



 ADULT
LEARNING
SYMPOSIUM

Understanding Adult Learners' Sense-making to Inform Pedagogical Innovations In Blended Learning Environments

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1st November 2018

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What is the project about?



Purpose, Research Questions, Key Terms &
Definitions
Data Collection, Main Findings.



Purpose of Project



Focusing on how learners ‘experience’ and ‘make sense’ of their learning and connect what they learn with their work



Understanding learners’ learning experiences in blended learning environments





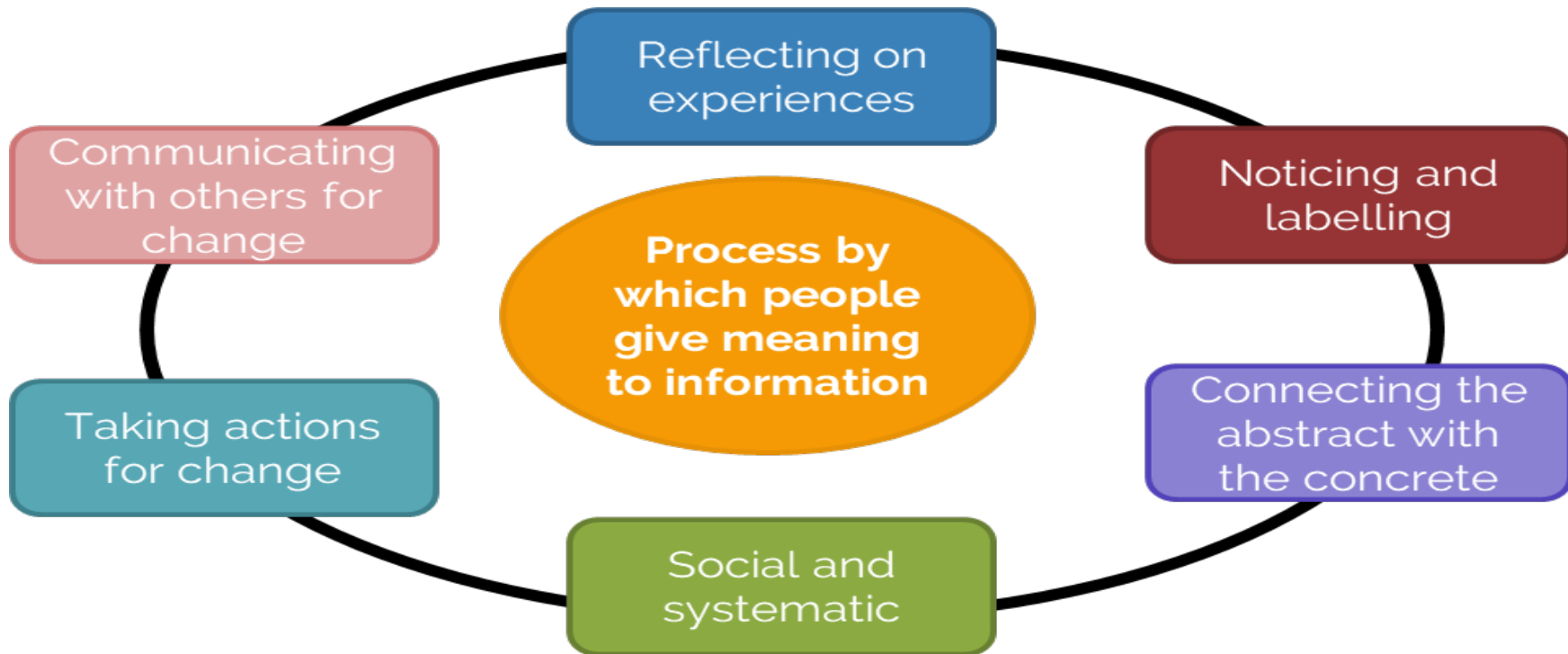
Research Questions



- 1** How do adult learners experience learning in and across different blended learning environments?
- 2** How do adult learners make sense and translate their learning across different blended learning environments and apply this to their work?
- 3** What are the implications of the findings from RQ1 & RQ2 for pedagogical innovation in blended learning?



