INSTITUTE FOR ADULT LEARNING SINGAPORE

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RESEARCH NOTE

Quality of Adult Learners' Sense-making and Its Implications for Design and Delivery of Blended Learning

Xiaofang Bi
Helen Bound

Introduction

The quality of learners' sense-making is deeply influenced by the design and delivery of Blended Learning (BL). Traditionally, BL is considered a combination of classroom and online learning. However, in the TAE sector in Singapore, BL has been broadened to include workplace learning. Such an expansion of BL is expected to better enable adult learners to make connections between theory and practice, opening up opportunities to strengthen learners' opportunities for sense-making, and its implications for design of learning, assessment and delivery. This research note provides a specific example of design that leads to limited opportunities for learners' sense-making and an example that affords many opportunities for learners' sense-making. Opportunities for learners' sense-making are critical in enabling learners to put their knowledge to work (applying theory to practice), and in the process, building capability in meeting unexpected challenges and to keep learning beyond a course.

What is sense-making and its quality?

Sense-making occurs when people encounter something that is abstract, confusing, uncertain or new (Malitis & Christianson, 2014; Weick et al., 2005). Weick et al (2005) identify features of sense-making as noticing difference (resulting from, for example, feelings of uncertainty, that something is not quite right, new or abstract), making attempts at categorising and then labelling (naming) what is happening. The environment where sense-making takes place influences such processes, e.g., historical ways of doing things, protocols that 'need' to be followed, the

Summary

► Blended learning (BL) is more than classroom and e-learning, but also includes workplace learning to make better connection between theory and practice in Adult Education.

► Sense-making has its distinctive features. The patterns of these features emerging from BL may contribute to different quality of sense-making.

► High quality of sense-making is crucial to achieve desired BL learning outcomes, particularly to help adult learners make application to their workplaces.

► Design and delivery of BL may need to take features of sense-making into consideration, to integrate more sense-making features in order to trigger high quality of sense-making, and thus, BL.

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culture of the organisation. Thus, ways of sense-making are systemic – an integral part of an organisation and its people's thinking, talking, all forms of communicating and actions. This organisational understanding of sense-making can be usefully applied to BL, as BL too involves individuals coming together as a group, albeit for a set period of time.

High quality of sense-making in BL is not generated automatically by just putting different BL components (e.g., classroom, e-learning and workplace learning) side by side, but requires purposeful design of the curriculum and instructional strategies to integrate the components more effectively.

A recent IAL study (Bi, Bound, Mohamed, Cai & Kah, 2020) found that the features of sense-making identified in organizational studies (e.g. Weick et al, 2005) are more nuanced in the setting of BL. The Bi et al (2020) study provides an explanation of each of the features of sense-making relevant to blended learning (see Table 1).

Table 1: Sense-making features reconfigured in the present study

| Sense-making Features	Explanation
Noticing	A process of observing, identifying and experiencing similarities and differences across various situations, conditions and contexts
Recalling	A process of recollecting, reconsidering and deliberating on past experiences
Labelling	A process of grouping, comparing, naming and evaluating observed similarities and differences in knowledge learnt, conditions and contexts
Connecting	A process of making efforts to link theoretical and practical knowledge, individually or collectively

Conceiving a systemic understanding	Developing ways of thinking to deepen understanding of aspects of professional concepts and practice within a wider context
Communicating	Social and inter-personal processes to further understand what is learnt, e.g., asking questions, posing considerations, predicting, seeking clarifications

In different instances of sense-making, some features are more or less interrelated, more or less iterative, and some features may occur more frequently than the rest. For example, communicating is necessary for all features of sense-making. As a result of the distribution of different sense-making features, adult learners in different BL courses tend to experience greater or lesser opportunities for sense-making. Greater opportunities for putting sense-making into action is what we call quality sense-making. The following two examples demonstrate differences in the quality of sense-making and the implications for learners.

Limited Sense-making Process

Limited sense-making mainly comprises the three features – noticing, recalling and labelling, while the rest of the features are not so frequently present in the sense-making process. The prime example of limited sense-making is demonstrated in an ICT course in Figure 1.

