inserting equations into Google Docs: *https://support.google.com/docs/answer/160749?co=GENIE.Platform%3DDesktop&hl=en* Guide for inserting equations into MS Office tools: *https://support.microsoft.com/en-us/office/write-an-equation-or-formula-1d01cabc-ceb1-458d-bc70-7f9737722702* Guide for entering and editing interactive mathematical expressions using Wolfram Notebooks: *https://reference.wolfram.com/language/workflowguide/EnteringAndEditingMath.html* Tutorial for the names of symbols and mathematical objects in the Wolfram Language:	**Project work**: The Trainees will create a new document or presentation, such as a lesson plan or student-centered activity, which includes mathematical expressions with appropriate styling

• *Percentages* • *Rank* ***Key Discussion Questions:*** 1. How to create mathematical expressions within interactive documents and presentations? **Hours: 3**		*https://reference.wolfram.com/language/tutorial/NamesOfSymbolsAndMathematicalObjects.html*	

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 2: E-safety and Digital Citizenship			
Topic 2.1: What is Digital Citizenship? As technology and social media become more and more ubiquitous in Cambodian schools, the need to provide ethical guidelines to teachers to prevent abuses of technology are becoming greater and greater. These abuses include cyber-bullying, invasion of privacy, and illegal behaviors among others. These ethical guidelines are subsumed under a new area of study called Digital Citizenship. By studying this topic, Trainees will become familiar with some key concepts in Digital Citizenship as it is being introduced into many schools world-wide. Some of the concepts that Trainees will discuss in this regard include the idea of a digital divide, digital literacy, digital communication, digital etiquette, digital law, digital rights, and digital health and security.	Trainees will be able to **2.1a** Define the meaning of Digital Literacy and its various elements. **2.1b** Determine those elements of Digital Citizenship that are most relevant to Cambodian schools and what measures would be needed to realize them.	*The Nine Elements of Digital Citizenship in Schools:* *https://www.iste.org/docs/excerpts/DIGCI2-excerpt.pdf*	**Written Assignment:** Mike Ribble identified Nine Key Elements of Digital Citizenship in his book. Create a tabular framework that indicates which of these elements are most important in Cambodia using a scale of 3-level scale (e.g., Very Relevant, Moderate Relevant, Not Relevant, etc.). Then, identify the obstacles that one might encounter in realizing these elements of Digital Citizenship in Cambodia. Be sure to provide some details in your answer. Finally, be sure to indicate what measures might be needed to address the obstacles identified.

Discussions will focus on which of these elements of Digital Citizenship are most relevant to Cambodian schools and what would need to be done in order to realize these elements in a New Generation School setting.

Key Discussion Questions:

1. How well-known is the concept of Digital Citizenship in Cambodia? What percentage of schools in the country do you think this is a relevant concept to introduce?

2. After reviewing the list of elements that make up Digital Citizenship, which elements do you think are most relevant to Cambodia? Can you justify your responses?

3. What measures do you think would be needed to introduce these elements to Cambodian schools and what obstacles do you think you would encounter in doing so? How feasible do you think it would be to address these obstacles?

Hours: 3

Topic 2.2: Maintaining Professionalism in the Digital World	Trainees will be able to

2.2a Identify the potential misuses of | *Maintaining Professionalism in the Digital World:* | **Project Work:** |

This topic explores the moral issues that may arise as a result of the misuse of technology within the school setting. Trainees will review several case studies involving the misuse of technology and explore why the behavior is considered wrong, what the implications of the behavior are if not corrected, and whether the punishment was commensurate with the unprofessional behavior. While each of the case studies reflect teachers being disciplined by their employers for conduct involving technology, it is important to remember that texting, social networking, blogging and other new forms of communication are not the "sources" of the misconduct outlined. In each situation, the incidents were the result of poor judgment on the behalf of teachers. **Hours: 6**	technology that could lead to unprofessional or unethical behavior by a teacher. **2.2b** Based on case studies that they review as well as in class discussions, Trainees can explain how certain identified behaviors could impact negatively on the moral development of Trainees in the school. **2.2c** Develop a set of ethical guidelines for a particular school that would help teachers know what the ethical boundaries are for the use of technology in a school setting.	_https://www.pspc.education.pa.gov/Promoting-Ethical-Practices-Resources/Ethics-Toolkit/Unit4/Pages/Maintaining-Professionalism-in-the-Digital-World.aspx_	In small groups Trainees will undertake a project to develop a code of conduct relating to the use of technology in any school setting.
Topic 2.3: Misuse of Smartphones in the Classroom Increasing number of Cambodians have smartphones. The possession of smartphones is especially heavily concentrated among young people. The use of smartphones has greatly challenged teachers because there are often no rules governing the use of smartphones in schools. Teachers become frustrated when their students use their phones while they teach because it is both impolite and distracting. Indeed, some research has shown	Trainees will be able to **2.3a** Assess how serious the problems are relating to the use of smartphones in the classroom. **2.3b** Determine the positive and negative impacts stemming from the use of smartphones in the classroom.	_Teacher Frustrated with Smartphones in the Classroom:_ _https://www.educationworld.com/a_news/teacher-frustrated-smartphones-classroom-1502211704_ _An ever-growing frustration and a barrier to teaching - Cellphones in the classroom:_	**In-class Group Work:** In their small groups, Trainees can develop a list of guidelines that govern the use of smartphones in a Cambodian classroom. The discussion should balance the danger of smartphones with legitimate usages for learning and professional development.

that schools in the UK that prohibit the use of phones in class have higher test performance scores. Many teachers overreact when students use their phones during class, which may present some ethical issues. This topic focuses on discussions of all of these issues including whether there should be more explicit rules about the use of phones in class and what ethical issues are relevant in such discussions. *Key Discussion Questions:* 1. How serious a problem is the use of smartphones in classrooms in Cambodia? 2. Do you think that using smartphones affects students' academic performance negatively? 3. Should teachers be offended when students use their phones during class for texting or other reasons? 4. What measures might Cambodian schools consider to govern the use of smartphones? 5. How should teachers react to the use of smartphones in a way that is ethical but effective? 6. What legitimate usage of smartphones can be proposed for the classroom and how to balance the rules in order to create a safe and effective 21st-century classroom?	**2.3c** Develop ethical guidelines that govern the use of smartphones in Cambodian classrooms.	*http://www.startribune.com/an-ever-growing-frustration-and-a-barrier-to-teaching-cellphones-in-the-classroom/422143893/* *Do Smartphones have a place in the classroom?* *https://www.theatlantic.com/education/archive/2016/04/do-smartphones-have-a-place-in-the-classroom/480231/* *Pass the Salt* (a humorous statement on digital etiquette): *https://www.youtube.com/watch?v=6_-xTxP1hD4&frags=pl%2Cwn*	

Hours: 3

Topic 2.4: Privacy, confidentiality and public life Social media are powerful and popular tools to coordinate actions within a work team. They are also very popular and most Cambodian teachers already use them on a daily basis to communicate with their students or their colleagues. This raises the issue of the boundaries between the professional and private sphere. In this topic, Trainees will learn the administrator's tools to ensure the security of the communications. They'll work at a technical level, ethics and professional behavior having been discussed during the previous module. *Key Discussion Questions:* 1. Which procedure should we follow before putting information on an official website or social media? 2. Who is responsible for administering a group on Facebook or other social media? 3. Who can publish information? 4. What kind of regulation should we implement? 5. How do we decide whom we invite on a group and when to expel someone? 6. How do I ensure the security of the data?	Trainees will be able to **2.4a** Asses Trainees can explain the basic rules concerning data protection and privacy from a technical point of view. **2.4b** Perform the administrative tasks (editing messages, inviting and expelling members etc.) on common social media.	*Terms of Service for the common Social Media platforms:* ● *https://www.facebook.com/terms.php* ● *https://telegram.org/tos* ● *https://policies.google.com/terms?hl=en-US* Other reference materials : ● *https://www.schoolinfosystem.org/2017/05/03/the-economic-basis-of-the-internet-is-surveillance/* ● *https://www.newser.com/story/278237/facebook-slammed-with-5b-ftc-fine-over-privacy.html* ● *https://www.wsj.com/articles/eu-nears-decisions-in-facebook-privacy-cases-11565602202* ● *https://searchdatabackup.techtarget.com/definition/data-protection*	The Trainees write a document regulating the discussion on a professional discussion group, or Facebook page. They take into account the intended public and the reputation of the institutions that might be involved: - Official page of the school, - English Club page on Facebook - English teachers Messenger group, This work includes the designation of the administrators and the creation of relevant accounts. They open accounts for relevant social media and start using them in different groups. This would become a basic working habit, and could be required in other activities (for instance during the practicum or for research teams).

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment

7. How can I use Social Medias to communicate with families and students? 8. How can I separate professional and private lives? **Hours: 3**			

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 3: Using the Internet as an Educational Resource			
Topic 3.1: Guiding Students to Check the Reliability of the Information The Internet makes almost all the knowledge of humanity available. It's also a major platform for free speech. The drawback is that even the worst opinions can be expressed on the web. Increasing concerns have aroused during the last few years about fake news and other conspiracy theories. This could be considered as a threat for the quality of learning, or as an opportunity to practice critical thinking with the students. This topic explores the strategies that can be used in the classroom to filter the information obtained online. These strategies include: • Crossing sources, • Distinguishing the type of website, • Using previous knowledge, • Checking the consistency of the resource,	Trainees will be able to **3.1a** Explain the importance of crediting the sources. **3.1b** Summarize the main principles of fact checking.	Evaluating information: ● *https://guides.library.jhu.edu/evaluate/internet-resources* ● *https://library.uaf.edu/ls101-evaluation* ● *https://www.youtube.com/watch?v=Jc7PZUlSnBI* ● *https://libraries.psu.edu/services/research-help/evaluating-information*	**In groups:** The Trainees produce short guidelines for middle-school students. They explain how to check the quality of online information and cross sources. These guidelines should be short enough to be explained in 15 minutes at the beginning of an activity, and complete enough to be useful. The Trainees also design a policy about inappropriate content to help teachers. This includes preventive and corrective actions.

- Checking the background of the author

Key Discussion Questions:

1. What to do if students find inappropriate websites during their search on the Internet?
2. How reliable are institutional websites?
3. How acceptable are amateur websites for Inquiry-Based Learning?
4. How to react when students take a stand on obviously fake news (e.g. flat-earth or vaccines)?
5. What is the value of Wikipedia, and how can we encourage students to look beyond it?

Hours: 3

Topic 3.2: Using the Internet as a Resource for the Teacher (finding good quality websites for continuous learning and teaching material) Many websites today, either commercial or not, propose ready-to-use educational resources. Sometimes, they even pretend to replace teachers by quizzes and other lessons. The quality of those resources varies dramatically, choosing the right one can be time-consuming, especially when it's done in a hurry. In this topic, students will identify and analyze educational websites to determine their	Trainees will be able to **3.2a** Assess the quality of educational websites in terms of: - Accuracy - Flexibility - Relevance to the curriculum - Utility	*TO BE DETERMINED BY THE INSTRUCTOR OR BY THE TRAINEES THEMSELVES*	**Individual work:** Students write short notes in Khmer to recommend or dismiss educational websites, so that other teachers can save time in their research. These notes include information such as: - Language - Subject matter - Level or difficulty - Academic value - Clarity They collect and classify the notes in a database.

possible outcomes and the conditions for a good implementation in the classroom or at home.

Key Discussion Questions:

1. What needs have I met as a teacher?
2. What kind of documents and resources did I lack to do my lessons effectively?
3. To what part of the curriculum (subject, grade) is the resource relevant?
4. Does its use require some adaptation or contextualization?
5. Is the information reliable?
6. How can I educate myself to become a better teacher?

Hours: 6

Topic 3.3: Creating Online Resources Having a website is almost a necessity for a modern institution. It's relatively easy nowadays to create one. But having a website to fit precisely one's needs is another matter. In this topic, Trainees will learn basic creation tools to open a website to solve basic communication needs of a school. Depending on the needs of partner schools, the project done by the Trainees might vary from one year to another. It can be a blog, a forum or other online resources.	Trainees will be able to **3.3a** Analyze the needs for online resources. **3.3b** Design the basic features of a website. **3.3c** Explain how to use the website to its final users.	Software platform to create a blogging site: *https://www.blogger.com/about* / Software platforms for drag-and-drop website development: ● *https://www.weebly.com/* ● *https://www.wix.com/*	**Project work:** The Trainees create and administer a website. The website can be a Teacher Blog and/or Portfolio website or other supporting websites to advance access to educational resources in Cambodia. Depending on the nature of the website, the trainees continue to administer it after graduation or hand it over to other users (school principal, teachers etc.)

They learn how to design the basic features a website should have to meet the needs of its users. *Key Discussion Questions:* 1. What online resources does our community need? 2. Who is responsible to create it? 3. Who will be responsible to maintain it? 4. What do they need to know in order to run the website after its creation? 5. What features do we want? 6. How do we coordinate the work of different teams? **Hours: 6**			

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 4: USING TECHNOLOGY TO SUPPORT TEACHER PROFESSIONAL DEVELOPMENT			
Topic 4.1: Collaborative Tools for Remote Communication (video-conferencing and collaborative documents) Modern workers must learn how to collaborate. Even teachers have to forget their old individualistic practice and work more and more as a team, for instance to prepare common assessments or extra-curricular	Trainees will be able to **4.1a** Create and join video-conferencing meetings **4.1b** Share and edit documents on a cloud in real-time.	Common video-conferencing platforms: ● *https://zoom.us/* ● *https://meet.google.com/*	**Group project:** The Trainees work collaboratively to create and review a document. They can write a short story collaboratively or review a document such as a lesson plan.

activities. This is not an easy endeavor, especially since the timetables are complicated and endless meetings are frustrating for the participants. In this topic, trainees learn how technology can facilitate work organization. Using tools like videoconferencing and cloud-based documents, they will learn how to discuss, organize, review and edit collective work. *This topic also serves a very practical purpose, since he introduces tools that we'll use in the entire program, for all the streams and modules.* **Key Discussion Questions:** 1. Who is responsible for the administrative tasks (creating, editing, summarizing the collective work)? 2. What parts of the job require physical or remote meetings? Which members of the team should participate in such meetings? 3. Who can request physical or remote meetings? 4. How is security ensured? When should documents be released to third parties? **Hours: 3**	**4.1c** Explain procedures to coworkers.	● *https://www.microsoft.com/en-us/microsoft-365/microsoft-teams/group-chat-software* Apply tools introduced in Module 1 with real-time remote communication.	
Topic 4.2: Using Mobile Devices For Professional Development (shooting videos with cameras and smartphones/tablets/webcam) In this topic, participants learn how to apply mobile devices, such as digital cameras for	Trainees will be able to **4.2a** Choose the right place to set up a camera in order to shoot a lesson.	Procedure guidelines curated by the faculty and students at NGPRC (the guidelines will be revised based on needs).	**Project work:** The Trainees shoot and edit a short video to illustrate the life of a school for self-reflection and/or peer review.

smartphones, to support their professional development. They shoot short videos in a school environment to practice their skills as cameramen before they do it in the classroom. In this case, cameras are essentially tools for learning. The purpose is not to make art, but relevant footage. A strong emphasis is put on the purpose of the video, i.e. on the pedagogical questions that it is supposed to answer. The Trainees will learn how to make and edit videos with suitable formats depending on the purpose of the video and methods of distributing the content (online or offline).
 	