Definitions: Sense-Making





Various Theoretical Perspectives

a. process that takes place internally within the mind (Klein et al., 2006a; Kolb & Kolb, 2005; 2008)

b. process where people engage in interaction and build knowledge among themselves (Scardamalia & Bereiter, 2010; Wells, 2002)

c. process that is intertwined with cultural and historical factors (Engestrom, 2001; Yamagata- Lynch, 2010)

d. not a person or people-centered process but one that includes material objects and technology as active participants of learning instead (Fenwick, Nerland & Jensen, 2012)



Blended Learning : Definitions



New initiatives in SkillsFuture emphasize importance of promoting blended learning for Continuing Education and Training (CET) learners as a way to enhance their access to learning and to meet their dynamic learning needs

Blended learning can be a combination of any two forms



“Classroom learning”: face-to-face learning; takes place in a protected space and time



Work-based learning: learning driven by an educational institution (e.g. internship) towards attainment of a qualification



Workplace learning: learning driven by an organisation (e.g. workplaces) or individuals embedded in daily work practices



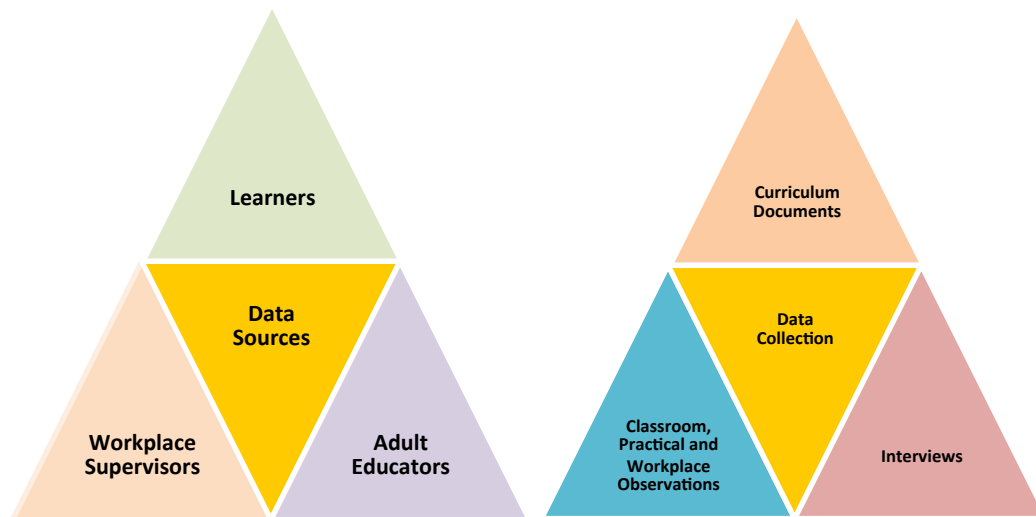
Technology-enabled learning: learning tapping on use of technology to support the learning process



Methodology



- Interviews with selected learners, their AEs, curriculum designers and workplace supervisors from 6 blended learning courses;
- Observations of learners' learning in blended environments.





Data Collection



Industries/ Courses		Learners	Adult Educators	Curriculum Designers	Workplace Supervisors	Interviews	Participant Observations
Healthcare	1 (TA)	4	4	1	0	17	8
(Class+work- based/workplace learning)	1 (Optometry)	4	2	2	3	18	8
WSH	1 (Maritime)	4	2	2	0	11	5
(Class+work- based/workplace learning)	1 (Construction)	4	1	1	N.A	5	2
ICT	1 (ERP SAP)	3	1	1	N.A	10	4
(Class+e-learning)							
HR Management	1	4	3	3	N.A	7	3
(Class+e-learning)							



Industries



Singapore's ICT Industry

- Digital transformation is necessary for companies to tap into any work opportunities.
- The ICT industry in Singapore will require an additional 15,000 workers, especially so in areas of cyber security, data analytics and network infrastructure by 2020.
- Singapore's S\$120 million TechSkills Accelerator program trains industry-ready ICT professionals.

Singapore's Healthcare Industry

- The nation's annual healthcare spending to rise from 2.2 percent of GDP today to almost 3 percent of GDP over the next decade.
- Singapore expected to build more general and community hospitals and more nursing homes and eldercare centres.
- These trends call for an increasing need for primary care sector, and strengthening of the nation's overall healthcare ecosystem.



