

## Online Scaffolding and Experts' Trust: Knowledge Sharing of Organisation to Students

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### Abstract

Scholars suggested the role of industry experts in providing learning assistance and knowledge sharing to students through a process called scaffolding as it helps in improving conceptual and problem solving skills. With the advancement of Information and Communication Technology (ICT), scaffolding can be conducted online where the term online scaffolding emerges. Existing studies on online scaffolding are confined towards people from the same academic institutions (e.g students and instructors from the same classrooms or online platforms). Since past studies noted that online security measures do not prevail in safeguarding the safety of information sharing, organization dependent on other factors such as trust to initiate relationship with people outside organization with regards to knowledge sharing. Nonetheless, studies to comprehend the role of trust when providing online scaffolding towards people outside organization such as from industry experts to students do not gain much attention in academic. This paper reviews literature related to the role of trust in knowledge sharing. Understanding trust from organization's perspective serves as key to understand issues related to trust and the extent it is applicable in online scaffolding.

**Keywords:** Organisation knowledge sharing; Online scaffolding; Trust.



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### 1. Introduction

In recent years, educationists view there is a need to form linkages with organisations to enrich learning experiences of university students. By forming linkages with industry experts particularly in scaffolding learning will engage students to think beyond what is written in the textbooks and exposes students on skills which is required in the industry (Loyens *et al.*, 2011). Scaffolding, by definition is, teaching provided by experienced persons that eventually lead to immediate construction of knowledge that promotes independent learning of a learner (Holton and Clarke, 2006). Knowledge sharing is key in scaffolding. Knowledge sharing presumes a relation between at least two parties, one that possesses knowledge and the other that acquires knowledge (Huber, 1991; Nelson and Coopriider, 1996).

Scaffolding can be conducted via online, which is known as online scaffolding. Online scaffolding allows industry experts to share their experiential, conceptual, procedural or declarative knowledge by scaffolding students via myriads online platforms and disperse geographical locations. Barrett (2014) noted that trust differs across settings whether it is in online or offline setting.

Since trust greatly lays on the contexts where it takes place, this paper aims to review literature on trust issues that may prevail in online scaffolding when information sharing between industry experts and students of higher education institutions is prevalence. The authors of this study conducted a narrative review of the literature rather than a meta-analysis because of the wide variety of disciplines contributing to online scaffolding and knowledge sharing with industry experts. Since very small number of studies investigating these issues as an integral research, the reviews are divided into:

- I) Industry experts' participation in online scaffolding
- II) Knowledge sharing with industry experts and trust
- III) The need for information security

#### 1.1. Industry Experts' Participation in Online Scaffolding

In education, the term that described, a process of assisting a person to carry out a task that is unfamiliar or beyond his/her ability but gradually removed when students are familiar with a task, is called scaffolding (Santrock, 2009). Scaffolding occurs when guidance is provided by an individual of high knowledge such as from the industry experts (Lee, 2008). Expert assistance helps in the moulding a student's thinking skill and it is said to be a joint collaboration between the scaffolder and the scaffoldee (Lee, 2008). Online scaffolding emerges as results of ICT applications.

Research on online scaffolding is still at an early stage (West *et al.*, 2013) even though evidence is present to support the learning process (Salmon, 2004; Salmon *et al.*, 2010). There is a need to have further research of online scaffolding at the tertiary level (Stavredes and Herder, 2013; Zydney and Seo, 2012) to nurture the success of learners (West *et al.*, 2013). Participation of industry experts as scaffolders who profoundly have more experiential and procedural knowledge enables learners to understand how a problem is related to their professional career and is more effective compared to memory-based learning (Beaumont *et al.*, 2014; Palloff and Pratt, 1999; Savin-Baden and Wilkie, 2006; Savin-Baden, 2014). Although many studies welcome the notion of industry experts to form collaborations to improve students' problem solving skills, understanding trust from the point of views of the one whom providing scaffolding - the industry experts is vital.

## 1.2. Knowledge Sharing with Industry Experts and Trust

Barrett (2014) asserts that when a person is in a virtual environment "swift trust", a form of unstable and fragile trust, whereby people form a quick trust pattern in which they need to build communication clues that entails communication skills among virtual group members such as virtual managers, team or group members. Acknowledging that this form of trust is hard to be gained unlike face-to face setting (e.g traditional face-to-face classroom), a reasonable amount of trust is needed. Since trust develops gradually as people interact with each other (Hosmer, 1995) individuals find out about those with whom they interact, and they begin depending more on the usefulness of the interaction than trust on framing their behavioral intentions (Gefen *et al.*, 2003; Wang *et al.*, 2016). The importance of trust as a key consideration decreases with experience (Gefen *et al.*, 2003). However, in virtual communities, trusting relations can rise with no immediate social collaboration. Since experts' trust is important to initiate scaffolding because the experts put their confidence in the character of the scaffoldee to safeguard information which is shared with them. It is evident that from previous studies that trust given by experts to learners varies depending on the setting takes place. Osborne (2014), the reflection in its questionnaire and interview responses reveals that a sense of trust and safety to take small risks without significant detrimental consequences is central in online learning. Due to that the degree of trust and safety varies depending on contexts that may eventually influence the level of trust.