Key Discussion Questions:
 	
  1. What are my objectives during this lesson? What do I want to get feedback on?
  2. Should I ask a student to monitor the footage?
  3. How can I set up the camera in order to avoid disturbing the lesson?
 	
Hours: 3
	4.2b Use cameras and smartphones to take a video.
	
	4.2c They can use the proper settings to produce a clear footage.
	
	4.2d Perform basic video editing, such as reducing quality for Internet use, or cutting down useless footage to make shorter clips
			For this pre-training, it does not have to be footage of an actual lesson. That will be done on a daily basis during the practicum. The aim of this exercise is merely to familiarize the trainees with different ways to create videos, so that the operation runs smoothly during the practicum itself. It can include interviews and other actions.

Topic 4.3: Technology to Support Mentoring Activities During this topic the Trainees will be introduced to mentoring software that enables them to share and review videos and documents related to professional practices. It allows teachers to seek help from experienced	Trainees will be able to **4.3a** Create an account on the mentoring software platform. **4.3b** Perform the basic tasks allowed by the mentoring software	*Observic Walkthrough:* *https://www.youtube.com/watch?v=5aEjFehIVAU*	**Practical exercises:** Participants create their accounts and send messages. To practise the different options, they create accounts for both roles of mentees and mentors.

advisers who might reside far away from their school. It is an essential complement to the face-to-face mentoring that is the core of the NGPRC training. When a specialist mentor is not available in their school to answer technical questions of teachers, they can find responses from any of the experts in the NGPRC network. Graduates from NGPRC will be some of those experts. ***Key Discussion Questions:*** 1. Why do we need mentoring software? 2. What part of a lesson do we need to review via mentoring software? 3. What are the most useful features of the mentoring software platform? 4. How can we use the control panels, at relevant levels of responsibilities (mentee and mentor)? **Hours: 3**	platform: submit a video for review, fill a form, check and send messages, etc. **4.3c** Edit uploaded videos using the video editing tools in the mentoring software platform.	*Observic Explainer Video:* *https://www.youtube.com/watch?v=TTVtRe1iVEs* *Introduction to Observic Essential:* *https://www.youtube.com/watch?v=G-E_UF8qOys* *Adding a User in Observic:* *https://www.youtube.com/watch?v=FWlIuFYy5mk* *Uploading Media in Observic:* *https://www.youtube.com/watch?v=kgdYIRT6HzA* *Managing Media Files in Observic:* *https://www.youtube.com/watch?v=5Xaw6813cJo*	
Topic 4.4: Mentoring procedure with Observic (self-assessment and mentee's point of view) One of the main features of the mentoring software is the possibility to conduct self-assessment, by reviewing one's own performance. Before they can help others, it is good that mentors understand the point-of-view of the mentee. It will make them much better facilitators, when they shift roles.	Trainees will be able to **4.4a** Make a request for a review. **4.4b** Ask relevant questions regarding their teaching practice.	*Undertaking a Review in Observic:* *https://www.youtube.com/watch?v=FL0PByoXoTU* *Receiving Feedback in Observic:* *https://www.youtube.com/watch?v=D1JDPtuvdpo*	Actual classroom observation and remote observation will be done simultaneously, for comparison. Trainees use the self-reviewing form of *Observic*.

In this topic, the trainees define priorities for classroom observation. They reflect on their own weaknesses and strengths. They consider activities they want to try and the kind of feedback they can request.		Procedure guidelines curated by the faculty and students at NGPRC (the guidelines will be revised based on needs).	
Key Discussion Questions:			
1. What are my objectives in terms of professional development? 2. What technique should I try first? 3. How is it related to the needs of the students? What are they supposed to learn during the session that will be observed? 4. How can I organize the remote observation? 5. What could prevent me from using Observic? How can I make mentees feel more comfortable with the Observic system?			
Hours: 3			
Topic 4.5 Providing feedback (mentor's point of view) In this topic, the trainees are prepared to endorse their role of future mentors, at a very practical level. They write down constructive critics about the work of other teachers, in a spirit of empowerment and practicality. They learn how to define development objectives that are reachable, concrete and efficient.	Trainees will be able to **4.5a** Provide feedback on someone else's practice using the mentoring software. **4.5b** Define new objectives for further classroom observations.	*Users Groups in Observic:* *https://www.youtube.com/watch?v=uhvVk4ke-CE* *Using Review Groups in Observic:* *https://www.youtube.com/watch?v=ECZdDSfbWzw*	Using the first *Observic* database, the trainees write their own comments on other teachers' practices. Group discussion ensues to compare the pieces of advice.

This topic is the final preparation before the Practicum. *Key Discussion Questions:* 1. What is good in this lesson? 2. What could I use as an example? 3. What needs improvement? 4. Is it really the priority? 5. How can I say it respectfully? 6. How can I make teachers feel comfortable with using the software? **Hours: 3**		*Starting a Review in Observic:* *https://www.youtube.com/watch?v=lYv0mN8XjUM* *Reporting and Data Management in Observic:* *https://www.youtube.com/watch?v=3J0yCn4J6rM* Procedure guidelines curated by the faculty and students at NGPRC (the guidelines will be revised based on needs).	

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 5: Using Technology to Support Self-Learning and Student-Centered Learning			
Topic 5.1: Using Extensive Reading and Writing to Promote Self-Learning Reading is arguably more important for long-term learning than attending lessons. A facilitator who has been successful in creating reading habits has done more than any traditional teacher who is just delivering lessons.	Trainees will be able to **5.1a** Explain the interest of the platform. **5.1b** Log in and organize student registration on the platform. **5.1c** Follow up students' work and analyze the data.	X-reading tutorial and FAQ: *https://xreading.com/* Some e-libraries: ● *http://www.elibraryofcambodia.org/* ● *http://www.dlir.org/klb-home/*	**In small groups:** Trainees prepare a lesson plan to explain the software to teenagers and encourage them to read. They decide relevant incentives for the children. They explain how teachers from various subjects can be involved in a reading program. (as the reading applications and e-library are relatively easy to handle, the training should focus on the organization behind the technology.)

Trainees learn how to use integrated reading platforms such as X-reading, to assess students' reading. They also learn how to take the best from e-libraries and know about the advantages of various formats of ebooks, such as .mobi, .epub, .pdf. ***Key Discussion Questions:*** 1. How can I be sure that the students have actually read the books? 2. How can I spot cheaters? 3. What choice should I give to the students regarding their readings (or similar activities)? 4. Should I assess everything? 5. What incentives should I set up to make students read more or better books? **Hours: 6**	**5.1d** Perform administrative tasks on the platform.	● http://thekfm.blogspot.com/p/books_24.html ● https://letsreadbooksorg.wordpress.com/books/ ● http://gutenberg.org/ *Literatu* as a tool to promote extensive writing. https://www.literatu.com/	
Topic 5.2: Creating Quizzes, Tests and Activities (tools for Formative and Summative Assessment) Finding online resources is insufficient to promote self-learning, especially in Cambodia, because resources in Khmer are still scarce. Advanced teachers should be able to create their own resources and share them with the teaching community.	Trainees will be able to **5.2a** Explain the advantages of software over traditional tests on paper. **5.2b** Design various kinds of tests online. **5.2c** Define different options to share them. **5.2d** Use the control panel of the software to	Literatu writing assistant: https://www.literatu.com/ Live polls and quizzes: https://www.mentimeter.com/ Game-based learning: https://kahoot.com/	Trainees create actual tests on their respective subjects and share them with various users. ● These tests should be of various formats, lengths, and learning objectives (cf. Bloom's taxonomy). ● The tests are classified by subject, grade, difficulty and learning outcomes, so that they can be found easily in a database.

Trainees learn how to use different tools to create summative assessments and other interactive activities on the Internet. To this end, they use various platforms. ***Key Discussion Questions:*** 1. How to convince teachers to create and share tests and activities? 2. How can we organize a database for the NGS network? 3. How should we mark the online tests? Should they be included in the students' records? 4. What precautions should we use to ensure the confidentiality of tests, if needed? 5. How can online quizzes be used to implement Differentiated Instruction? **Hours: 6**	analyze the results of the activities.	**(tools to be revised based on needs)**	
Topic 5.3: How to Guide Students for Inquiry-based Learning Although extremely valuable for self-directed learning, researching information on the Internet can be difficult and time-consuming, even for adults. Making teenagers do the same come with a large variety of challenges, such as classroom management and attention span. In this topic, Trainees learn how to keep an Internet activity on tracks and maximize the learning outcome.	Trainees will be able to **5.3a** Plan an activity on the Internet for effective learning. **5.3b** Use Boolean operators to focus a search on the Internet.	*Webwise for teachers:* *https://www.youtube.com/watch?v=q79UNNmXz3w* *Boolean operators:* *https://libguides.mit.edu/c.php?g=175963&p=1158594* *Using the Internet in the classroom:*	Trainees prepare an Inquiry-Based activity implying the use of the Internet. ● This lesson plan includes precise instructions, questions, interaction, expected product and process to make students work effectively.

This topic is a continuation of the topic 3.1 (Guiding Students to Check the Reliability of the Information), and will reuse the materials produced during that topic. **Key Discussion Questions:** 1. Why, in the first place, do I want my students to go to the Internet? 2. How can I design relevant objectives and effective instructions for online activities? 3. How can we avoid distraction (games, social media, etc.)? 4. Should we use parental filters? 5. How to avoid plagiarism? **Hours: 3**		• *http://www.phschool.com/eteach/social_studies/2000_12/essay.html* • *https://www.britishcouncil.org/voices-magazine/how-help-young-learners-stay-safe-internet* • *https://www.thirteen.org/edonline/concept2class/classroom internet/index_sub3.html*	

Module 6: Using Technology to Support Problem- and Project-based Learning			
Topic 6.1: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: Why Coding? Problem- and inquiry-based teaching and learning methods are intended to promote independent thinking and action skills. In this Topic, the Trainees will discuss advantages and challenges related to the problem- and inquiry-based pedagogical methods. Particularly, the discussions will include different methods for	Trainees will be able to **6.1a** Explain when and why problem- & inquiry-based teaching could be used in classrooms **6.1b** Explain why coding could be a useful concept in teaching & learning	*https://medium.com/@mres/computational-fluency-776143c8d725* Examples of student's work made by the previous cohorts.	• Reflecting on the reading assignment, the group will have a discussion on the objectives and effectiveness of problem-, inquiry, and project-based teaching & learning approaches around the topic: *Teaching & Learning without technology vs Teaching & Learning with technology* • As a preparation for future assignments and to support students' personal note-taking, students will write a short text in which they briefly reflect on the activities covered during the Topic 6.1 under a heading: "When, why and how would I

self-expression, including the use of technology and coding. ***Key Discussion Questions:*** 1. Why would you apply problem- and inquiry-based approaches in classrooms? 2. Why would you apply coding in teaching & learning? **Hours: 3**			use problem- and inquiry-based teaching methods?", for example, they can answer "In my subject matter, which parts of the curriculum could problem- and inquiry-based teaching methods be applied to and why."
Topic 6.2: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: How to Introduce Coding? In this Topic, the Trainees will learn beginner friendly ways to broaden self-expression abilities using technology and coding. The Trainees will apply these abilities with problem-based learning activities. ***Key Discussion Questions:*** 1. When can one apply coding in teaching & learning? 2. How can one apply coding in teaching & learning? **Hours: 6**	Trainees will be able to **6.2a** Identify and find relevant information and resources related to how coding could be introduced in classroom activities of their choice **6.2b** Explain how coding can be introduced to their teaching **6.3c** Explain how the subject dependent learning objectives could be better achieved by including coding activities	Platforms for playful introduction to coding: ● *https://scratch.mit.edu/* ● *https://code.org/* Creating Art with Code: *https://curriculum.code.org/csf-19/express/5/* Problem Solving with Code: *https://curriculum.code.org/csd-19/unit1/*	● Students will complete a lesson "Art with Code" from Code.org ● Students will complete Chapter 1 of "Problem Solving with Code" from Code.org ● As a preparation for future assignments and to support students' personal note-taking, students will write a short text in which they briefly reflect on the activities covered during the Topic 6.2 under a heading: "When, why and how would I use coding in my teaching?"
Topic 6.3: Coding as a tool for Problem- and Inquiry-based Teaching & Learning: Real-world Problem Solving with Coding	Trainees will be able to	*Wolfram Documentation Center:*	● Students will create an interactive presentation including tools and methods covered in the Topic 6.3, such as manipulative graphics or animations. In this presentation the students will transform

| Real-world problems are typically multifaceted and complex issues. In order to efficiently and effectively address such problems requires an ability to handle different types of information. In this Topic, the Trainees will learn how technology and coding can be used to obtain, manage and share different types of information. They will be introduced to tools and methods that are currently used to address and solve real-world problems. They will also learn how to apply these methods and tools to create educational content applied to different subject matters.

Key Discussion Questions:
1. How to address real-world problems in teaching & learning
2. How to create relevant and relatable teaching & learning materials using technology and coding

Hours: 6 | **6.3a** Explain the basics of functional programming

6.3b Produce and present educational content integrating real-world data using functional programming with the Wolfram Language | *https://www.wolfram.com/wolfram-u/an-elementary-introduction-to-the-wolfram-language/*

Examples of student's work made by the previous cohorts.

Free Wolfram Cloud created in module 3. | their reflections from the previous Topics 6.1 and 6.2 and prepare an interactive, narrative-driven presentation answering "When, why and how I would use coding in my teaching" |

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 7: Computational Thinking as a pedagogical tool			

Topic 7.1: Introducing Computational Thinking for Teaching	Trainees will be able to	History and existing definitions of Computational Thinking:	● The group will have a discussion on the definition and objectives of Computational Thinking as applied to teaching & learning, answering questions "What is Computational?", "What is Thinking?", "What is Computational Thinking?", "Why would you apply or teach Computational Thinking?"

Systematic Approach to teaching Real-world Problem Solving
 	
Computational Thinking has been introduced as a method to approach and solve real-world problems. In this Topic, the Trainees will discuss what is meant by Computational Thinking and why it could be a useful concept in teaching & learning.
 	
Key Discussion Questions:
1. What is Computational Thinking?
2. Why would you teach and learn Computational Thinking?
 	