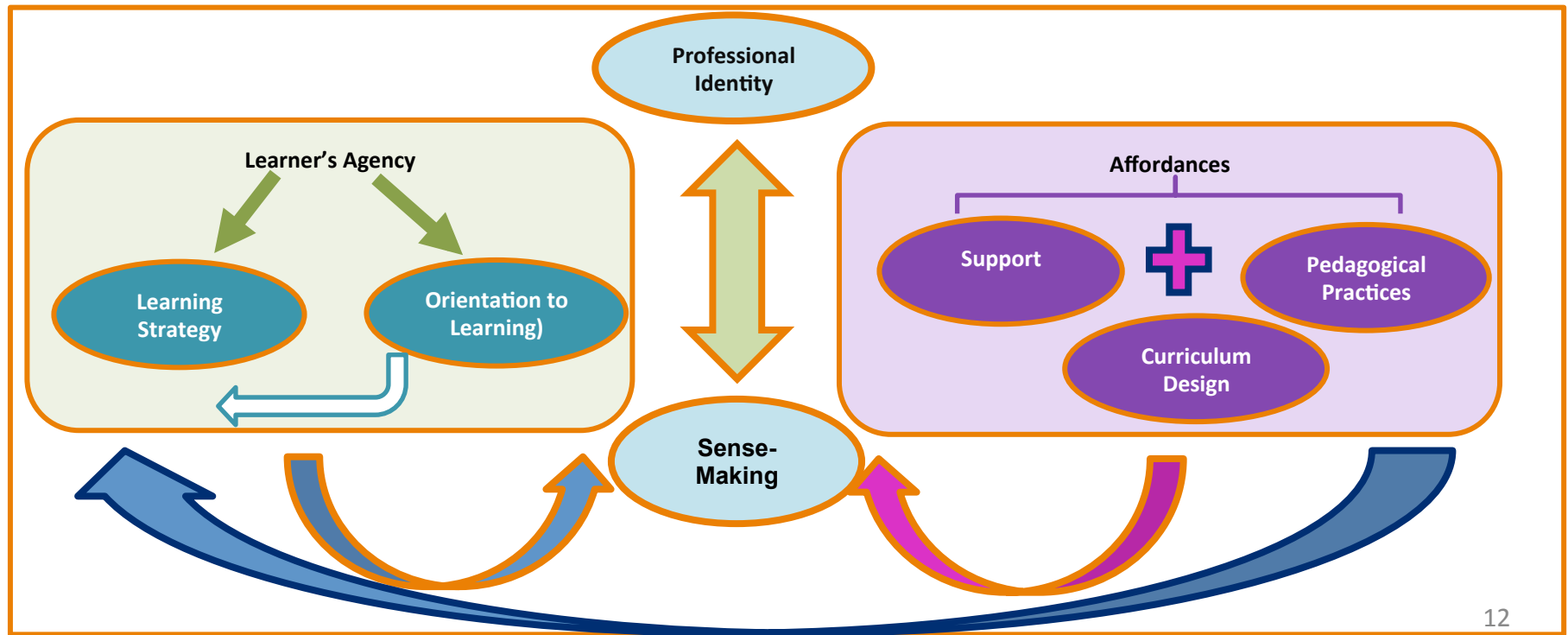
What have we found?



Relationships between various mediators of sense-making



Main Relationships





Main Relationships



- 1 Learner's Agency (Orientation to Learning, Learning Strategy) & Sense-Making
- 2 Affordances (Support, Pedagogical Practices, and Curriculum Design) & Sense-Making
- 3 Learner's Agency & Affordances



1

Main Relationships



Learner's Agency (Orientation to Learning, Learning Strategy) &
Sense-Making



1

Learner's Agency and Sense-making



- Recalled a learning strategy from her past MBA learning experience where her lecturer encouraged the learner to think deeply by asking “why” questions.
- Took the agency to keep asking “why” questions to help her link the classroom learning with authentic workplace scenarios.
- (talking about e-learning)... ‘However, this is for you to practice. You want to go deep, you are just doing it for the sake of doing it. Not really understand the system. Then for that **you need to get people to explain to you. Like why you are doing certain thing...Because the why is more important. If let's say you don't learn by asking the why, you just do the how, then you won't learn anything**’ (Learner from the ICT course).



1

Learner's Agency and Sense-making

Healthcare



- Conducted research on the internet to understand what she has learnt.
- Reflected on the mistakes she made during the practical session.
- (when asked why she kept asking questions in class)..... ‘And some more, some of the notes like the transferring skills, **textbook, they didn't give us very clear instructions. So I have to go for Google search.** From that, **I just remembered what the trainer teach me.** Then during the first learning session, that means practical session, we practised ourselves. We also grouped with each other. So from there, that day I learn from there a bit, a bit, a bit. So **I asked my course mates.**Then later the trainer, she will ask some of them to show us, the whole class, how to do it. **So I just picked out what I made a mistake so I just amend it, correct it’** (Learner from the healthcare course).



