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THE INITIAL STUDY: A CONCEPTUAL FRAMEWORK FOR SUSTAINING FEEDBACK

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Abstract

The significance of feedback has been widely acknowledged in higher education. In the same universe, the increased existence of information and communication technologies (ICT) and its overwhelming influence on teaching and learning cannot be ignored. This study proposes a conceptual framework for sustaining feedback. The literature behind the design of the framework is explained.

Keywords: Feedback, Higher Education, Framework, Teaching and Learning

1. Introduction

Feedback is learning, both formal and informal (Biggs, 1999; Brown & Knight, 1994,). Feedback has been conceptualized in various ways. Feedback is further elaborated on as information with which a learner can confirm, add to, overwrite, tune or restructure information in memory, whether that information is domain knowledge, meta-cognitive knowledge, beliefs about self and tasks, or cognitive tactics and strategies (Butler & Winne, 1995). On the same ground, Nicol and Dick (2006) interpreted feedback as information about how the students' present state (of learning and performance) relates to the goals and expected standards of the course. In other words, it is also illustrated as the 'consequence' of a performance (Hattie & Timperley, 2007). In this study, feedback is interpreted as a pedagogical tool which bridges the student current level to the expected level set by the course.

In higher education, the importance of feedback has been widely acknowledged. Feedback is often termed as "the most important aspect of the assessment process in raising achievement" (Bloxham & Boyd, 2007). In fact, the students in higher education have regarded feedback as a vital component in shaping and improving their learning experience (Covic & Jones, 2008; Price, Handley, Millar & O' Donovan, 2010; Williams & Kane, 2009; Yorke, 2003).

Unfortunately, feedback, as the pedagogical tool in higher education, is not short of quandary. Literature has shown feedback in classroom implementation and remains an ongoing challenge in terms of structural limitations of mass higher education (Hounsell et al., 2008 as cited in Yang & Carless, 2012); insufficient in helpfulness, timeliness, consistency, specificity and clarity (Bailey & Garner, 2010 as cited in Yang & Carless, 2012); students neglecting to collect feedback or seek help after receiving negative feedback (Price, Handley & Millar, 2011). Based on the issues in the past and current studies, the challenges in sustaining feedback can be identified into three arguments; (1) Assignments which do not allow feed forward (2) Large classes (3) Student's undervalued perceptions on feedback.

For this research, it is assumed that feedback will be sustained if the three identified issues; (1) Assignments which do not allow feed forward (2) Large classes (3) Student's undervalue perceptions on feedback, are contained. At the same time, instructional strategies which evolve around technology integrated learning environment need to be developed and managed to ensure feedback retains its pivotal role in the teaching and learning process. Having said that, the increased existence of information and communication technologies (ICT) and its overwhelming influence on teaching and learning cannot be ignored. Jonassen, Howard, Morre and Marra (2003) interpreted ICT as a process of amplifying teaching and learning; a process of empowering learners and preparing students with relevant skills needed for the future. As technologies continue to advance, Mory (2004) suggested that there is a need to design feedback which utilizes the improved capabilities for instruction. Hence, there is a need for strategies which could prescribe suitable instructions and tasks for sustaining feedback in a technology integrated learning environment (TILE) which advocates learning in the midst of minimizing the three issues.

Hence, this research proposes a conceptual framework. Refer to Figure 1.

2. The conceptual framework

As mentioned earlier, issues (large class, students' under-valued perceptions towards feedback, and assignments which do not allow feed-forward) which have been plaguing feedback integration should be weeded. Therefore, the design of the conceptual framework juggles and capitalises on these elements: technology tools, community and the role of the teacher, to keep these issues at bay. As seen in Figure 1, the iterative flow of instructional feedback strategies allows the teacher to capture and filter which strategies are to be continued or modified. This is achieved by observing and analyzing the responses received from the students' feedback via ICT tools. Within this framework, feedback for learning carries the objective: - to guide students towards the learning outcomes of the course.