Hours: 3
	7.1a Describe and explain what is Computational Thinking
	
	7.1b Describe and explain why Computational could be applied in the classroom
		● *https://en.wikipedia.org/wiki/Computational_thinking*
		● *https://computationalthinkingcourse.withgoogle.com/unit?lesson=8&unit=1*
		● *https://www.cs.cmu.edu/~CompThink/*
		● *https://www.computationinitiative.org/mission/*
		● *https://www.wolframalpha.com/input/?i=what+is+computational+thinking*
		● *https://www.computationalthinking.org/#what-computational-thinking*
		
		Articles on why one would teach and learn Computational Thinking:
		● *https://www.pwc.co.nz/automation*
		● *https://medium.com/@mres/computational-fluency-776143c8d725*
		
		Manual used in NGS:
		
		BSD Education Workbook, Computational Thinking
			● The students will write a textual narrative component of their computational essay, which they will complete in the Topic 7.2., the topic of the essay is "Computational Thinking in my Classroom" and the students can adjust the content to the subject of their choice.
			● In groups, the students prepare some of the activities proposed in the BSD manual and explain how they would implement it in primary classroom (grade 3 to 6):
			   ○ Introduction to BSD education?
			   ○ 20 Questions Game

Topic 7.2: How Would You Teach Computational Thinking?	Trainees will be able to	*"How to teach Computational Thinking":*	● Students will design and create a brief Computational Classroom Activity of their choice

In this Topic, the Trainees will learn about practical Computational Thinking approaches and how they could be used in the classroom to improve teaching and learning, particularly related to advancing problem-solving skills.
 	
Key Discussion Questions:
1. What are the Computational Thinking principles?
2. What are the available Computational Thinking resources?
3. How to create interactive, problem- and inquiry-based teaching & learning materials applying Computational Thinking principles
 	
Hours: 6
	7.2a Identify and find relevant information and resources related to applications of Computational Thinking for teaching and learning
	
	7.2b Apply Wolfram functional programming language and other related resources to create interactive content relevant for teaching and learning, such as lesson plans, classroom activities and homework assignments
		https://blog.stephenwolfram.com/2016/09/how-to-teach-computational-thinking/
		
		"Integrating Computational Thinking into curriculum":
		http://www.conradwolfram.com/home/anchoring-computational-thinking-in-todays-curriculum
		
		Introducing Computational Thinking with Explorative Learning:
		https://www.wolfram.com/programming-lab/
		
		Other Computational Thinking resources for teachers:
		https://www.computationinitiative.org/resources/teaching
		
		Manual used in NGS:
		BSD Education Workbook, Computational Thinking b
			● Students will design and create Computational Lesson Plan corresponding to their Computational Classroom Activity
			● Students will update the essay from the Topic 7.1 "Computational Thinking in my Classroom" with interactive content, such as manipulative graphics or animations, using Wolfram Notebook Interface
			● In groups, the students prepare some of the activities proposed in the BSD manual and explain how they would implement it in primary classroom (grade 7 to 9):
			    ○ Category Game (link to problem-solving)
			    ○ Password guessing game

Topic 7.3: Tools for Self-reflection and Evaluating Computational Thinking In this Topic, the Trainees will learn how computation can be used to improve self-reflection as well as how it can be used to increase the efficiency and effectiveness of assignment evaluation.	Trainees will be able to **7.3a** Conduct self-reflection using computational essay process	*"What is a Computational Essay":* https://blog.stephenwolfram.com/2017/11/what-is-a-computational-essay/	● Students will individually conduct the Computational Activity following the lesson plan they prepared in the Topic 7.2. while other students follow the instructions and complete the activity. ● Students will create Computational Essays on Computational Activities conducted by the other students in the Topic 7.3.

Key Discussion Questions:	**7.3b** Effectively analyse and evaluate computational essays		● Students will complete Peer feedback forms
1. How to improve self-reflection using technology? 2. How to evaluate Computational Thinking? **Hours: 6**	**7.3c** Provide, receive and reflect upon constructive feedback using computational resources		

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Project Work or Written Assignment
Module 8: Distance and Blended Learning			
Topic 8.1: E-Learning During the practicum, the Trainees will demonstrate their counselling and teaching skills by producing various pedagogical materials. These materials can be different kinds of resources to support continuous learning: ● Articles ● E-learning lessons ● Lesson plans, using various techniques with relevant materials (worksheet, slideshows and the like) In this Topic, the Trainees will be introduced to various methods and tools to provide continuous learning opportunities with	Trainees will be able to **8.1a:** Design an e-learning lesson **8.1b:** Contribute to the existing e-learning content at their host schools	Procedure guidelines curated by the faculty and students at NGPRC (the guidelines will be revised based on needs).	This is a direct preparation for the practicum. ● The Trainees will choose a topic for e-learning material and create a storyboard (transcript) ● The e-learning lessons will be completed during the practicum

electronic learning (e-learning) materials in Cambodian context, such as Question Banks prepared at NGS, and using mobile devices to create e-learning lessons.

Key Discussion Questions:

1. What topics should be covered by the learning material to meet the needs of Cambodian teachers and students?
2. Are the topics for e-lessons consistent with other topics in their collections?
3. How long should the materials be to meet the needs of the final users? Is it doable in the assigned time?
4. What software and tools are necessary to produce these materials?
5. How should visual supports be articulated with worksheets and assessments?

Hours: 3

Topic 8.2: Remote Classroom Management After the Covid-19 crisis, the utility of remote lessons is no longer to demonstrate. This strategy extends far beyond emergency plans, and can be used to reach students with disabilities or to implement projects that require specific skills that are not readily available in the schools where the normal teaching takes places. The tools to conduct remote conferences and lessons are robust and have been introduced earlier in the stream.	Trainees will be able to **8.2a:** Prepare for a remote classroom session **8.2b:** Conduct an effective remote classroom session	Procedure guidelines curated by the faculty of NGPRC (the guidelines will be revised based on experience).	● Trainees will observe and comment an online lesson, either a live or a recorded session, to provide comments as they would normally do as mentors. ● They simulate the post-observation conference in the case of a recorded session, or do the real one with the teacher.

However, their effectiveness can vary tremendously depending on the circumstances, from almost zero to a pretty good substitute of real classroom.

Among the challenges of conducting remote classes, the most important are probably the accessibility of the required hardware and the commitment of the students. This topic will explore the latter, since the former doesn't depend on the educator himself. It will examine different procedures to ensure smooth and consistent lessons that involve the learners as much as possible.

Key Discussion Questions:

1. What procedures should be explained to the students prior to the online classroom session?
2. What incentives should be given to the students to ensure their active participation?
3. How should the teacher monitor an online session to make sure that all the students are involved?
4. Should the rules be the same as in a normal classroom to distribute speaking time?
5. How should the teacher articulate different means of communication (direct speech, chat, presentations)?
6. How to deal with connection issues and commitment?

7. How relevant are teacher-centered and student-centered approaches in a remote setting? **Hours: 6**			
Topic 8.3: Blended Learning Pure online lessons are generally considered a second choice, because of the complexity of the implementation and the limitations of the activities. But blended learning can be proposed as a routine procedure to enhance the effectiveness of teaching, especially by optimizing the instructional time in the physical classroom or by adapting the pace of the instruction to each individual learner. Several models of blended teaching have been proposed, including flipped classroom or rotation model. This topic will explain how to implement the most important of these models. It will also introduce concrete examples of the practice in Cambodian context, especially at NGS. ***Key Discussion Questions:*** 1. How can a teacher evaluate the workload for the students in a flipped classroom? 2. For what grades and subjects is a blended approach most suitable?	Trainees will be able to **8.3a** Design a lesson plan involving some kind of blended teaching. **8.3b** Explain procedures to monitor the work of students in a blended approach. **8.3c** Analyze the advantages and disadvantages of a blended approach in comparison with pure online or on-site approaches.	Coordinate with mentors at Sisowath for example materials **https://study.com/teach/blended-learning.html** **https://en.wikipedia.org/wiki/Blended_learning**	● Trainees prepare detailed lessons plans that mention all the student activities inside and outside the physical classroom along with the tools to check the effectiveness of the learning. ● They justify their choices pedagogically.

3. How can the teacher check the preparations made at home by the students? 4. What specific skills can be attained better by blended learning rather than other approaches? 5. What kind of planning and tracking tools can be used in blended learning? 6. How to articulate live sessions, physical sessions and autonomous learning? **Hours: 6**			

SYLLABUS STREAM 4: Teaching Methodology

Module 1: How people learn
Topic 1.1: How is New Knowledge created?
Topic 1.2: Overview of theories of learning
Topic 1.3: Student attention
Topic 1.4: Using the Theory of Multiple Intelligences as a Means to Value the Potential of All Students
Topic 1.5: Transferring theories of learning into teaching practices (critical approach of some popular models)

Module 2: Curriculum and planning
Topic 2.1: Official curriculum and curriculum design (Cambodian curricular documents compared with other countries) + minimum vs maximum standards
Topic 2.2: Writing learning objectives through Bloom's Taxonomy
Topic 2.3: Lesson plans, template and pedagogical freedom
Topic 2.4: Models of lesson structures (including 5 E)

Module 3: Styles of teaching and school-culture
Topic 3.1: Using Systems-based Approaches to Understand Educational Change
Topic 3.2: Competition and collaboration in school cultures
Topic 3.3: Sources of motivation and demotivation among students (The Influence of Motivation on Learning)
Topic 3.4: Interactions in the classroom, their educational value and difficulties 2 hours
Topic 3.5: Collaborative learning and peer-teaching

Module 4: Clarity and critical thinking
Topic 4.1: Guided Approaches (direct instruction, lectures and other teacher-centered approaches), limitations and advantages
Topic 4.2: Optimizing explanations and presentations for teachers and students: using explanatory tools (charts, mind maps etc.)
Topic 4.3: Optimizing explanations and presentations for teachers and students: defining terms
Topic 4.4: Memory and lower orders of thinking

Module 5: Training continuous learners
Topic 5.1: IBL
Topic 5.2: Problem-based learning (including case studies)
Topic 5.3: Developing problem-solving skills in a collaborative way: de Bono's Thinking Hats
Topic 5.4: Project-based learning
Topic 5.5: Alternative Approaches for Addressing Differential Abilities Among Children
Topic 5.6: Study Clubs

Module 6: Completing and adapting the teacher's toolbox

Subject-related techniques and focused approaches

Each technique is demonstrated in a commonly accepted context. Its transferability is systematically examined.
Topic 6.1: Role-play (English and morale)
Topic 6.2: Debates (Khmer and social studies)
Topic 6.3: Experiments (science)
Topic 6.4: Games and riddles (math and English)
Topic 6.5: Writing workshops (social sciences, history, Khmer)

Module 7: Principles of Student Assessment
Topic 7.1: The Purpose and Kinds of Evaluation
Topic 7.2: Test Design and Planning (reusing Bloom's taxonomy)
Topic 7.3: Using Tests as a Pedagogical Tool
Topic 7.4: Concepts of Validity and Reliability

Syllabus Stream 4: Teaching Methodology
(7 Modules)

Topic List

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Module 1: How people learn			
Topic 1.1: How is New Knowledge created? This question is critical for a deep understanding of the concepts that we teach at school. It is in fact twofold. From an epistemological point of view, we need to consider which practices and methods allowed humanity to create new knowledge. From a psychological perspective, we might consider how "new" knowledge is created in the mind of each learner, especially in the mind of young children. The first part of this lesson will give a brief overview of the history of science, in order to determine a few essential questions that researchers should consider in order to evaluate the reliability of their theories, and teachers could use to justify the lessons they teach. Trainees will get some ideas about mathematical models, experimentation, patterns and classifications, serendipity, predictions, quality sources and so on. The second part of the lesson will use Piaget's experiments to check the assertion that teachers have to "transmit" knowledge they possess. *Key Discussion Questions:* 1. How can the history of science bolster student's critical mind? 2. What is the difference between information/data and knowledge? 3. How much should we justify the knowledge we share with our students? 4. What is the difference between fact and opinion?	**1.1a** Trainees can express some basic ideas about the scientific method and on the history of science. **1.1b** They can identify some basic criteria to distinguish between knowledge and opinion. **1.1c** They can relate the scientific method to pedagogical problems. **1.1d** They can describe Piaget's experiments on learning and explain their implications for the teachers and the students.	Piaget's experiments and the construction of knowledge by children: video *Piaget on Piaget*. https://www.psychologytoday.com/us/blog/theory-knowledge/201312/what-is-knowledge-brief-primer	• **Trainees work in small groups** to prepare 10-minute presentations to share as a conclusion to the topic on one of the following: - *How did the Greeks figure out that the Earth is round?* - *Galileo and the birth of the scientific method* - *Lavoisier, the first chemist* - *How did Mendeleyev create the periodic table of elements?* - *Fleming and serendipity* - *The discovery of Neptune* - *Herodotus, myth or history?* - *Schliemann and the birth of archeology.*

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
5. Is knowledge static or is it expanding/evolving? How is new knowledge created? What are the implications for teachers and learners? 6. Can teaching be reduced to copying a model? Why or why not? **Hours: 4**			
Topic 1.2: Overview of theories of learning In this sub-topic, Trainees will learn about the evolution of thinking among psychologists and educators on the nature of learning and motivation. In this regard, psychological research and theory in the area of learning and motivation underwent a major change after the 1950s, one that would have important implications for the design of instruction. The shift that occurred was from a behavioral perspective on learning to a cognitive perspective and its successors in constructivist and personal responsibility models. This evolution in thinking about learning is important to understand because of the importance of Constructivist Learning (one of the later stages in this evolution among the Cognitivists) to New Generation School Reforms. Trainees will see how each learning model and typology has its strengths and weaknesses, requiring the educator to take a 'hybridized' approach to understanding how to analyze 'thinking.' That is, Trainees will understand that we have not abandoned earlier typologies of thinking as new theories have come along but that we have re-aligned our interpretations of what is going on in the classroom when learning takes place.	**1.2a** Trainees can describe the various typologies that have arisen to describe thinking from the Behaviorists in the 1950s to the Cognitivists in the later part of the 20th Century. **1.2b** Trainees can explain the implications for instruction and learning that resulted from each of the typologies of Thinking & Learning that arose during the 20th Century. **1.2c** Trainees can express a preference for a particular Learning Typology (e.g., Behavioral, Cognitivist, etc.) and justify this preference both in writing and in discussion.	*"New Directions in Learning & Motivation,"* in *Teaching & Learning on the Edge of the Millennium: Building on What We Have Learned,* by M.D. Svinicki (ed.) (1999) (To be provided as a Handout) *39 Types of Thought Process* https://simplicable.com/new/thought-processes *Ways of Learning,* Alan_Pritchard, second edition *Constructivist Learning Manual* (KAPE) http://kapekh.org/en/publications-media/26/	**In small groups**, *students read chapters about learning theories,* Ways of learning, *Pritchard, and present them to their classmates.* **Trainees write a reflection paper** to compare the theories from a teacher's point of view (validity and usefulness).