Figure 1. Sense-making process by ICT Learners
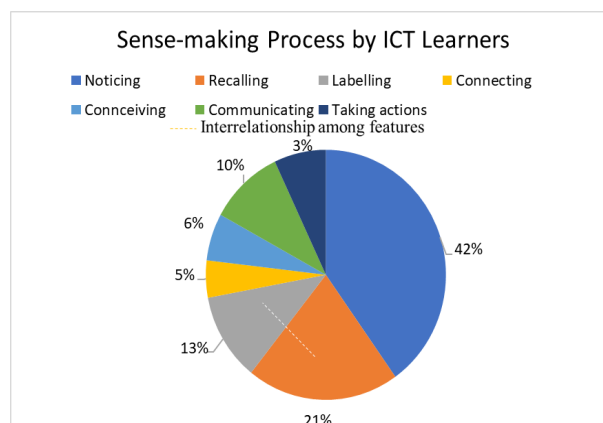
The adult learners in this ICT course spent most of their time noticing differences (42%), recalling past experience (21%) and making comparisons (13%). They seldom connected theory with practice (5%), or conceived a systemic understanding of the SAP software (a type of accounting system) in relation to their organisation(s). Learners from this course in the Bi et al (2020) study reported that they were not exposed to how different enterprises and industry sectors used the software (6%). Opportunities to take actions to apply what they learnt was even lower (3%). Why then were the opportunities for sense-making so limited?

Fragmented Curriculum Design

In this course, the learners attended classroom (20% of course time) and e-learning (80% of course time) sessions involving both theoretical and practical knowledge. However, what was taught in the course did not incorporate the versatility of the SAP software and the ways in which it can be applied in different settings. Instead, the course design and facilitation were very prescriptive where learners had to strictly follow procedural steps. Consequently, there were limited opportunities to develop a deep understanding of the possibilities for the deployment of SAP software in a company, which was the promised learning outcome. The learners shared that the curriculum content was not linked well with real scenarios to meet most employers' needs and requirements in the industry. They strongly recommended that some embedded workplace hands-on practice was necessary to help them achieve a holistic understanding of the software and be more competent and confident in using and advising on the possibilities of the software and in applying for related jobs.

Didactic Teaching

During classroom observation, Bi et al (2020) noticed that didactic, transmission-heavy teaching dominated the classroom interaction in this course. Such teaching privileges teacher instruction over student learning (Lyle, 2008). Adult educators in this course presented the information and showcased the steps by clicking the right buttons in the software. Learners were seldom required to think purposefully, deeply and critically, despite all of the learners in this course having rich industry experience. The few

opportunities for learners to share their own experience of using SAP software in their respective workplaces was valued: sharing and critique of peer experiences is highly valuable for making links between theory and practice.

This example contrasts sharply with the following example, which showcases quality sense-making, i.e. many opportunities for all aspects of sense-making were intrinsic to the design of learning, assessment and delivery.

Deep Sense-making Process

Deep sense-making includes 'connecting', 'conceiving' and 'taking action' featuring more frequently than 'noticing', 'recalling' and 'labelling'. Notably, opportunities to take action to apply learning to workplaces, and access to constructive guidance was built into the design of the course. This was enabled through the close partnership between training providers and employers. This Human Resources course showcases how sense-making can be designed into learning, assessment and delivery.

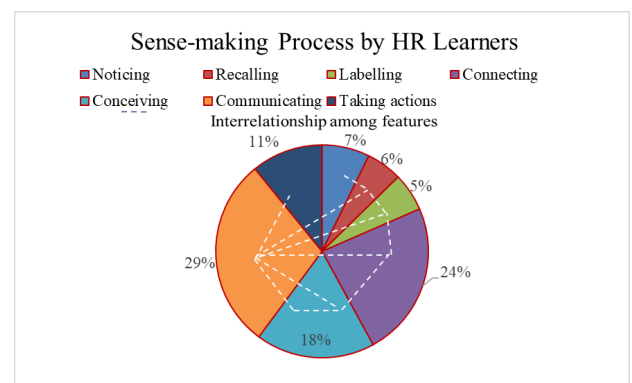Figure 2: Sense-making process by HR learners

Figure 2 shows that in the HR course, learners received opportunities to make connections between theory and practice (24%); and to conceive a more systemic understanding of the industry practice and job roles (18%) throughout the entire learning process. Comparatively, the rest of the features of sense-making were not so apparent. In between these sense-making features, communicating with others was apparent too (29%). Most importantly, HR learners were given opportunities to take actions to apply what they had learned into their workplace practices (11%). In addition, the dotted lines show that these features are interconnected, which means that they not only emerged solely but together here and there in the learners' sense-making process. What contributes to such high-quality sense-making?