Healthcare



1

Learner's Agency and Sense-making

- Practised the techniques she learnt earlier in the day in the classroom.
- Found asking questions in class greatly facilitated the class participation and helped clarify doubts with regard to the lesson .
- (when asked how she practices the techniques she learns outside the classroom)'Yes it's useful, because **I already do... do somebody on it. I do on it. Even my children also.....**(Learner from the healthcare course).



1

Recommendations



- Learner agency is a critical mediator for adult learners' sense-making.
- Adult educators are encouraged to take learners' prior learning and working experience into consideration when applying teaching and instructional strategies to trigger this agency.
- Adult educators to get learners become authors of their own learning by promoting effective learning strategies to help them make sense of their learning particular through asking 'why' questions.
- Adult educators to support the learning process by providing encouragement and motivation for the learners as this influences their attitude and orientation towards learning and help trigger their agentic will.



2

Main Relationships



Affordances (Support, Pedagogical Practices, Curriculum Design, Personal Factors) & Sense-Making



2 Affordances & Sense-Making

Healthcare



- Immediate hands-on practice immediately after learning a concept significantly facilitated their sense-making process.
- One learner explained that the immediate practical session that took place after learning the theoretical concepts was crucial in integrating classroom learning with the practical sessions.
- (When asked about their practical sessions).....‘it’s almost every day you have an activity to do. So **you can like put whatever you’ve learn into like a real life situation.....like since we’ve done it before, so it’s kind of like memory like muscles memory**’ (Learner for healthcare course).



2 Affordances & Sense-Making



- Curriculum Design is another key affordance in facilitating the learners' sense-making.
- However, in a blended learning ICT course, learners were left on their own to explore the e-learning modules without any assistance and struggled to learn and make sense of what they are suppose to learn.
- (When asked if the e-learning sessions were helpful).....'**Practice, for ERP, no. Just the books for you to read and only 4 live sessions**, this is totally **insufficient.**' (Learner for ICT course).



2 Affordances & Sense-Making

- The assessment method in the healthcare course proved to be a very effective pedagogical practice which facilitated the learners' sense-making.
 - The adult educator structured the assessment as a form of learning for the learners to observe the gaps in their learning.
- Anything that you do wrong, to them, they can just remind you. But anything that you do assessments, if it concerns with the safety of the patient ah, they will ask you to go and take the assessment again. **So, it's like the wheelchair, when we push the wheelchair right? If we never lock the wheelchair, then it's a safety concern. They will ask you to go... Do it again. So, they will remind you again and again and again that you need to lock. Once stationary, you need to lock. Once you see the patient, your bedside reel have to go up. And when you lift the patient, make sure that your bedside is all the way down. So, every time, they will remind us the safety lah. So, it has been drilled into our head lah (Learner for healthcare course).**



2

Recommendations



- Assessments could also be applied as a pedagogical instrument to reinforce learning and provide constructive feedback.
- Another distinct teaching approach which stood out clearly was how appropriate hands-on practice sessions after a lesson greatly enabled retention for the learners and stimulate an effective sense-making process through reflection and practice.
- In blended learning, e-learning may not be always the major or critical component and therefore, it would be effective for the e-learning sessions to be situated between the face to face sessions to facilitate learners' sense-making experiences.



3

Main Relationships



Learner's Agency & Affordances



3 Learner's Agency & Affordances



- The adult educator from the ICT course shared that because of the design of e-learning was very rigid, it did not allow learners to take the agency to do the trial and error, thus limiting learners' sense-making of using the SAP system correctly and effectively.
- (When asked about the curriculum design).....This one, the course **doesn't encourage people to do trial and error, because trial and error actually is erm, from my experience, it is a learning process. Because when we don't do that one, we don't know... if I do this, what will happen? That one not encouraged in the course'**(AE for ICT course).



3 Learner's Agency & Affordances



- One learner pointed how her adult educator helped her prepare for her assessment with a mock test and giving her the appropriate feedback based on her performance.
- (When asked about the mock test as a preparation).....'And some more the **adult educator give us a mock test also**. Mock test, yeah mock test. After **the mock test, I go home and think over it, what I went wrong. So what I've to add in'**(Learner from the healthcare course).



3

Recommendations



- Adult educators ought to encourage learner's to explore and learn through 'trial and error' thus triggering their agentic will to learn from errors.
- Adult educators could also trigger learners' agency by intentionally encouraging the learners to create links between their current and prior learning in order to facilitate their sense-making and allow for a more coherent translation of their learning experiences
- The giving of appropriate feedback and support from a workplace supervisor or adult educator can trigger a learner's own agentic will and help the learner reflect and make sense of his or her own learning.



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Question & Answer

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Thank You

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