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Key Discussion Questions: 1. Why do you think that various learning theories you have read about have arisen over the years? How do you think educators understood the 'learning process' before the advent of these theories? 2. The author of one of the readings for this topic urges educators to avoid subscribing entirely to any given theory but rather to have multiple interpretations of how learning occurs in the classroom. Why do you think it is a good idea to have multiple perspectives about how human beings learn rather than simply subscribing to one perspective? 3. Based on your understanding of different learning typologies, do you have any preferences for a particular theory? How do you justify your preference? 4. Constructivist Learning first came into existence in the 1950s. Why do you think it is so popular again in the 21st Century? 5. Is Constructivist Learning more relevant to some subjects than others? Can you elaborate why you think this may or may not be the case? 6. What school organization would it take to implement constructivist approaches? **Hours: 3**			
Topic 1.3: Student attention Student attention, or the lack of it, is a very common concern for teachers and educators. Some countries have massively chosen a medical approach to this question and are facing a dramatic epidemic of ADHD (attention deficit hyperactivity disorder).	**1.3.a** Trainees can explain the main factors affecting student attention. **1.3.b** Trainees can identify common mistakes that	Gorilla experiment: https://www.youtube.com/watch?v=vJG698U2Mvo	**In small groups**, Trainees identify critical moments in a lesson when either the teacher or the student can be

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
To some extent, however, the problems encountered by educators are due to a lack of basic knowledge on how attention works in normal children. This is surprising, since attention is a well-studied field in psychology and has been explore through a wide variety of solid experiments. In this lesson, trainees will explore phenomena such as selective attention and attention span. They will learn basic techniques to mitigate these issues and run a class more smoothly. After examining the normal factors affecting student attention, trainees will also get some insight on the medical debates about pathological troubles of attention (attention deficit hyperactivity disorder ADHD). **Key Discussion Questions:** 1. How should we plan our lessons to accommodate with the problems emphasized by these experiments? 2. How to recall student attention on a regular basis? 3. What classroom situations can put a double cognitive load on a student? 4. What piece of advice should we give to the students about how to organize their homework? 5. How multitasking relates to a lack of foundations? 6. What is the advantage of an external observer (mentor) for an experienced teacher? 7. When should we suspect a medical condition such as ADHD? What is the good course of action for a teacher?	teachers make regarding to student attention. **1.3.c** Trainees can design strategies to mitigate this problem, (lesson planning, recall routines etc.).	A comment on the experiment by Jordan Peterson: https://www.youtube.com/watch?v=CBoF8URq1cw About multitasking, a simple experiment: https://youtu.be/BCeGKxz3Q8Q https://www.youtube.com/watch?v=THJgaznSBu8 https://www.youtube.com/watch?v=FfjKi_QP1nQ https://www.youtube.com/watch?v=JVt9_U9adRE About attention span. https://en.wikipedia.org/wiki/Attention_span About ADHD: https://www.cdc.gov/ncbddd/adhd/facts.html https://www.psychologytoday.com/us/blog/saving-normal/201605/adhd-is-overdiagnosed-heres-proof https://www.psychologytoday.com/us/blog/side-effects/201710/adhd-is-now-widely-overdiagnosed-and-multiple-reasons	overloaded with multiple tasks. They figure out solutions to mitigate the problem.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
		https://www.youtube.com/watch?v=EZkgDlQJRkE	
		https://www.youtube.com/watch?v=XOHa9BbXHac	
		A book (only for those who want a deeper analysis):	
		Alan Schwarz, *ADHD Nation: Children, Doctors, Big Pharma, and the Making of an American Epidemic*	
Topic 1.4: Using the Theory of Multiple Intelligences as a Means to Value the Potential of All Students Defining intelligence has been a major challenge for psycho-metricians for decades. Traditionally, intelligence has been defined as a single entity that can be measured through an Intelligence Test that yields an IQ score. Most school systems develop tests that focus heavily on students' ability to demonstrate linguistic and logical-mathematical skills. Many students with other skills often do not do well on these tests. There are many examples of the poor predictive validity of these tests to forecast how well many individuals actually perform in life. Albert Einstein and Jack Ma are but two examples of individuals who have done poorly on traditional tests but who have gone on to become the most famous men of their generation. Thus, traditional thinking about how to measure 'intelligence' leads many education systems to undervalue many individuals who may not have strong linguistic or mathematical intelligence but who may nevertheless have other forms of intelligence. One wonders what happens to all the students who fail the Bac II Examination, which is a traditional measure of academic excellence.	**4.4a** Trainees can describe the key tenets of the Theory of Multiple Intelligences as well as the 7 Intelligences themselves. **4.4b** Trainees can determine the implications of adopting the Theory of Multiple Intelligences in Cambodian schools and in particular how Cambodian teachers evaluate students. **4.4c** Trainees can express an opinion about the feasibility of adopting the principles of multiple intelligences in Cambodian schools.	*Howard Gardener, Multiple Intelligences and Education* *http://infed.org/mobi/howard-gardner-multiple-intelligences-and-education/* *Growing up, . . . (a short video on undervaluing a child)* *https://www.facebook.com/JayShettyIW/videos/1888559508119084/?hc_ref=ARTiY6tMYUWPeclaYQelbet9fZn6KRAXW8i11zSJAB1iHeEbE2rOyj93OFC2gMYlveM&__xts__[0]=68.ARAA1Fnk5QSxBtJIlAAPkOCTbEvamumgTE1nAZk9mUfvymj5bAg-eOa5mylOs60PrtYNhDNRXb2vsU6UEgsbgLUkHtWX1za-M4AZ9MUsNvAYiO5QNP6QbOheU7Ge-lDPFcBySAgLLxSVMehHRtA15PafYjpmeJTsquscxQbHi4OB7uHnPus61ElYrLP57Jwgd1i8UGyRdMv1912jKAmN5Q&__tn__=FC-RH-R*	• **In-Class Group Work:** In small groups, Trainees should identify some concrete recommendations about what changes would need to be made in Cambodia's curriculum and assessment system to better value the potential of individual students.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Under this topic, Trainees will explore the *Theory of Multiple Intelligences* developed by Howard Gardener. This theory advocates for a more expansive definition of intelligence and the modulation of the way schools teach to accommodate different intelligences. Trainees will explore the validity of this theory, its implications for teaching and assessment in Cambodia, and how feasible it would be to change the organization of curricula and tests such as the Bac II Examination to accommodate it. *Key Discussion Questions:* 1. Do you know of any people who did poorly on the Bac II Examination but who later went on to become very successful people? Why do you think that this is a paradox? 2. When national tests undervalue the human resource potential in a society, what implications do you think this might have for economic and social development of a country? 3. Do you think it would be possible to adopt the philosophy underlying the Theory of Multiple Intelligences in Cambodia? 4. What changes would you have to make in Cambodia's education system to accommodate the Theory of Multiple Intelligences? How feasible do you think it would be to adopt these changes? **Hours:** 2			
Topic 1.5: Transferring theories of learning into teaching practices (critical approach of some popular models) Lots of philosophers, psychologists and other thinkers have expressed their opinion about learning and teaching.	**1.5a** Trainees can criticize some popular learning theories. **1.5b** Trainees can explain their pedagogical choices,	(Learning styles don't exist) https://youtu.be/sIv9rz2NTUk	**Debate** In group, Trainees criticize a learning model or defend it,

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Teachers are overwhelmed with more or less reliable theories and slogans. In this topic, Trainees are exposed briefly to some simple and popular models (or their popular expression). They are to find out their limitations and their possible use. The models used for this exercise include, but are not limited to: • The Edgar Dale's pyramid of learning • The learning styles (VAK model, Kolb's model) **Key Discussion Questions:** 1. When a theory has been scientifically criticized, should we reject it entirely or can we save some practical tips from it? 2. When presented with a new learning model, what precautions should we take before implementing it in my classroom? 3. Why should we learn (or teach) theories that are known to have some serious flaws? 4. What should we do when we suspect some problem with a theory that is promoted during a training workshop or by the authorities?	by referring to theories of learning. **1.5c** Trainees can explain the interest and limitations of pedagogical models.	https://en.wikipedia.org/wiki/Learning_styles https://en.wikipedia.org/wiki/Edgar_Dale	from a scientific or practical point of view.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Module 2: Curriculum and planning			
Topic 2.1: Official curriculum and curriculum design (Cambodian curricular documents compared with other countries) + minimum vs maximum standards From one country to another, curricula share some important commonalities. Yet, the pedagogical principles on which they are written can vary significantly. Most curricula go well beyond subject content (language, maths, science etc.) as they also aim to develop personal characteristics in students that will contribute to social welfare and progress, harmony and respect for others (skills, values, attitudes). Some education systems encourage individual independence and resilience while others promote obedience and compliance with the existing order. Trainees consider why they think this is so and the factors which may influence decisions made about curriculum content in various countries and systems. By comparing curricula from other countries and analyzing how they are structured, Trainees will understand the choices made in Cambodian curriculum, what dimensions of education have been emphasized and what dimensions have been given less concern. They will be able to distinguish what is mandatory and where teachers have some pedagogical freedom. Trainees are introduced to the concepts of the remembered curriculum and the hidden curriculum to assist their analysis.	**2.1a** Trainees can give examples of how the curriculum accommodates, or fails to accommodate, new knowledge and changes taking place in the world. **2.1b** Trainees can explain, giving examples, that school curricula usually describe subject content while also setting out non-academic outcomes (attitudes and values) **2.1c** Trainees explain what official education curriculum documents are available at primary and lower secondary schools in Cambodia and what documents are most commonly used by teachers. **2.4d** Trainees can make recommendations about ways in which more effective curriculum support could be provided to teachers. **2.5e** They can explain specific choices made in the NGS network regarding the curriculum (choice of non-government textbooks, maximum standards).	Examples of Cambodian (MoEYS) curriculum documents *Curriculum Framework in Khmer - Final Version* Curriculum by subjects (as available) Examples of curriculum documents from other countries*:* • *Common European Framework of Reference for Languages* • Abstracts from the curriculum of Singapore https://www.moe.gov.sg/education/syllabuses/ • Curriculum of the Philippines https://www.deped.gov.ph/k-to-12/about/k-to-12-basic-education-curriculum/ On hidden curriculum: Ronald C. Doll *Curriculum improvement* 8th edition p.5	**Working in small groups of 3-4, trainees** read, discuss and analyze an example of a curriculum, prepare a 5-10-minute presentation on their example and deliver it to the class. They express their preference for a specific format. Based on in-class observations and interview with two teachers, **individual trainees research**, write and submit a brief (1-2 page) case study on each teachers' knowledge of the MoEYS curriculum materials for their grade/subject, what training they received on them, how they use these materials, whether they use supplementary resources and if they have any recommendations for improving/updating the curriculum.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Key Discussion Questions: 1. How do we guarantee that the students possess the prerequisites to move on to the next step? 2. How can we identify the proximal zone of development (Vygotsky)? 3. What do students learn at school beyond the official curriculum, in good or bad (hidden curriculum)? 4. Who makes decisions about basic education curriculum content in Cambodia (MoEYS)? What do you think are the main influences on their decision-making? 5. What do you think should be the main guiding factors in choosing what should be in the curriculum? 6. Are there any gaps in the official curriculum of Cambodia? How can a teacher complement it if needed? 7. What place should have the curriculum and other support material, such as student textbooks and teacher's book in the strategy of an educator? 8. **Why do NGS emphasize maximum standards as opposed to minimum standards?**			
Topic 2.2: Writing learning objectives through Bloom's Taxonomy Bloom's Taxonomy has been one of the most long-lasting devices used by educators to describe human thought. Many educational theories and ideas are often swept away after 10 or 20 years as new fads come and go; however, Bloom's Taxonomy has surprisingly been very resilient for over 70 years, though with some	**2.2a** Trainees describe the key characteristics of Bloom's Taxonomy including its various levels of thinking, definitions of thinking skills at each level, and how each level builds on the below it.	*Bloom's Taxonomy: Its Evolution, Revision, and Use in the Field of Education,* by Mark Seaman (2011) (To be provided as a Handout) *How to Write Instructional Objectives,* by Norman Gronlund (1991) (To be provided as a Handout)	Various short exercises: • Analyzing activities proposed in various textbooks. • Rephrasing instructions to reach other cognitive levels.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
modification. This resilience is mostly due to its practical value. Trainees will learn about the applications of the Taxonomy for lesson planning (e.g., developing educational objectives), curriculum development (e.g., ensuring a balance of thinking skills), and evaluation (e.g., the development of questions that assess multiple thinking skills). *Like other topics of this module, this one is instrumental for the rest of the course, since the Trainees will be required to write down a lot of lesson plans in order to practice various teaching techniques. Clarifying the learning objectives is an essential step to evaluate the merits and demerits of a given strategy.* *Key Discussion Questions:* 1. How widely is Bloom's Taxonomy used in Cambodia? Do you think that the Taxonomy can have wide applications in Cambodia? Why or why not? 2. Why do you think that Bloom's Taxonomy has proven so resilient over the last 70 years, especially given how much society has changed since the Taxonomy was first introduced? 3. How has the Taxonomy changed over the years? Do you think that these changes have actually improved the Taxonomy or not. Can you justify your answers? 4. Do you think that the changes introduced by Anderson in the 1990s have actually improved the Taxonomy or do you prefer the original	**2.2b** Trainees can explain how the Taxonomy has changed over the last 70 years, particularly with respect to the modifications introduced by Anderson. **2.2c** Trainees can explain how the Taxonomy has facilitated various aspects of the education process including teaching, curriculum development, and assessment. **2.2d** Trainees can use Bloom's taxonomy to rephrase learning objectives, instructions and test questions in order to reach different cognitive levels.		• Writing learning objectives from textbooks and curricular documents, in terms of student skills and measurable outcomes, rather than just content.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
format that Bloom introduced? Can you justify your answers? **Hours: 3**			
Topic 2.3: Lesson plans, template and pedagogical freedom Lesson plans are a practical necessity and a legal requirement. However, too many teachers write them poorly, if they write them at all, or for the wrong reasons. They see lesson plans as a time-consuming activity that they do mostly to appease the school director, but not really to improve their teaching. Sometimes, they even do it after the lesson itself! In this topic, Trainees will learn how to optimize their lesson plan for direct use in the classroom. They will create their own template to suit their specific needs and teaching styles. *This topic is instrumental for the rest of the stream, since the trainees will be asked to prepare lessons on a regular basis, in order to practice various teaching techniques*. ***Key Discussion Questions:*** 1. How can we conciliate the administrative purpose of a lesson plan and its practical utility? 2. What layout can make the lesson plan easy to use in a state of emergency (i.e. after a classroom incident)? 3. What sort of information do I need to retrieve quickly when I teach a lesson?	**2.3a** Trainees can design a practical template for lesson plans, according to their needs. **2.3b** Trainees can determine the main components of a lesson. **2.3c** They can write down a full lesson plan, with teaching strategies and time estimate.	Examples of lesson plans as taught at the NIE or other institutions.	In small groups, Trainees analyze lesson plans that follow common templates recommended by Teacher Education Institutions. They evaluate their practicality and debate in order to decide what should be kept and what should be dismissed. Trainees create their own template, so that it is more practical for them in a real classroom environment. A comparison of the different templates will emphasize the most important points to consider and how mentors can facilitate the work of their mentees, while giving them some pedagogical freedom.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
4. How much should the lesson plan differ from the textbook or the teacher's book? 5. How do I include personal material and notes in the lesson plan? 6. How relevant is it to share one's lesson plan with other teachers? 7. How can we estimate the time required to do an exercise?			
Topic 2.4: Models of lesson structures To teach effectively, one must have a clear organization. Trainees often require step by step templates for their lesson plans. However, there is no single template that can fit all the possible objectives and situations. Besides it is important that teachers aren't stuck in a specific routine or standard. Even more, mentors should be able to provide various options to their mentees, until the latter can find a lesson structure they are comfortable with. In this topic, trainees will explore the different variables they can adjust to produce good lesson plans (interaction, process, product). They will explore various models to plan the steps of a lesson and examine their merits and demerits. • Contextualization, decontextualization, recontextualization. • Presentation, Practice and Production • Exploration, conceptualization, practice • Experimental method: hypothesis, protocol, experiment, conclusion • 5 e • Gradual release of responsibility • Flipped classroom.	**2.4a** Trainees can adjust the main variables of the lesson to suit their objectives (process, product).	Douglas Fisher, Nancy Frey - *Better Learning Through Structured Teaching_ A Framework for the Gradual Release of Responsibility* (2008, ASCD)	**Individual work:** Trainees choose two or three of the mentioned structures and provide examples of their application in their own subject. Then, they explain the merits and demerits of these structures in order to make an educated choice.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Key Discussion Questions: 1. What are the main steps that are common to the different models (i.e. that must never be forgotten)? 2. What steps are optional? What are their benefits? 3. How much time should we spend on them? 4. Why and how should we check previous lessons? 5. What might be the advantages and limitations of shifting some steps? 6. How to make sure that the students are ready to move on to the next step? 7. Should we use different models within a school year? Why or why not? 8. How important is it to have a routine or to break the routine?			