Seamless Curriculum Design

The seamless curriculum design in the HR course includes the purposeful linking of modules, access to industry experts and authentic learning and assessment, all of which were important in helping learners make seamless transitions from classroom to workplaces. The curriculum was designed using a consistent narrative to form the backbone connecting and bridging different modules of the course. To purposefully strengthen the links between theory and practice, HR experts from both the public and private sectors were invited to conduct some sessions, providing rich industry examples. Importantly, learners were required to select an issue in their own workplaces and develop a project to address the issue as part of final assessment. This authentic design of learning and assessment did much to contribute to deepening learners' sense-making.

Dialogic Teaching

Besides the purposeful curriculum design, the adult educators' belief in dialogic teaching, requiring participative learning also played a critical role in enabling the learners' deep sense-making. The course design deliberately built in working with learners' prior knowledge and experience (Vosniadou, Vamvakoussi & Skopeliti, 2008). During classroom observation, Bi et al (2020) found that the learners were engaged deeply in asking each other probing questions, and sharing their own views and experiences. Learners' questions and discussion points were used by the AE for further discussion to build links with theory, involving the whole class in reflecting. Groupwork, case studies and role-play were extensively utilized in the course to help learners make links between theory and practice. As one of the AEs shared with us, every learner in the classroom has richer experience than him, and encouraging them to share with each other through different activities would definitely enable better linkage between theory and practice for high quality of sense-making.

Conclusion

The ICT and HR courses provide ideas on what is important in designing learning, assessment and delivery to achieve seamless BL as shown in the Figure 3 below. Through the following figure, practitioners may gain some tips to design and deliver BL more seamlessly.

Figure 3. Tips to adopt to achieve quality sense-making in BL
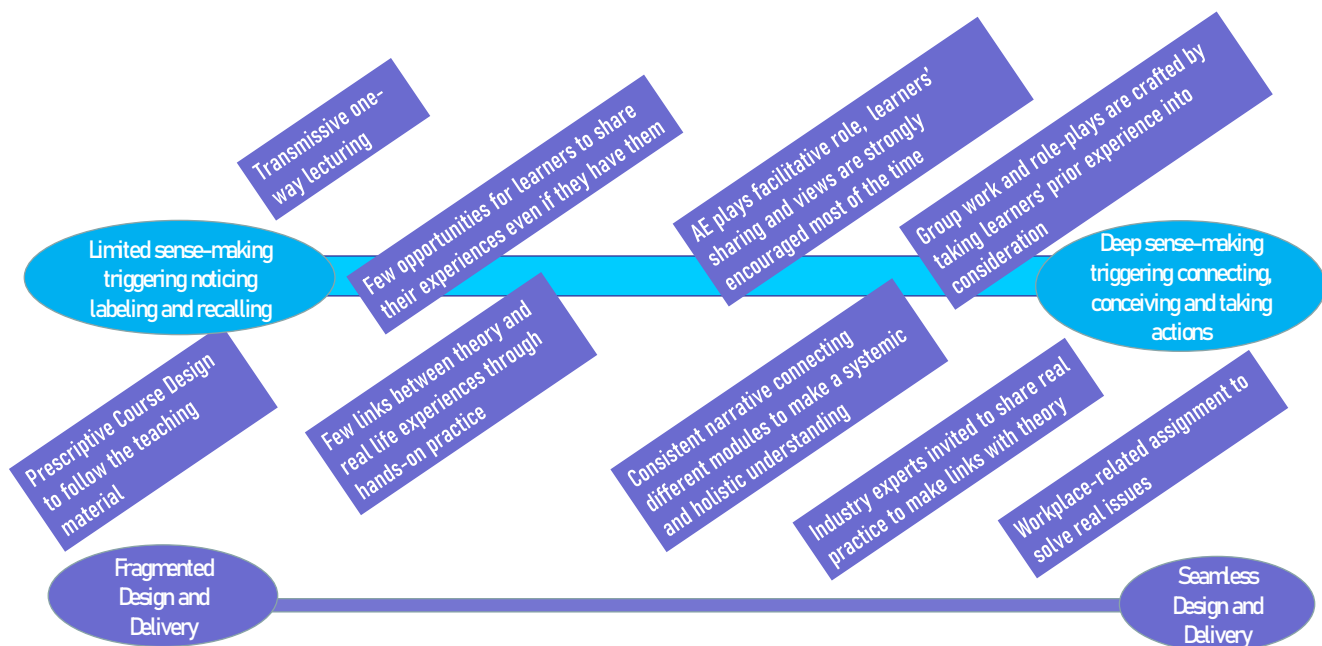
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