For instance, Johnson (2001), supports the idea of learning via communities of practice (CoP) where , evolution of learning via the communities greater than any individual knowledge. It is due to active participation and decision making of 'individuals united in action' (Johnson, 2001). This approach is essential in learning, as it is in tandem with the advancement of technology that makes the CoP offers expert-to-apprentice relationships via "legitimate peripheral participation," in which conceptualises novices at the outskirts and experts at the centre of a CoP (Gherardi and Nicolini, 2000; Lave and Wenger, 1998; Soden and Halliday, 2000), a concept which is close to online scaffolding principle which is guidance is provided by experienced experts to novice learners. In CoP where it can be regarded as a trusting group environment, where learning happens whereby willingness the participating members to take more risks such as requesting for assistance. On the other hand, the instructor needs to establish an atmosphere of trust and foster a "give and take" (social negotiation) approach to learning by playing multi-roles namely being a participant, a co-respondent, and a facilitator (Johnson, 2001).

Nonetheless, in different virtual settings like social media, participants felt a sense of vulnerability in a dysfunctional "affinity space" where an absence of trust discouraged shared learning or dialogue where the complexities of negotiating identity and relationships online was highlighted (Osborne, 2014). Information technology specialists stress that "...social networking appears to provide a rich setting for criminal activities and other misdeeds" (Weir *et al.*, 2011). Therefore, it is clear that trust plays a vital role in learning and engaging in dialogue in social media spaces. However, in an event where students may not be able to find industry experts either in CoP or social media, making them self-initiate in finding industry experts' via formal connections such as sending formal invitation to be part in scaffolding activities via offline or other online setting. However, issues with regards to information security may moderate or spur scaffolding given to students in online setting.

## 1.3. The Need for Information Security

With increasing security threats especially with the advancement of ICT thereby forcing organisations to spend more in safeguarding information via various technical mechanisms namely attaining spyware/hostile firewalls, and substance separating programming to secure their data frameworks (Tamjidyamcholo *et al.*, 2013). Previous studies on trust the sources of information security threat to an organisation with regards to information sharing is from the insiders. For instance, a study by Giandomenico and Groot (2016) shows, 47 experts in data security were asked regarding the matter and the results reveal that insiders have access to important information with regards to the organisation. Information from inside the company can be leaked maliciously within the organization when trust is placed upon outsiders that may create intentional or unintentional threats towards organisation. To combat the threats, a holistic approach to security is essential in the modern threat landscape that adequately addresses both insider and outsider threats (Giandomenico and Groot, 2016).

Above all, despite of installing all technical security tools , there is need to constantly check on the way information are disclosed and circulated as the vulnerability of the information exposed is high (Grabner-Kräuter and Bitter, 2015) leading for experts to conclude that a secure environment is not guaranteed in the online setting (Safa *et al.*, 2015). It may lead the industry experts to depend on other factors such as trust to safeguard information that they share with outsiders (Wang *et al.*, 2016).

## 2. Conclusion

It can be concluded that trust plays a significant role in information sharing between industry experts and students in online scaffolding. Knowledge sharing with industry experts is essential in online scaffolding considering that students would reap numerous benefits mentioned in this paper. Nonetheless, it is vital for trust to be understood in depth in scaffolding process with the experts. The concept of scaffolding is emerging in education. However, its practicality in the actual implementation in online setting with the industry experts warrants empirical studies in order to gain better understanding on trust related issues. Further studies on trust in online scaffolding will help in guiding the instructors to properly design appropriate instructional elements. Issues such as the setting where online scaffolding takes place, types of information and participants involved may influence trust in online scaffolding. It is also worth to investigate to what extent instructors or students' needs to exhibit the level of trust (tangibilize the intangible the trust clues) to industry experts before information is granted to them.

