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PRIMER: Optimizing the Synchronous Online Learning Environment (SOLE)

Developed by the Centre for Faculty Development

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Purpose and Overview

The **purpose of this PRIMER** is to help teachers optimize ***synchronous*** **on-line learning environments (SOLE),** where teachers/instructors/ facilitators and learners are interacting together in real time.

Learning environment (or context) has affective, cognitive and physical elements. Learning is impacted by what the teacher says and does, what the learners say and do, and by the characteristics of the learning (e.g. in person, online) setting itself. This primer will highlight how to design for and monitor for an effective, equitable and accessible learning environment in **synchronous on-line learning environments (SOLE).**

This **PRIMER** is organized around **7 Principles for Smart Teaching** which draw from psychology, education and cognitive science (Ambrose, S et al, 2010). We offer **Tips for Smart Teaching** in any learning context as well **Considerations and Adaptation for SOLE**. While presented separately in this primer, in typical practice, there is overlap across principles.

Rather than have lists of **Tips** and **Ideas** that are all inclusive, examples and samples are offered. That way you can adapt, augment for your own context. Key to teaching effectiveness is to explicitly select approaches that are aligned to the evidence of teaching principles that support learners and their learning.

Please see: **Other CFD Primers and Online Resources**

****Please adapt and apply this content as appropriate for your setting****

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Principles For Smart Teaching In Synchronous On-Line Learning Environments (SOLE)

Principle #1: Learners **prior knowledge and experience** influences their learning.	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Know your learners and where they are in their learning journey. 2. Help your learners know where they are in their journey and where your teaching 'fits'. 3. Pre-tests and/or learner handover may be helpful.	Re #1: - Reach out to learners before your course/session to clarify who has the required technology, is comfortable with using all the required features or who may require accomodations. - Provide learners with a technology guide which explains how to use various features of the technology used in the course/session. Re #2: - Provide access to online pre-reading 'homework'/preparation on content/topic and/or pre-session quiz questions. Re #3: - Use Online 'polls', Quiz questions at beginning of session(s) to assess.
Principle #2: How learners **organize knowledge** influences how they learn and apply what they know.	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Provide the organizational structure of your content/course 2. Explicitly share the organization of each session, assignment, discussion (e.g. debrief) 3. Use contrasting and 'outlier' cases to highlight problem structures. 4. Use assignments or group tasks to identify knowledge organization, gaps	Re #1: - Pre circulate goals, objectives, outcomes for session(s). Review/revisit in SOLE. Re #2: - Provide examples or samples of what will be explored. Discuss common errors or misconceptions. - Share a worksheet that that will help organize knowledge. (eg use in breakout room discussions or on own). Re #3: - Use virtual cases/examples showing different levels of task complexity: simple, common, complicated, complex and illustrate how knowledge is organized as case complexity changes. Re #4: - Practice/explore tasks in small groups and then talk aloud report back from learners to highlight any problematic knowledge structures among learners. - Consider utilizing tools like mind mapping to facilitate organization of concepts
Principle #3: Learners' ***motivation*** **generates, directs, and sustains** what they do to learn.	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Connect the material to learners ' interests and values 2. Show own passion and enthusiasm 3. Ensure Alignment of Objectives,	Re #1: - Get to know learners via introductions, ice breakers; Do polls about learners interests, concerns, etc - Engage learners early and often (e.g. polls, gamification, breakout groups). Use 'chat' function or other networking tools (e.g. post questions, comment, share links or articles). - Listen carefully to learners' verbal expression (tone and cadence) and if needed check in if you are perceiving

Assessments, and Instructional Strategies 4. Identify an appropriate level of challenge for *these* learners (i.e. not too easy, not too difficult)	correctly or incorrectly their level of engagement and motivation (this is often more difficult to interpret in virtual learning environments). <u>Re #2:</u> - Explain your connections to the content, interests, and personal puzzles. Being 'human' online may take extra effort or practice. - Be mindful and purposeful of your own verbal (tone and cadence) and nonverbal expression (gestures) and how a virtual environment can impact how learners perceive your passion and enthusiasm for the material that you are teaching. <u>Re #3:</u> - Use cases/examples that relate to the learners' expressed interests and concerns. <u>Re #4:</u> - Find the right balance of productive struggle with assigned readings, type of groupwork, and assignments. In SOLE your quiz/poll questions, small group and large group need to build on and expand knowledge, skills etc and still allow for learners to experience productive struggle. - Consider fatigue and energy level in SOLE. Change things up every 10-15 mins, take breaks, and limit distractions. Ensure learners know when formal breaks will be scheduled (e.g., every 50 minutes) and ask them to keep you on track so you don't run over time.
Principle #4: To ***develop expertise***, learners must develop component skills, appreciate the various contexts and points of view/voice; practice integrating them, and critically understand when and how to act on what they have learned.	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Learners need to identify their own skills, biases, & limits 2. Learners need to diagnose their own weak or missing elements of expertise 3. Provide focused opportunities to safely practice weak or missing skills 4. Have learners practice in multiple ways (e.g. both parts and whole; multiple contexts) of expertise building	<u>Re #1:</u> - Consider questioning techniques that will surface current abilities in a safe virtual space. (e.g., use of anonymous polling). - Discuss as a group different options selected or use breakout rooms for different groups to approach a case from different points of view or use different assumptions.) <u>Re #2:</u> - Plan for feedback and coaching to demonstration ideal performance or common missing elements of expertise and/or to practice skills development. Can be through assignment or tests. Consider if best to provide feedback during SOLE session or individually afterwards. - Practice different elements of expertise and/or multiple opportuniites to practice (eg use breakout rooms for learners to practice in small groups). <u>Re #3:</u> - Consider how you can create opportunities for learners to "practice" within the virtual environment potentially in modified ways (eg observational learning, thinking out loud, describing what they would do,