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Module 3: Styles of teaching and school-culture			
Topic 3.1: Using Systems-based Approaches to Understand Educational Change In this topic, Trainees will become familiar with the concepts used to better understand how educational change in a school occurs from a 'systemic' point of view. Using a systems approach, one can better understand how an education system or school works by examining its elements and subsystems as well as the relationships	**3.1a** Trainees can correctly define the terms used to describe a system (e.g., sub-system, element, open system, closed system, etc.). **3.1b** Trainees can use the concept of 'paradigmatic failure' to explain why educational	*How Systems Thinking Applies to Education,* by Frank Betts (1992) *http://www.ascd.org/publications/educational-leadership/nov92/vol50/num03/How-Systems-Thinking-Applies-to-Education.aspx*	*Group Work:* Small groups of Trainees will work together to develop a flowchart or diagrammatic map that describes a New Generation School in 'systemic' terms using many of the concepts developed in the assigned readings. During the exercise (which should be done

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
and synergies between them. Subsystems within a school might include a Teacher Support Framework, a School Library, the Technology Infrastructure within a school, etc. One of the reasons that educational reforms often fail is that they focus on only one subsystem (e.g., Libraries) within the school and ignore the others, which may undermine one's interventions due to sub-systemic interdependence. Using a systems-based approach will help mentors to better understand the interdependence between the various subsystems in a school that affect one another. For example, if one introduces a teaching methodology that requires considerable research activity among students, one had also better make sure that libraries are working, internet systems are in place, etc. System-wide reforms such as those undertaken in the context of New Generation Schools have been more successful for the very reason that they have taken a system-wide approach to effecting change. As part of the discussions under this topic, Trainees will be expected to map out the subsystems within a New Generation School as well as determine how they relate and reinforce one another. They will also be expected to clearly explain the implications of social and economic change in the 21st Century for schools in 'systemic' terms. For example, the need for greater creativity in school systems has led to concepts of 'Creative Participation' and the need for education systems to move from more 'dictatorial/deterministic' orientations to more 'participative' ones. Such changes are more easily understood using a systems-based approach to describe and explain them.	reforms in Cambodia have often failed. **3.1c** Trainees can explain how Cambodian schools must change in systemic terms to accommodate such 21st Century learning trends as 'Participatory Creativity.' **3.1d** Trainees can map or diagram a New Generation School in systemic terms using concepts discussed in the assigned readings	*Expanding Opportunities for Creative Participation: A Systems-based Approach to Creativity and Creative Problem Solving in Education,* by Clapp, E.P., et al. (2017) (To be provided as a Handout)	outside of class), groups must identify sub-systems within the school and determine their relationship with one another including a description of synergies and how they affect one another. When completed, each group will present its map or diagram to the seminar and justify its analysis. Seminar groups will critique each other's analysis and give constructive feedback to one another.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Key Discussion Questions: 1. What are some of the key subsystems in a New Generation School? In a Normal School? 2. Can you give some examples of 'paradigmatic failure' in Cambodia's education system? Please explain. 3. In one of the articles that you read, Creativity is defined as a 'collaborative' process rather than an 'individualized' process as is traditionally thought. Do you agree or disagree with this idea? 4. What changes would need to happen in a school in order to bring about 'creative participation'? Do you think that such changes are possible in a Cambodian school? Why or why not? 5. Do you agree with the suggestion that Cambodian schools have a dictatorial or deterministic orientation? 6. What changes would need to happen in a school in order to bring about a more 'participative' system of operation? Do you think that such changes are possible in a Cambodian school? Why or why not? **Hours: 6**			
Topic 3.2: Competition and collaboration in school cultures The culture of a school will often determine the degree to which positive change can occur there. The nature of a school's culture, therefore, often determines whether investments by Ministry and other donors will be effective or not. Thus, concepts involving 'school culture' can also	**3.2a** Trainees can define the key elements of a school culture. **3.2b** Trainees can explain key terms such as 're-culturing,' 'distributed management,' and other terms relating to school	*Is Your School's Culture Toxic or Positive?* In Education World *https://www.educationworld.com/a admin/admin/admin275.shtml* *Establishing a Collaborative School Culture through Comprehensive School Reform* by Waldron, N.L. et al.	• **Group Debate:** The seminar will break into two groups of 5 to 6 Trainees to debate the following proposition: *Schools without a competitive culture cannot be effective.*

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
help to explain how and why schools may or may not change in the same way that earlier discussions about 'systems' help to explain how schools change. In discussions on the topic of school culture, Trainees will better understand how to define a school culture and whether that culture is 'toxic' or 'positive'. They will also understand concepts relating to a school's leadership culture such as 'distributed leadership,' 'shared decision-making,' and 're-culturing.' Trainees will find that in many cases, the issues surrounding the nature of a school's culture often revolve around two kinds of orientation, namely 'collaborative' cultural orientations and 'competitive' ones. Collaboration and competition can describe not only how students learn in a school but also how school staff work together. Trainees will learn that the increased value placed on collaboration in the 21st Century economy is also pushing a shift in school cultures worldwide towards more collaborative orientations, which opens the door to faster change. Nevertheless, many schools continue to cling to a more competitive orientation, as evidenced by some of the assigned readings under this topic (e.g., Exam Schools). Trainees will, therefore, be expected to debate the merits of collaborative and competitive cultural orientations in a school and how this relates to the modern economy. ***Key Discussion Questions:*** 1. What factors in Cambodian schools contribute to a toxic school culture? What factors contribute to a positive culture?	culture in the context of fostering positive school change. **3.2c** Trainees can describe when a school's culture is toxic or positive. **3.2d** Trainees can explain the difference between 're-culturing' and 'restructuring' as strategies to bring about change in a school's effectiveness. **3.2e** Trainees can describe the key differences between a collaborative and competitive school culture and the implications each has for positive school change. **3.2f** Trainees can explain how collaborative cultural orientations can facilitate positive school change and how this links with the needs of education in the 21st Century. **3.2g** Trainees can effectively debate the merits and demerits of competitive and collaborative school cultures.	(2010) in Journal of Educational & Psychological Consultation. *https://education.ufl.edu/disability-policy-practice/files/2012/05/Waldron-McLeskey-2010-JEPC-Collaboration-9.pdf* *Competitive Classrooms versus Cooperative Classroom: Pros and Cons* *https://education.cu-portland.edu/blog/classroom-resources/competitive-classrooms-vs-cooperative-classrooms-pros-and-cons/* *Cooperation versus Competition in Classrooms* by Nina Smith (in The Educator's Room) *https://theeducatorsroom.com/cooperation-vs-competition-in-classrooms/* *Exam Schools: Inside America's Most Selective Public High Schools (Chapter 16: Dilemmas & Challenges)* by Finn, C.E. et al (2012) (To be provided as a Handout)	One group should provide arguments to support the merits of this statement while another group should argue that collaborative systems both among students and teachers are more effective, particularly with respect to the needs of the new 21st Century economy. Participants may choose the group that best matches their own views. ***Individual Writing Assignment:*** Think of your former high school and write a short analysis of the school culture that existed there using some of the concepts about school culture that you have studied under this topic. Your analysis should be about 2 to 3 pages in length. Be sure to describe the effects of the school culture on the relationship between students as well as between teachers.

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2. Some of the documents read under this topic advocated moving away from centralized school cultures to more collaborative school cultures. Do you think that such an idea is in conflict with Cambodian culture? Why or why not? 3. What is the difference between 're-culturing' and 'restructuring'? Why is the latter considered to be less effective? 4. Do you think that eliminating competition between teachers and teachers and students and students is a desirable end? Do you think it is a possible goal in Cambodian schools? 5. What is the difference between traditional and constructivist forms of professional development aimed at achieving positive changes in a school? Why are traditional forms of professional development thought to be less effective? Which of these forms of professional development is most common in Cambodia and how effective has it been? 6. What kind of school culture do 'rien kua' practices contribute to (competitive or collaborative)? Why is this a problem for implementing effective professional development as a mentor is expected to do? **Hours:**			
Topic 3.3: Sources of motivation and demotivation among students (The Influence of Motivation on Learning) Using external rewards (such as grades) to motivate students is one of the most intrinsic aspects of 20th	**3.3a:** Trainees can explain the components of motivation by using them to investigate a difficult learning situation. **3.3b** Trainees can effectively	Tirole, J. Rendall, S. (2017) '*Homo Incitatus: The Counterproductive Effects Of Rewards,*' in *Economics for the Common Good*, Princeton University Press.	***Group Work:*** In groups, Trainees will brainstorm the identification of key factors of motivation and what can hinder it. They will then design

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Century education systems and is a core precept of behavioral theory. Yet this basic view is now being increasingly questioned by 21st Century learning theorists because it fails to lead to 'internalized' motivation. Trainees will have the opportunity to explore the changing evolution of motivation theory and how this affects new conceptions of 21st Century education. In this respect, Trainees will better understand that curiosity is natural to children. However, it can be lost for many reasons, sometimes as a result of a bad learning environment. Providing good advice to restore motivation is difficult, because any good thing can harm it, if done in excess. This sub-topic will, therefore, train future mentors to analyze a classroom situation, diagnose what hinders student motivation, and propose adequate solutions to teachers. Discussions during class will help trainees find a good trade-off between the following factors: • Care and academic value • Exoticism and familiarity • Challenge and safety • Games and seriousness • Rewards and intrinsic satisfaction • Speed and comfort • Depth and breadth • Discipline and kindness • Freedom and guidance. *Key Discussion Questions:* 1. Providing external rewards such as grades has been a key device in education systems to motivate students for decades. Yet 21st Century	debate both sides of the argument that external rewards such as grades are an efficient means to motivate students. **3.3c** Based on a review of existing motivation theories, Trainees can propose various kinds of activities to stimulate the interest of students with different learning styles and profiles.	https://en.wikipedia.org/wiki/Maslow%27s_hierarchy_of_needs https://www.simplypsychology.org/maslow.html https://en.wikipedia.org/wiki/Two-factor_theory (motivators and demotivators "hygiene factors") Note: there are a lot of theories about motivation, but these 3 sources are enough to cover all the major questions.	pedagogical projects that are self-rewarding (i.e. rewarding without relying on grades) and present these to the class. • ***Group Debate:*** The seminar will break into two groups of 5 to 6 Trainees to debate the following proposition: *External rewards such as grades are not an effective means to internally motivate students.* One group should provide arguments to support the merits of this statement while another group should take the opposite point of view that external rewards are inefficient with respect to motivation. Participants may choose the group that best matches their own views.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Education theorists have stated that such devices do not promote internalized motivation. What is your view on this contrast in opinions about how to best motivate students? 2. What are the effects of grades and scores on student motivation? 3. What are the effects of institutional requirements on student motivation? 4. How can one create a sense of purpose among students as a means to promote learning? 5. What are the effects of group work on motivation? Are these effects positive or negative? **Hours: 3**			
Topic 3.4: Interactions in the classroom, their educational value and difficulties Beyond the obvious fact that a class is a collective setting for learning activities, it has been argued by social constructivist that learning has a collective nature, and occurs in a social context. Socialization of young children is also a major objective emphasized by national curricula, as a critical component of moral and civic education. However, when it comes to practical implementation of collective activities, a few practical difficulties might occur. These difficulties are diverse, from the reluctance of some students to engage in collective activities to the fact that learning happens in individual minds. A complete and well-balanced education implies a large variety of activities, from collective ones to individual ones. In this topic, Trainees will consider the different	**3.4a** Trainees can choose the kind of interaction that is most relevant for their learning objectives. **3.4b** Trainees can find the interaction that maximize student activity in a specific context. **3.4c** Trainees can explain the moral value of varying the interactions.	https://gsi.berkeley.edu/gsi-guide-contents/learning-theory-research/social-constructivism/	For different kinds of activities, taken from textbooks or other sources, Trainees determine if it is more relevant to work in small groups, collectively or individually. For example: • Repetition • Assessments • Grammar lesson • Writing activity • Analysis • Oral participation in English • Etc. They compare their choices with their classmates and justify them, if necessary.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
options that a teacher should consider when preparing an activity, from whole-class discussion to individual work. They will examine the various roles of a teacher (lecturer, animator, facilitator) and how he can use different sorts of interaction to keep student attention and motivation. ***Key Discussion Questions:*** 1. How to find a good balance between collective activities, individual work and small group work? 2. When is it relevant to make students work individually? 3. How much time should we allocate for collective explanations? 4. How should a teacher facilitate the activities of the students? What does it mean? 5. What are the psychologic factors why students prefer one sort of interaction above the other? 6. Should we stick to these preferences? Why? Why not? 7. How do classroom interactions contribute to the socialization of the students? 8. What precautions should a teacher take to avoid discouragement, embarrassment and bullying? 9. How can a teacher ensure that the interactions between students are supportive of learning activities rather than destructive (e.g. bullying, anti-intellectual criticism and so on)?			Trainees discuss in small groups to determine if the interactions between students support or hinder learning in Cambodian schools. They identify the factors that can create a bad mindset in a class regarding learning activities and how to mitigate them.
Topic 3.5: Cooperative learning and peer-teaching Although Cooperative Learning was first elaborated as a distinct teaching methodology by Robert Slavin since the 1970s, its principles are eminently suited to 21st Century	**3.5a** Trainees can define the key organizing principles underlying Cooperative Learning (e.g., Positive Interdependence,	*Cooperative Learning Manual: Theory & Practice* (KAPE)	***Group Work:*** View a video that comes along with the *Cooperative Learning Manual* assigned reading. After viewing