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## References

- Barrett, B., 2014. "Virtual Risks of e-Participation in Online Learning Environments and Dialogue. In ECSCM2014- Proceedings of the European Conference on Social Media: ECSCM 2014." In *Academic Conferences Limited*. p. 369.
- Beaumont, C., Savin-Baden, M., Conradi, E. and Poulton, T. (2014). Evaluating a second life problem-based learning (pbl) demonstrator project, What can we learn? *Interactive Learning Environments*, 22(1): 125-41.
- Gefen, D., Karahanna, E. and Straub, D. W. (2003). Inexperience and experience with online stores, The importance of tam and trust. *Ieee Transactions on Engineering Management*, 50(3): 307-21.
- Gherardi, S. and Nicolini, D. (2000). The organizational learning of safety in communities of practice. *Journal of Management Inquiry*, 9(1): 7-18.
- Giandomenico, N. and Groot, J. (2016). Insider vs outsider threat. Available: <https://digitalguardian.com/blog/insider-outsider-data-security-threats>
- Grabner-Kräuter, S. and Bitter, S. (2015). Trust in online social networks, A multifaceted perspective. *Forum For Social Economics, Routledge*, 44(1): 48-68.
- Holton, D. and Clarke, D. (2006). Scaffolding and metacognition. *International Journal of Mathematical Education in Science and Technology*, 37(2): 127-43.
- Hosmer, L. T. (1995). Trust, The connecting link between organizational theory and philosophical ethics. *Academy of Management Review*, 20(2): 379-403.
- Huber, G. P. (1991). Organizational learning, The contributing processes and the literatures. *Organization Science*, 2(1): 88-115.
- Johnson, C. M. (2001). A survey of current research on online communities of practice. *The Internet and Higher Education*, 4(1): 45-60.
- Lave, J. and Wenger, E. (1998). *Communities of practice by Smith, M. K. (2003) communities of practice, the encyclopedia of informal education*, 9(2): Available: [www.infed.org/biblio/communities\\_ofpractice.htm](http://www.infed.org/biblio/communities_ofpractice.htm)
- Lee, L. (2008). Focus-on-form through collaborative scaffolding in expert-to-novice online interaction. *Language Learning & Technology*, 12(3): 53-72. Available: <http://lt.msu.edu/vol12num3/lee>
- Loyens, S. M., Kirschner, P. and Paas, F. (2011). *Problem-based learning*. In K. R. Harris, S. Graham & T. Urdan (Eds.), *APA Educational Psychology Handbook*. American Psychological Association: Washington. 2.
- Nelson, K. M. and Coopridge, J. G. (1996). The contribution of shared knowledge to IS group performance. *MIS Quarterly*, 20(4): 409-32.
- Osborne, N., 2014. "Learning from others mistakes: How social media etiquette distorts informal learning online." In *ECSCM2014-Proceedings of the European Conference on Social Media, ECSCM 2014, Academic Conferences Limited*. p. 369.
- Palloff, R. M. and Pratt, K. (1999). *Building learning communities in cyberspace*. Jossey-Bass: San Francisco. 12:
- Safa, N. S., Sookhak, M., Von, S. R., Furnell, S., Ghani, N. A. and Herawan, T. (2015). Information security conscious care behaviour formation in organizations. *Computers and Security*, 53(1): 65-78. Available: <https://doi.org/10.1016/j.cose.2015.05.012>
- Salmon, G. (2004). *E-moderating, The key to teaching and learning online*. Psychology Press.
- Salmon, G., Nie, M. and Edirisingha, P. (2010). Developing a five-stage model of learning in Second Life. *Educational Research*, 52(2): 169-82.
- Santrock, J. W. (2009). *Psicologia educacional*. AMGH Editora.
- Savin-Baden, M. (2014). Using problem-based learning, New constellations for the 21st century. *The Journal on Excellence in College Teaching*, 25(3and4): 197-219.
- Savin-Baden, M. and Wilkie, K. (2006). *Problem-based learning online*. McGraw-Hill Education: UK.
- Soden, R. and Halliday, J. (2000). Rethinking vocational education: a case study in care. *International Journal of Lifelong Education*, 19(2): 172-82.

- Stavredes, T. and Herder, T. (2013). *A guide to online course design: Strategies for student success*. John Wiley & Sons.
- Tamjidyamcholo, A., Baba, M. S. B., Tamjid, H. and Gholipour, R. (2013). Information security–professional perceptions of knowledge-sharing intention under self-efficacy, Trust, Reciprocity, And shared-language. *Computers and Education*, 68(1): 223-32.
- Wang, Y., Min, Q. and Han, S. (2016). Understanding the effects of trust and risk on individual behavior toward social media platforms, A meta-analysis of the empirical evidence. *Computers in Human Behavior*, 56(1): 34-44.
- Weir, G. R., Toolan, F. and Smeed, D. (2011). The threats of social networking, Old wine in new bottles? *Information Security Technical Report*, 16(2): 38-43.
- West, R. E., Hannafin, M. J., Hill, J. R. and Song, L. I. Y. A. N. (2013). Cognitive perspectives on online learning environments. *Handbook of Distance Education*: 125-42.
- Zydney, J. M. and Seo, K. K. J. (2012). Creating a community of inquiry in online environments, An exploratory study on the effect of a protocol on interactions within asynchronous discussions. *Computers and Education*, 58(1): 77-87.