	how and what they would be looking for). Re #4: - Use of videos, assignments, quizzes to allow learners to evaluate what they observe against criteria and see if they are able to identify missing elements of expertise in others.
Principle #5: Goal - directed practice coupled with **targeted feedback** are critical to professional learning.	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Share rubrics for assessments and examples or models of target performance 2. Design frequent opportunities to give feedback at individual and group level 3. Use feedback techniques that reflect literature on the challenges giving/receiving feedback.	Re #1: - Create, use and pre-circulate worksheets with tips and worked examples for small group work (e.g. SOLE breakout rooms) that break down practice and help scaffold knowledge and skill building. - Consider the use of 'role plays' or other simulations scripted to demonstrate desired performance. Re #2: - For "chat", discussion forum and live sessions, monitor activity and provide feedback (use a co-facilitator to assist if possible). - Check learners' understanding via polls, voting, report back and discuss common misconceptions. - Break the group into pairs or triads (i.e. breakout room) for a practice activity and peer feedback. Re #3: - When providing feedback: be mindful of privacy within SOLE (i.e. learners' learning space). - Consider your tone and intonation as their impact can be magnified in a virtual environment.
Principle #6: Learners ' current level of development interacts with the social, emotional, and intellectual elements for a ***safer climate*** during the course or learning experience to impact learning	
Tips for Smart Teaching	Considerations & Adaptations for SOLE
1. Establish and reinforce inclusive language, behaviour, and attitudes and value diversity. 2. Set up processes to get feedback on the learning climate. 3. Model humility, openness, flexibility, and prioritize inclusion, diversity, equity and accessibility (IDEA).	Re #1: - Use teaching outline/syllabus and first SOLE session to establish a safer climate that supports inclusion, diversity, equity and accessibility (IDEA). - Considering psychological safety, privacy, and IDEA for SOLE, decisions about guidelines related to the use of cameras, video/audio recording, and other strategies to help make learning accessible. Camera use should not be used as a key or only learner engagement or learner management strategy in SOLE. - Be explicit about norms and expectations for respectful interaction in the shared SOLE. - Build a learning community (e.g. Introductions: learners introduce themselves and their identities; share non-sensitive personal information as part of an ice breaker). Re #2: - Touch base with learners in SOLE and aftwards about what's working, progress, or hurdles. Challenge your own assumptions re: what creates a safer space for your learners and what does not.

	- Anticipate and address any situations early and with grace (i.e. sensitive or charge topics, learning challenges, technical problems). Get assistance. Act. Follow up. - Set up virtual "office hours". <u>Re #3:</u> - Anticipate that elements of planned teaching may not work as anticipated. Not necessary to be teacher and expert in both content and SOLE process. - Anticipate need for 'work arounds' and need to be flexible with respect to your own and learners' technical connectivity challenges, interruptions and noises from local space. - Select a range of technology modalities that allow all learners to participate. - Enable physical access and provide accommodation (e.g.) providing closed captioning, following AODA guidelines, sharing transcripts of activities & discussions, etc.
Principle #7: To **become self - directed learners,** each learner must learn to assess the demands of the task, evaluate their own knowledge and skills, plan their approach, monitor their progress, and adjust their learning strategies as needed	
Tips for Smart Teaching	Ideas for Adaptation for SOLE
1. Be more explicit about expectations for self-directed learning than you may think necessary 2. Help learners understand their own progress in learning 3. Refine your course goals and objectives as the course progresses and you become more familiar with your learners	<u>Re #1:</u> - In SOLE, with limited or reduced abilty to observe body language to aid inter-personal communication, need explicit learner instructions and teacher check ins to obtain feedback and monitor learning progress. Explicit instructions are especially needed for break out rooms. - Classes often move slower than in-person in SOLE. Less is more. - Need to allow for adequate time for practice and interaction as want to privilege learning over teaching. This may create tension between fatigue when engaging in SOLE and time required to create and allow for engagement. <u>Re #2:</u> - Provide tools and opportunities for self, peer, or teachers assessment between individual SOLE sessions to enable awareness of and accuracy of learner progress. Provide performance criteria, rubrics, worked examples. - Without engagement, practice, feedback and assessment, SOLE may be passivlely consumed with minimal impact on learning. <u>Re #3:</u> - Anticipate need to adjust teaching time, strategies to reflect and incorporate learners progress. Some in person 'favourite' activities don't translate to SOLE. Let go what may not transfer to a SOLE environement. - In SOLE, usually more time and effort for engagement, practice, feedback and assessment are required for effective learning.