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Education because of its focus on collaboration, cooperation, teamwork, and group problem-solving. Under this topic, trainees will explore the theoretical underpinnings of Cooperative Learning including key organizing principles such as (i) Positive Interdependence; (ii) Collaborative Skills; (iii) Processing Group Interaction; (iv) Heterogeneous Ability Groupings; and (v) Individual Accountability. Trainees will also have exposure to specially made videos designed for the Cambodian context that help to exemplify Cooperative Learning techniques at different grade levels (i.e., Grades 2, 6, and 8). The assigned readings also provide concrete training exercises that are to be used to train other teachers. Trainees will do these exercises themselves to give them a more concrete idea of how to apply theoretical principles in Cooperative Learning to practical aspects of teaching including lesson planning and delivery. *Key Discussion Questions:* 1. *'Cooperative Learning requires group work but group work is not necessarily Cooperative Learning.'* 2. What do you think this paradoxical statement means? 3. What are some of the factors that would facilitate the effective use of Cooperative Learning in classrooms? What are some of the factors that undermine the use of Cooperative Learning in the classroom? 4. Many teachers feel that Cooperative Learning is more appropriate for students at primary grade level but less relevant for students at the	Heterogeneous Ability Groupings, etc.). **3.5b** Trainees can discern specific examples of important organizing principles from a video of a classroom lesson that they review. **3.5c** Trainees can determine some of the dangers of implementing Cooperative Learning incorrectly. **3.5d** Trainees can make actual applications of Cooperative Learning Principles to practical contexts such as lesson planning and delivery. **3.5e** Trainees can justify the view that Cooperative Learning is an appropriate teaching technique for the 21st Century classroom.	*http://www.kapekh.org/files/report_file/38-en.pdf* *Effective teaching strategies*, by Roy Killen (Chapter 7, *Using small-group work as a teaching strategy and* Chapter 8, *Using cooperative learning as a teaching strategy)*	the video, work in small groups to find examples of each of the organizing principles identified in the Manual such as Positive Interdependence, Collaborative Skills, etc. (see Training Activity 4). Then compare notes with other groups through large group presentations. Resolve differences in observations, as needed.

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secondary school level. Do you agree with this view? Why or why not? 5. What are the dangers of organizing children into groups but then teaching in a more teacher-centered way? 6. Can Cooperative Learning be used as a technique to advance morality and compassion among students? Why do you think so? **Hours: 6**			

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Module 4: Clarity and critical thinking			
Topic 4.1: Direct instruction (lectures and other teacher-centered approaches), limitations and advantages Most traditional approaches fall into this category. Direct instruction is often preferred by teachers because it provides them with a sense of control. The fear of losing that asset prevents a lot of them from trying other strategies. Direct instruction is also irreplaceable as a part of many lessons, when other approaches are too time-consuming or complicated. However, teachers should be aware of the limitations of the method, especially in terms of motivation and outcomes. In this topic, Trainees will consider how to make lectures and other teacher-centered activities more	**4.1a:** Trainees can explain the drawbacks of direct instruction and propose ways to mitigate them. **4.1b:** Trainees can explain when Direct Instruction is most relevant. **4.1c** They can use various strategies to explain difficult concepts.	*Effective teaching strategies*, by Roy Killen (Chapter 5: *Using direct instruction as a teaching strategy*) *https://medium.com/the-art-of-keynoting/the-20-minute-rule-for-great-public-speaking-on-attention-spans-and-keeping-focus-7370cf06b636*	To improve the efficiency of their lessons, the trainees do two exercises: • Summary of reading material, to keep explanations under a given amount of time (3 minutes). • Identification and explanation of key concept, under a given amount of time.

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interesting and effective. Trainees will also see how this approach can be combined with more children-centered strategies. ***Key Discussion Questions:*** 1. What kind of information should a teacher tell students directly? 2. How can a teacher ensure clear and solid understanding of major concepts? 3. How should a teacher present the material to avoid boredom during a lecture? 4. How long should a teacher spend on explanation and on exercises? 5. How ICT can supplement lecture-style lessons? 6. How can a teacher assess the outcomes of direct instruction besides the repetition of the content? 7. How can a teacher improve the clarity of his/her explanations? **Hours: 3**			
Topic 4.2: Optimizing explanations and presentations for teachers and students: using explanatory tools (charts, mind maps etc.) A saying goes as such: "A good picture is worth a thousand words." The development of ICT and the growing popularity of charts, mind maps and other visualization tools have open new opportunities for teaching. However, the overload of pictures in our society have also created confusion and a loss of attention in the public, always shifting from one catchy picture to another. Bad	**4.2a** Trainees can design their own mind maps to explore difficult concepts. **4.2b** They can identify key factors that make charts helpful or confusing. **4.2c** They can guide students in making their own charts.	https://www.mindmappingsite.com/basic/solving-problems/effectiveness-of-mind-mapping/ (144) Scott Berinato - Good Charts Workbook_ Tips, Tools, and Exercises for Making Better Data Visualizations To be checked for quality: https://www.quora.com/What-evidence-is-there-for-the-	Students find their own examples of good and bad charts in newspapers or websites and explain how they could be improved.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
charts create a false sense of knowledge and can be as manipulative as any language. In the 21st century, critical thinking requires students to learn how to analyze them. In this topic, Trainees will learn how to avoid misinterpretations of charts done by others, and also how to improve their own. They will also learn how to use mind maps to organize ideas and make their students organize their own. *Key Discussion Questions:* 1. How can we optimize the use of the whiteboard? 2. Who should draw a mind map? The students or the teacher? When and why? 3. Should the students memorize a mind map? Why or why not? 4. How to improve a visual presentation? 5. How should we balance effectiveness and prettiness in a visual presentation? 6. What place for ICT in presentations? 7. When do we need slideshows? Does them improve the lesson automatically? 8. How should a teacher articulate a visual tool with other teaching channels, such as narration, demonstrations or practical exercises?		effectiveness-of-concept-mapping-and-mind-mapping-1 https://www.youtube.com/watch?v=-Y1HJMuqAPY https://emedia.rmit.edu.au/learninglab/content/how-create-mind-map https://www.youtube.com/watch?v=wLWV0XN7K1g	
Topic 4.3: Optimizing explanations and presentations for teachers and students: defining terms Any effort to think critically begins with the need to understand the problem at hand and to define terms describing that problem. The words/terms in any	**4.3a** Trainees can explain the meaning of the term 'polysemy' and the role it plays in helping students to think critically.	*Polysemy: Words and Meanings, in Thought Company.* https://www.thoughtco.com/polysemy-words-and-meanings-1691642	• *Group Discussion:* Present to the seminar the following situation: *A traditionalist and a modernist engage in a*

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
language, however, often have multiple meanings that can only be understood by carefully reviewing the context in which they are used, a phenomenon known as 'polysemy,' which is defined as the 'association of one word with two or more distinct meanings.' The difficulties posed by polysemy are often overlooked, despite its consequences in both academic and pedagogical contexts. The dialogue with Meno, recorded by Plato, provides a good example of the challenges posed in a discussion when one tries to define the term, 'virtue,' which both Meno and Socrates conclude is indefinable. By helping Trainees to focus on vocabulary and the careful definition of terms, Trainees will learn how words can shape controversies and how good critical thinkers can resolve apparent contradictions. Trainees will also explore the implications of polysemy in misunderstandings. They will learn to explain how different definitions can lead to different answers. An apparent consensus can hide misunderstanding or even fundamental contradictions between the participants to a debate. This topic will also serve a more direct pedagogical purpose, in explaining some of the misunderstandings and misinterpretations among students. *Key Discussion Questions:* 1. Can you give some examples of polysemy in Khmer? How might these terms lead to misunderstanding? 2. How can a teacher effectively use concepts relating to 'polysemy' to make sure that a student has understood the lesson? 3. What answer can a teacher give to a student who says: "I don't understand but I don't know why"?	**4.3b** Trainees can summarize the main conclusions from the dialogue with *Meno* and how this relates to polysemy and the need to define one's terms carefully. **4.3c** Trainees can define controversial concepts and explain how different points of view can depend on how one defines one's terms. **4.3d** Trainees can make links between daily teaching practices and students' difficulties in thinking critically.	What is Ambiguity, Vagueness, and Polysemy? http://www.authorstream.com/Presentation/free2try-1249310-critical-thinking/ Plato, *Meno,* the definition of virtue	*conversation in which they both seek to bring about 'good' teaching in their school. The discussion ends amiably but unbeknownst to the other, each person came away from the discussion with a completely different conception of what a 'good' classroom looks like.* • Explain how you think the traditionalist envisioned a 'good' classroom. How did the modernist envision a 'good' classroom? If the conversation had continued, do you think that both educators could have found some common to achieve 'good' teaching at their school? Why or why not?

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
4. How can a teacher effectively explain to a student that his/her mistaken response is not on the topic? 5. How should a teacher deal with opposite points of view? **Hours: 4**			
Topic 4.4: Memory and lower orders of thinking skills This subtopic will explore the Lower Orders of Thinking (Remembering, Understanding, & Applying) in Bloom's Taxonomy as a foundation to building more demanding skills at the higher levels. This includes reviewing practical definitions of each thinking skill (e.g., translating information from one form to another, interpretation, etc.) as well as practical applications of these definitions to the development of objectives and questions. Discussions under this topic will emphasize various strategies to memorize information effectively in order to reduce the cognitive load that learners may experience in order to free students' minds for the higher orders of thinking (e.g., analysis, creativity, etc.). Specifically, trainees will learn various strategies to enhance long-term memory, such as mnemonic devices, spaced repetition, idea association, and games. *Key Discussion Questions:* 1. How do thinking skills at the lower end of the Taxonomy reinforce and build on one another? Can you provide specific examples? 2. Based on your readings about the Taxonomy, how would you define Understanding as a thinking skill? Application as a thinking skill? Can	**4.4a:** Trainees can define each of the thinking skills identified at the bottom of the Taxonomy (Remembering, Understanding, & Applying) using practical examples earlier discussed. **4.4b:** Trainees can develop educational objectives and questions that reflect the various lower order thinking skills identified in Bloom's Taxonomy (i.e., Remembering, Understanding, Applying). **4.4c:** Trainees can identify the kinds of information that are most suitable for memorization (e.g., facts, definitions, concepts, principles, etc.). **4.4d:** Trainees can explain various learning strategies involving memorization both in terms of what should be memorized and how. **4.4e:** Trainees can use similar strategies relating to memorization for collective and	*How to Write Instructional Objectives,* by Norman Gronlund (1991) (To be provided as a Handout) Anderson and Krathwohl – *Bloom's Taxonomy Revised: Understanding the New Version of Bloom's Taxonomy* https://thesecondprinciple.com/teaching-essentials/beyond-bloom-cognitive-taxonomy-revised/ Peter C. Brown, Henry L. Roediger III, Mark A. McDaniel - *Make It Stick_ The Science of Successful Learning* (2014, Belknap Press) https://makeitstick.net/	• *Group Work:* Trainees will be asked to take particular textbooks and attempt to write educational objectives that exemplify Remembering, Understanding, and Applying based on the definitions provided in the readings. The work of Trainees will be reviewed in the large group with commentary provided by all seminar participants. *Performing Memory Experiments:* Trainees will conduct a series of experiments about memory outside of class and draw conclusions. These activities may either occur individually or in groups. During these activities, Trainees will practice various games to implement techniques of spaced repetition and association of ideas. Their experiences will then be discussed and reviewed among all seminar participants.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
you provide your own examples of activities that exemplify these skills? 3. How has Anderson sought to improve on the way that Bloom has defined the lower order thinking skills? 4. What kind of lessons should one memorize by heart? What kinds of lessons shouldn't one do so? 5. In what form should information be memorized? (e.g., lists, answers to short questions etc.) 6. How does memory support and complement other orders of thinking, such as understanding and creativity? 7. Which points in a lesson are the ones most suitable for memorization, relative to explanations or discovery for instance? 8. How do we summarize the output of creative activities so that the students can memorize them? **Hours: 6 (practice and theory)**	individual drill in the classroom.		

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Module 5: Training continuous learners			
Topic 5.1: IBL Inquiry-Based learning is an umbrella to qualify a variety of teaching strategies that encourage students to explore learning material, ask questions and share ideas. As such, IBL is favored by the proponents of constructivism. In a sense, all valid pedagogy implies some kind of questioning (inquiry), but in IBL, questioning is central and the students are required to find the answers by themselves, either through personal reflection or through research. The questioning process can be more or less guided, from a step-by-step questionnaire to a very open topic. In this topic, we will stick to the most general definition and emphasize simple research approaches. *Key Discussion Questions:* 1. How much orientation should a teacher provide before asking students to explore by themselves? 2. How much reading material should the teacher provide? When is it better to just let the student find it, either by personal reflection or by free research in the library or on the Internet? 3. How should we guide the students to evaluate the quality of the reading material? 4. How should a teacher monitor and facilitate the learning process? 5. When should the work be done individually or collectively? 6. What strategies can we use to present the results, especially in a big class (jigsaw,	**5.1a** Trainees can define IBL and provide examples of it, that vary in scope, settings and objectives. **5.1b** They can design a lesson using IBL. **5.1c** They can explain the advantages of IBL in terms of cognitive development. **5.1d** They can pinpoint points of attention for an effective implementation of IBL.	*Effective teaching strategies*, by Roy Killen (Chapter 10, *Using student research as a teaching strategy)*	All trainees write lesson plans in their own subjects, in order to implement IBL. Selected trainees do a demonstration of a lesson using IBL. The other trainees play the roles of students or take notes about the method to provide feedback.

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slideshows, charts, reports and so on)? What are the advantages and disadvantages of each strategy? 7. How to avoid a "guess-what's-in-the teacher's-mind" situation? 8. How can we make inquiry a learning routine? -			
Topic 5.2: Problem-based learning (including case studies) Problem-based learning aims to develop long-term skills that are transferable in a wide variety of situations. The limits between PBL and IBL are sometimes a little bit blurry, and in most cases long activities are a combination of different approaches. For this topic, PBL will be understood as a strategy that rely mostly on the capacity of the students to analyze a situation in order to find solutions, rather on finding information provided by someone else. PBL differs from more traditional approaches in the sense that problems are central in the learning process and not just a side-note or a mere application of rules and procedures. *Key Discussion Questions:* 1. How to wrap up the session in order to check the interpretations of the students? 2. How to make sure that all the students get some consistent knowledge from PBL? 3. How to unlock a problem that students fail to solve by themselves? 4. How much should be done individually or in small groups?	**5.2a** Trainees can define Problem-Based Learning and provide examples of it, that vary in scope, set-tings and objectives. **5.2b** They can design a lesson using PBL. **5.2c** They can explain the ad-vantages of PBL in terms of cognitive development. **5.2d** They can pinpoint points of attention for an effective implementation of PBL.	*Effective teaching strategies*, by Roy Killen (Chapter 9, *Using problem solving as a teaching strategy)*	All trainees write lesson plans in their own subjects, in order to implement Problem-Based Learning Selected trainees do a demonstration of a lesson using PBL. The other trainees play the roles of students or take notes about the method to provide feedback.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
5. What if the students find the solution too fast or too slowly? 6. How to deal with slow learners or learners that aren't confident enough to participate in the activity?			
Topic 5.3 Developing problem-solving skills in a collaborative way: de Bono's Thinking Hats Discussions often end up in sterile confrontations, but good discussions begin with good questions. De Bono's thinking hats is a comprehensive technique to explore the components of a problem: • The objectives, • The feelings of the participants, • The facts, • The advantages, • The dangers, • The opportunities and creative solutions. It's a good technique to promote parallel thinking, i.e. trying to find a consensual and effective solution to a problem. *Key Discussion Questions:* 1. How can we unlock a difficult debate? 2. In which order should the participants speak? 3. In which order should we put the hats? 4. How much time should we give to the participants to prepare their ideas? 5. How can we use de Bono's technique to teach problem-solving skills? **Hours: 3**	**5.3a** Trainees can explain de Bono's technique to organize a group discussion. **5.3b** They can apply this inquiry technique to lessons or other problems in the school.	Video: presentation of the technique by de Bono himself.	In small groups, Trainees use de Bono's technique to try and solve practical problems that can arise in schools, such as: • How can we clean Cambodian schools? • How to deal with students who come late in the morning? • How to increase food safety during lunch in Cambodian schools?

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Topic 5.4: Project-based learning In contrast with the previous topics (IBL, Problem-Based Learning), Project-Based Learning can be distinguished by a practical outcome that will demonstrate the validity of the teaching. It aims at providing the students with authentic experience. For instance, at the end of the project, the students will have produced a collection of short stories that are evidences of their grammatical knowledge and their writing skills in general. Project-Based Learning provides a sense of purpose that boost motivation and encourage deeper learning. However, there are a few conditions that a teacher must be aware of before launching such activities. Curricular consistency, prior knowledge, safety, time management and even cost are serious concerns, but should not be reasons to give up an interesting project. In this topic, Trainees will learn how to plan a long-term project and relate it to the curriculum. *Key Discussion Questions:* 1. What is the difference between a project and a simulation? Between case studies and authentic learning experience? 2. How many projects can we reasonably plan during a school year? 3. Is it better to have several small projects or one big? 4. How do I ensure the consistency of the academic content?	**5.4a** Trainees can define Project-Based Learning and provide examples of it, that vary in scope, settings and objectives. **5.4b** They can design a series of lessons using Project-Based Learning. **5.4c** They can explain the advantages of Project-Based Learning in terms of cognitive development. **5.4d** They can pinpoint points of attention for an effective implementation of a reasonably complex project.	*Effective teaching strategies*, by Roy Killen (Chapter 12: *Using case study as a teaching strategy*) Jane Krauss, Suzanne K. Boss - *Thinking Through Project-Based Learning_ Guiding Deeper Inquiry* (2013, Corwin), especially chapter 1, *The Whys and Hows of PBL*	All trainees write strategic plans in their own subjects, in order to implement Project-Based Learning. Selected trainees do a demonstration of the lesson they would do to launch a long-term pedagogical project (such as exhibition, technological fair, writing club and so on). This includes the schedule of the various activities that are required to complete the entire project. The other trainees play the roles of students or take notes about the method to provide feedback.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
5. How should I articulate the projects with academic explanations and theory? 6. How do I validate the interpretations of the students? 7. How do I make sure that their understanding of the material goes beyond mere practical tips or recipes? 8. How to organize portfolios and exhibitions as proof of success? 9. What freedom should be granted to teachers in order to organize PBL? Especially, how should a school accommodate time tables to facilitate meaningful projects?			
Topic 5.5: Alternative Approaches for Addressing Differential Abilities Among Children During the last two or three decades when the practice of ability groupings became less popular, a number of new approaches to replace the practice of ability groupings arose to fill a void. Under this topic, Trainees will explore two of these approaches including (i) Mastery Learning; and (ii) Differentiated Instruction. They will also reactivate their knowledge on (iii) Cooperative Learning. These approaches came into wide-spread use in the 1980s and 1990s and remain popular today. In this respect, Mastery Learning is distinguished by its belief that teachers can formulate their teaching in a way so that students do not cluster in the middle of a distribution but rather cluster at its higher end. Cooperative Learning focuses on the idea of heterogeneous ability groupings and the philosophy of altruism that this implies while Differentiated Instruction focuses on the need for teachers to understand the needs, interests, and learning styles of their students and modulate their instruction accordingly. Each of these	**5.4a** Trainees can explain the key tenets of (i) Master Learning; (ii) Cooperative Learning; and (iii) Differentiated Instruction, especially as these pertain to their ethical characteristics to promote equality and morality in the classroom. **5.4b** Trainees can make presentations that explain the key components of target approaches and how they promote equality in the classroom. **5.4c** Trainees can explain how targeted approaches address ethical concerns stemming from the practice of grouping students by ability level.	*'Mastery Learning'* Lorin Anderson and James Block (to be distributed to Trainees) *Cooperative Learning: Theory & Practice* *http://www.kapekh.org/files/report_file/38-en.pdf* *Differentiated Instruction: What you need to know* *https://en.wikipedia.org/wiki/Differentiated_instruction* *Differentiated Instruction (Wikipedia)* *https://www.understood.org/en/learning-attention-issues/treatments-approaches/educational-strategies/differentiated-instruction-what-you-need-to-know*	• **In-Class Group Work:** The seminar will break into three groups. Each group must research a particular educational approach that opposes the idea that some students must always fail or that grouping students on the basis of their ability is an ethical educational practice. Each group will then make a PowerPoint, which will be presented to the rest of the class. The three approaches to be researched include: 1. Mastery Learning 2. Cooperative Learning **3.** Differentiated Instruction

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
educational approaches will be examined in light of their focus to promote morality, equality, and respect for individual differences as well as their ability to address the challenges posed by pre-requisite knowledge as children progress through the curriculum, especially in subjects such as mathematics and science. ***Key Discussion Questions:*** 1. Do you think that the idea of promoting social equity in learning achievement is practical? 2. How effectively do you think that each of the approaches described under this topic promote both learning and principles of equality? Do they promote equality at the expense of learning achievement? Explain your answers. 3. Do you have any preference for any one of the three educational approaches discussed in this topic? If so, explain why you have this preference? **Hours:** 4			
Topic 5.6: Study Clubs Study clubs are a common practice in the New Generation Schools and NGPRC is promoting it in other places to reinforce the motivation of the children for learning. Unlike ordinary lessons, study clubs are attended on a voluntary basis and respond to the personal interests of both students and teachers. They constitute the special mark of a school and provide additional value to its educational project. ***Key Discussion Questions:*** 1. How to process to create a Study Club?	**5.6.a: Trainees can explain the pedagogical value of study club to convince teachers and students to get involved.** **5.6.b: Trainees can design the outlines of a study club in terms of activities and objectives.**	Study Club manuals designed by KAPE	• **Subject-based group work:** Trainees write the outlines of a Study Club corresponding to their field of expertise.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
2. What are the criteria to become a member? 3. How should be the objectives of the Study Club? 4. How does a Study Club differ from ordinary lessons? 5. Should the Study Club propose a different format for its activities?			

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
Module 6: Completing and adapting the teacher's toolbox			
Subject-related techniques and focused approaches **Each technique is demonstrated in a commonly accepted context. Its transferability is systematically examined**.			
Topic 6.1: Role-play (favored subjects: English and morale) Among all the educational exercises, Role-Plays and simulations have a higher validity, in the sense that they are close to the real-life activities we are preparing our students for, when the authentic experience isn't possible. However, they are seldom used in ordinary classroom, even when such practical outcomes are easily identifiable.	**6.1a** Trainees can explain what kind of skills are developed during Role-Plays. **6.1b** They can design a lesson using Role-Play. **6.1c** They can pinpoint points of attention for an effective implementation of Role-Play.	*Effective teaching strategies*, by Roy Killen (Chapter 11, *Using role-play as a teaching strategy*) Ethical limitation of Role-Play: https://en.wikipedia.org/wiki/The_Third_Wave_(experiment) Reenactment:	Selected trainees do a demonstration of a lesson using Role-Play. The other trainees play the roles of students or take notes about the method to provide feedback. In small groups, trainees discuss to figure out if the technique can be transferred to their own subject-matter.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
In this topic, Trainees will learn how to design and assess a session using role-play. They will be able to prepare their students, shy or not, to take the best from this exercise. *Key Discussion Questions:* 1. What is the purpose of a role-play? What skills do we want to develop? 2. When is the most appropriate time to organize a role-play? 3. What preparatory work should we plan to ensure the success of the role-play? 4. How to provide feedback on the role-play without disrupting the flow of the activity? 5. When is a simulation more suitable than the real activity? 6. How to prepare the students emotionally? 7. How to avoid embarrassing or dangerous situations?		https://en.wikipedia.org/wiki/Historical_reenactment	
Topic 6.2: Debates (favored subjects: Khmer and social studies) Confronting different viewpoints has been proven to be an effective way to better understand the world and to create new ideas. But being open to debates (or writing dialectical essays) is not a skill that comes naturally. Such skills need to be learned through practicing specific procedures, rules and specific exercises. Under this topic, trainees will practice the classical exercise of disputatio, as a means to develop their minds critically and to handle difficult questions that can be asked in the	**6.2a** Trainees can defend a point of view, while listening to the opposite side. **6.2b** Trainees develop their oral performance and body language to argue a debate effectively. **6.2c** Trainees can organize a fruitful debate and summarize what the students should take away at the end.	Plato, *Apology*, 19e-21e (oracle) *The Coddling of the American Mind,* (Chapter 4, Intimidation and Violence), (especially: *Why It Is Such a Bad Idea to Tell Students That Words Are Violence*), by Greg Lukianoff and Jonathan Haid.	Selected trainees do a demonstration of a lesson using Debates in their own subject. They choose a topic for other Trainees to debate and draw relevant conclusions from it. Small group discussion: Trainees compare the merits of different settings to organize a debate. Small group discussion: Is it possible to use debates in every

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
classroom. Trainees will also learn how to organize and conduct debates effectively for better learning. ***Key Discussion Questions:*** 1. What skills are developed during debates? 2. How can a teacher make a lesson on a controversial topic? 3. How should we prepare students to perform? How much time should we give to them to find their arguments? 4. How should one assess oral performance during a debate? 5. Who should animate the debate? What kind of rules should we use to distribute the speech time? 6. How do we organize the class for better listening of the performance? What should the assistance do during the performances? 7. What should be the rules for a serene discussion, when we disagree on serious matters? **Hours: 4**			subject-matter? If so, provide examples of debate questions.
Topic 6.3: Experiments (favored subjects: physics, chemistry, biology) Experiments are the core of the scientific method. They constitute the most effective research method when they are possible. As teaching strategies, they develop a deeper understanding of concepts, bring clear proof to the content learned, and contribute to developing critical thinking.	**6.3a** Trainees can explain the epistemological value of experiments. **6.3b** They can explain the different steps in a scientific experiment, as opposed to a demonstration. **6.3c** They can use an experiment and a	Example of experiment, with an explanation about the difference between demonstration and experiment. https://www.youtube.com/watch?v=yNmmX83xIGM&t=119s Channels that present good experiments:	Selected trainees do a demonstration of a lesson using an experiment in their own subject. They explain the procedure to the other trainees. Small group discussion: Trainees compare the merits of different settings to organize a debate.

Topic Name & Description	Learning Outcomes	Curriculum Documents & Reading Assignments	Suggested Project Work or Written Assignment
However, for various reasons ranging from a lack of material to improper organization, experiments are often relegated to a side note in the lesson, even in the subjects where they are most relevant. In this topic, the trainees will learn how to run a science laboratory and how to guide the students through the steps of a scientific experiment. ***Key Discussion Questions:*** 1. What is the difference between a demonstration and an experiment? 2. What if an experiment fails? 3. How to involve the students in the making of an experiment protocol? 4. How to make a routine of experiments? 5. How to maintain a laboratory? 6. What safety or ethical measures should be considered before doing an experiment? 7. What is the best balance between experiments and theory? 8. How to manage time during an experiment session?	demonstration to teach a concept.	https://www.youtube.com/user/MrWizardStudios https://www.youtube.com/user/TheRedNile https://www.youtube.com/user/physicswoman	
Topic 6.4: Games and riddles (favored subjects: mathematics and language) Games have often been proposed to restore the motivation of the students, with various success. They are indeed the main activity of children. Games are privileged ways to improve a wide array of skills that are often overlooked in school curricula, such as creativity or social skills.	**6.4a** Trainees can analyze the pedagogical value of a game. **6.4b** Trainees can organize games to balance educational objectives and fun. **6.4c** Trainees can design new rules, by adapting existing ones.	https://egomet.sanqualis.com/category/education/games-and-teaching/	Trainees analyze the rules of educational games, and determine what learning objectives can be achieved with them. They adapt the rules to various chapter in the curriculum.

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However, teachers are reluctant to use them in a classroom environment, sometimes rightfully, generally not, because they fear they are a source of distraction and a waste of time. In this lesson, we privilege adaptable games that can be used for a large variety of topics and levels. *Key Discussion Questions:* 1. How to keep the activity fun when we have curricular objectives? 2. How to keep the lesson on tracks? 3. What is the scope of a given game? 4. How long could we play during a lesson? 5. How should we wrap up the activity to emphasize its educational value? 6. What to do if the students find shortcuts to perform the task?	**6.4d** They can identify the best times to practice educational games.		
Topic 6.5: Writing workshops (favored subjects: social sciences, history, Khmer) Writing is a necessary step in deep understanding of concepts. It also fosters creativity. Although storytelling is a well-practiced activity in some subjects, personal writing is often overlooked as a teaching strategy and relegated to essay questions at the final exams. Many students undertake them with little or no preparation. In this topic, the trainees will learn how to embed writing activities in the learning routine of the students. They will	**6.5a** Trainees can design writing question to open the creativity of children while providing them with enough guidance. **6.5b** They can design marking scales to evaluate the quality of essays and stories. **6.5c** They can explain what skills are developed by writing exercises in their own subject-matter.	*Effective teaching strategies*, by Roy Killen (Chapter 13, *Using writing as a teaching strategy)*	Selected trainees organize a writing workshop. The other trainees play the roles of students or take notes about the method to provide feedback. In small groups, trainees discuss to figure out if the technique can be transferred to their own subject-matter.

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learn how to guide the creative to improve story-telling and analysis. *Key Discussion Questions:* 1. How should we correct writing exercises if we want to use them as our main strategy (i.e. how to reduce the teacher's workload)? 2. Should the teacher provide feedback on the drafts or only on the final product? 3. What constitutes a good draft? 4. How much guidance/methodology should the teacher provide prior to the writing activity? 5. How to prepare the writing activity? Methodology and previous knowledge. 6. How can the teacher unlock the creativity of a student who is stuck in his writing activity? 7. Should we prefer individual or collective work?			

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Module 7: Principles of Student Assessment			
Topic 7.1: The Purpose and Kinds of Evaluation A study of Evaluation must always start with an examination of one's purpose in assessing students and discussions under this topic are no different. Misunderstanding one's purpose in evaluating can adversely affect the design and administration of testing instruments, something that occurs frequently in classrooms. Initial discussions under this topic will, therefore, help Trainees to examine the kinds of	**7.1a** Trainees can explain why it is so important to start with a clear understanding of one's purpose in evaluating before starting to do so. **7.1b** Trainees can explain how different types of evaluation differ in terms of the decision-making purpose that each one	*How to Construct Achievement Tests,* by Norman Gronlund, Needham Heights, MA: Simon & Schuster (1991) (Chapter 1) To be provided as a Hard Copy *Better Learning Through Structured Teaching: A Framework for the Gradual Release of Responsibility,* by	*Individual Writing Assignment:* Based on your knowledge of the Cambodian education system, choose an example of commonly undertaken assessment (e.g., Bac II Exam, Monthly Test, etc.) and make a short one to two-page critique about whether the ostensible use of the information

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information that evaluation activities can generate and how this information should relate to the decisions that need to be made. Indeed, the decisions one wants to make sheds light on one's purpose in evaluating. Trainees will also learn that the decisions made on the basis of information generated by evaluation can take many forms such as promotion decisions, certificatory decisions, selection decisions, placement decisions, and decisions relating to lesson review and re-teaching, among others. Through these discussions, Trainees will then better understand the diversity of decisions that may underlie one's purpose in evaluating and the importance of correctly matching the data generated with the decisions to be made (e.g., norm-referenced data should not be used for certification decisions, terminal data should not be used for re-teaching decisions, etc.). This understanding will then naturally lead into a discussion of the types of evaluation recognized by educators and how each one differs based on the decision-making purpose that each implies. Important kinds of evaluation discussed in this regard will include (i) Summative Evaluation; (ii) Formative Evaluation; (iii) Diagnostic Evaluation; and (iv) Placement Evaluation. In discussing the various types of evaluation, Trainees will attain a better understanding of how assessment instruments might vary in form (e.g., length, frequency, types of questions used, etc.) based on the purpose for which they are intended. Such discussions will also include a review of how the information generated by different assessment instruments is expressed and interpreted (e.g., criterion-referenced scoring, norm-referenced scoring).	implies (e.g., promotional decisions, placement decisions, etc.). **7.1c** Trainees can give examples of the problems that might arise if the testing instrument developed does not match the purpose for which it is intended. **7.1d** Trainees can match the various characteristics of an assessment (e.g., length, frequency, question types used, scoring system, etc.) with the kind of evaluation for which it is best suited. **7.1e** Trainees can explain how criterion and norm-referenced scoring differ and what types of evaluation each is best used with.	Douglas Fisher & Nancy Frey, (2008, ASCD) p.107. To be provided as a Handout https://www.thoughtco.com/ideas-for-performance-based-activities-7686	(i.e., promotion, placement, certification, etc.) is consistent with how the testing instruments have been designed and implemented. In your critique, be sure to make suggestions for how the testing instrument could be made more consistent with the purpose for which it has been intended. The instructor may use some of the critiques written by Trainees to stimulate a large group discussion about some of the issues raised.

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Key Discussion Questions: 1. Do you think most Cambodian teachers examine their purpose in evaluating students before doing so or not? Why or why not? 2. How do you think that Summative Assessment Instruments should differ from Formative ones? 3. What difficulties might arise if one uses information generated by an assessment that does not match its purpose? Give specific examples? 4. How would you classify the various types of evaluation undertaken in the Cambodian education system such as Monthly Tests, Semester Tests, Bac II Exam, etc.? Do you think that the form of these tests matches the purpose (i.e., the decisions to be made) for which they are intended? Why/Why not? 5. In what circumstances should an assessment instrument be norm-referenced? Criterion-referenced? Why do you think it is a bad idea to use a norm-referenced test for a certification decision? Why is it a bad decision to use a test with a formative purpose for a promotion decision? **Hours: 2**			
Topic 7.2: Test Design and Planning Under this topic, Trainees will become familiar with techniques used to construct tests and quizzes in a way that is consistent with the purpose of the evaluation. Key steps that Trainees will review in this process incudes (i)	**7.2a** Trainees can describe the necessary steps needed to develop an effective testing instrument.	*How to Construct Achievement Tests,* by Norman Gronlund, Needham Heights, MA: Simon & Schuster (1991) (Chapters 2 to 7) To be provided as a Hard Copy	• *Group Work:* In small groups, Trainees will review a copy of a previously administered Bac II Examination and develop a critique of the test (either positive or negative)

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Determining the purpose of the test; (ii) Identifying and defining the learning outcomes or objectives; (iii) Preparing a test plan by using a Table of Specifications; and (iv) Constructing relevant test items using multiple formats that are consistent with the test purpose (e.g., Short Answer, Matching, Multiple Choice, Essays, etc.). During the process of reviewing these steps, Trainees will encounter activities where they must use Bloom's Taxonomy to develop learning objectives, organize the objectives (and intended questions for each) in a Table of Specifications that helps teachers to organize course content and required thinking skills (e.g., Remembering, Understanding, etc.), and develop test questions of a variety of formats that are consistent with the purpose of the test. Trainees will also debate the merits and demerits of using 'selection-type' test items (e.g., True-False, Multiple Choice, etc.) versus 'supply-type' items (e.g., extended and restricted response essays) and the circumstances where each are most recommended. *Key Discussion Questions:* 1. What sorts of problems can the use of a Table of Specifications prevent? 2. Why do you think it is suggested to express learning objectives as observable behaviors and what relationship does this have with how they are evaluated? 3. Do you think most teachers in Cambodia use Tables of Specification to plan their tests? Why or why not?	**7.2b** Trainees can develop learning objectives that are consistent with guidelines commonly used in their development. **7.2c** Trainees can take a unit of content from a state textbook and effectively develop a set of learning objectives based on the unit, a Table of Specifications to assess the objectives, and an actual test based on the Table of Specifications. **7.2d** Trainees can logically debate the merits and demerits of using questions of varying formats in a test. **7.2e** Trainees can critique tests that they encounter using some of the test development principles that they have studied during the course.		and how it might be improved. The critique should be presented to the whole class for general discussion. • *Group Debate:* The seminar will break into two groups of 5 to 6 Trainees to debate the following proposition: *Selection-type questions are not effective in assessing the higher order thinking skills.* One group should provide arguments to support the merits of this statement while another group should argue that selection-type questions, depending on which ones, are highly versatile in the thinking skills that they can assess. Participants may choose the group that best matches their own views. ***Developing a Model Test Paper:*** In pairs, Trainees will be asked to develop a Model Test Paper (in Khmer) on a subject where they have expertise (e.g., Chemistry, Physics, Maths, etc.) and for any grade that they like. The Model Test Paper should have at least

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4. What sorts of content and skills are 'selection-type' questions most appropriate for? What about 'supply type' questions? Please explain your answer. 5. There is a long-held view that 'selection-type' questions are not effective in assessing the higher order thinking skills (e.g., application, analysis, etc.). Do you agree with this viewpoint? Why or why not? 6. Based on your knowledge of the *Bac II Examination,* do you think that the questions used in this test are consistent with its purpose and circumstances? Why or why not? **Hours: 6**			40 questions (of various types) and be based on a Table of Specifications and a specific set of learning objectives. The best Model Papers will be shared with local schools as an educational resource.
Topic 7.3: Using Tests as a Pedagogical Tool Under this topic, Trainees will better understand that student assessments can fulfill a range of pedagogical functions including formative ones. Discussions under this topic will focus heavily on the use of formative assessment as an important pedagogical tool and the importance of not using data generated with a formative purpose for promotion decisions. In addition, Trainees will learn how to build formative assessments into a classroom routine; they will also better grasp the various forms assessments with a formative purpose can take. As a result of hands-on activities, Trainees will also be better able to organize a classroom in order to check students' work routinely and use various procedures to question students effectively. This includes checking for deep understanding as well as the completion of standard homework assignments. During discussions of formative evaluation, Trainees will also be able to better understand that student 'mistakes' can provide opportunities to learn, if teachers can understand why students make the	**7.3a** Trainees can explain how formative assessment can be used as a teaching tool by giving specific examples. **7.3b** When given specific examples of student mistakes, Trainees can analyze common mistakes in students' assignments and determine the cause of any of the misconceptions discovered. **7.3c** Using case studies provided during class, Trainees can identify suitable remedial responses to a student's	*Checking for Understanding_ Formative Assessment Techniques for Your Classroom,* by Douglas Fisher, Nancy Frey (2007) To be provided as a Handout *Analyzing and Responding to Student Mistakes,* in Delivering Remedial Support Services to Primary School Children (pp. 15-18 and pp. 36-40), by KAPE-Save the Children (2015) http://www.kapekh.org/files/report_file/Remediation-Module-for-SCI.pdf	• **Group Work:** In small groups, Trainees will review a number of handouts in the *Student Remediation Manual* on the KAPE website and complete the exercises provided (pp. 36-40). When done, Trainees should present their responses to the main group and resolve any differences through discussion.

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mistakes that they do. When properly corrected, mistakes become a part of the learning process. Through systematic analysis of student mistakes, Trainees will also be better equipped to determine the causes of mistakes and the faulty reasoning behind them in order to provide more individualized guidance to students. Trainees will also receive guidance in conducting statistical analysis of mistakes, to determine the areas of learning where students are having the most difficulty. *Key Discussion Questions:* 1. How can teachers better organize the different stages of a lesson to include Formative Assessments? 2. What should be the form and the frequency of assessments that have a formative purpose? (5 minutes? 15? 30?) 3. Do you think formative assessments need to be marked and recorded systematically? Please explain your answer. 4. Should you keep track of formative assessments? If so, how should one do it (portfolio, school record, posters etc.)? 5. In your previous teaching experience, have you ever systematically analyzed student mistakes in a formative manner? How can such mistakes be turned into a pedagogical resource? 6. In what ways might data generated for a formative purpose be incorrectly used? Please explain your answer. **Hours: 3**	misconceptions based on an analysis of his or her mistakes.		

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Topic 7.4: Concepts of Validity and Reliability This topic focuses on practical definitions of 'validity' and how a better understanding of validity can help improve the meaningfulness and usefulness of tests. Discussions under this topic will show Trainees how definitions of validity have moved away from traditional conceptions that focus on 'Kinds of Validity' (e.g., Content Validity, Predictive Validity, etc.) to the idea of validity as a 'unitary' concept. When using validity as a unitary concept, one no longer assesses the validity of a particular testing instrument itself but rather the evidence that it generates instead. Trainees will learn that testing instruments can generate content-related evidence of validity (e.g., the degree to which test items adequately sample the content to be assessed), criterion-related evidence (e.g., the degree to which test scores correlate with some other measure of what is being evaluated), and construct-related evidence (e.g., the degree to which the test can adequately explain a specific psychological characteristic such as mathematical thinking). Trainees will understand how we use these various aspects of validity together to arrive at a 'unitary' appraisal of an assessment's validity. Trainees will also be expected to use concepts of validity to debate controversial issues in testing such as the common Cambodian practice of 'teaching to the test,' which is commonly used among Grade 12 teachers. Trainees will also explore the definition of 'reliability' and how this concept is applied to determining the consistency of test scores. These discussions will include a review of the factors that may affect reliability and how	**7.4a** Trainees can define validity as a unitary concept. **7.4b** Trainees can explain why current definitions of validity favor a unitary concept. **7.4c** Trainees can explain the validity of assessment data in terms of content, criterion, and construct-related evidence. **7.4d** Trainees can effectively debate the merits and demerits of 'teaching to the test' in terms of concepts relating to validity. **7.4e** Trainees can explain the concept of reliability and how this concept is used to explain the consistency of test scores on a particular assessment. **7.4f** Trainees can do practical exercises to determine the correlation coefficient of a test using internal consistency methods.	*How to Construct Achievement Tests,* by Norman Gronlund, Needham Heights, MA: Simon & Schuster (1991) (Chapter 9) To be provided as a Hard Copy *Teaching to the Test: A Controversial Issue in Quantitative Measurement,* by Styron, J.L., et al. (2012) in Systemics, Cybernetics, and Informatics (Vol. 10). http://www.iiisci.org/journal/CV\$/sci/pdfs/HEA561DK.pdf	• **_Group Debate:_** The seminar will break into two groups of 5 to 6 Trainees to debate the following proposition: *Teaching to the Test is detrimental to making valid decisions about the promotion of a student.* One group should provide arguments to support the merits of this statement while another group should argue that teaching to the test is a practice that does not undermine the validity of evidence upon which schools make promotional decisions. Participants may choose the group that best matches their own views. **_Individual Writing Assignment:_** Using a test with at least 20 test items on it, Trainees will each undertake an analysis of the internal reliability of the test using the split halves method. Trainees will present their results and make an interpretation of the meaning of their findings in terms of reliability.

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they can be controlled for. Trainees will also do some practical exercises in finding the reliability coefficient of a test using internal consistency methods and have exposure to interpreting the meaning of resulting coefficients. ***Key Discussion Questions:*** 1. Why do you think that psychometricians have moved towards thinking about validity as a unitary concept? 2. Do most Cambodian teachers ever concern themselves with concepts of validity? Why or why not? 3. Do you think that concepts of validity and reliability are too abstract and theoretical to be of much practical use to the everyday classroom teacher? Why or why not? 4. What kind(s) of validity-related evidence does a Table of Specifications provide? Explain your answer. 5. Many teachers in Cambodia prefer to teach to the test rather than teach the curriculum. How would you explain the merits and demerits of teaching to the test in terms of concepts of validity? 6. What factors might affect the reliability of a test? Can you give some examples of concrete factors affecting reliability and how they might be controlled for? **Hours: 4**			