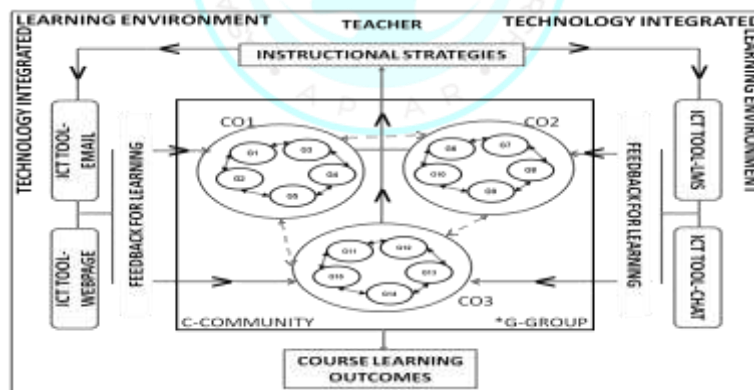


Figure 1: Conceptual framework for sustaining feedback

- *The role of the teacher*

The starting point of the conceptual framework in distilling prescriptive instructional feedback is the teacher.

“All (classroom) work involves some degree of feedback between those taught and the teacher, and this is entailed in the quality of their interaction which is at the heart of the pedagogy. The nature of these interactions between the teachers and students... will be key determinants for the outcomes of any changes...”

Black & William (1998)

The teacher helms the course by orchestrating feedback towards the course learning outcomes. Moreover, the students also need coaching, sometimes even external steering, in these learning processes (Schelfhout, Dochy & Janssens, 2004). On that account, a certain degree of teacher-control will have to be built in the learning environment (Carpenter & Fennema, 1992; Schwartz & Bransford, 1998).

- *Community*

In higher education, it is common to assume that the teacher becomes the feedback provider. Nevertheless, students also give each other feedback while performing the same given tasks (Nicol, 2011). In addressing the issue of large classes, the notion of peer learning is capitalized and integrated. This is based on the concepts of social constructivism, zone of proximal development (ZPD) (Vygotsky, 1978) and communities of practice (Wenger, 1998). Learning is a highly social activity (Pritchard & Wollard, 2010). In that event, the class learning is designed to move socially as a community. Within the social learning environment, the setting of community bubbles (Co1, Co2, and Co3) is to maximize the performance of peer learning and peer-feedback among the contained groups (G).

- *Technology tools*

Throughout the journey in the course, the teacher delivers and disseminates the instructional strategies with the assistance of ICT tools. Technology is a tool which can aid teachers to embody the best practices in order to create enriched and collaborative learning environments, meet a variety of learning style needs, support learning transfer, address high-level thinking, make education equitable, incorporate real world problems and authentic assessments and prepare students for the need of lifelong learning (Fullan, 1998; Osório & Machado, 2005; Paiva, 2002; Ponte & Serrazina, 1998; Romero & Silva, 2005; Silva, 2004 as cited in Coutinho, 2007). The teacher provides the chances for students to engage in feedback via the ICT tools such as email, Google Sites; a structured type webpage, Learning Management System (LMS), and Instant Messaging (IM). These tools support the feedback process for student learning. Specifically, e-learning strategies provide new options for students to be part of an electronic learning community by interacting on a regular basis (Macdonald, 2004). This element is crucial for students to give their response in order to complete the feedback loop, as this will reflect if learning has occurred from feedback (Sadler, 1989). Boud (2000) mentioned this as one of the most forgotten aspects of formative assessment.

3. Literature

The key-element used in creating the conceptual framework is the social theory. For that reason, this research is grounded within the theoretical framework of social constructivism.

The constructivist theory of knowledge brings forth the belief that learners do not copy or absorb ideas from the external world; instead, they have to construct their concepts through active and personal experimentation and observation (Piaget, 1970). A report by JISC (2004) outlines the constructivist principles in learning:

- The learner actively constructs knowledge, through achieving understanding
- Learning depends on what we already know, or what we can already do
- Learning is self-regulated
- Learning is goal-oriented
- Learning is cumulative

There is a large volume of published studies that believes that learning is no more an individual process. Studies have further described that engaged and vibrant learning occurs within a knowledge community. Such circumstance is known as social constructivism.

“Every function in the child's cultural development appears twice: first, on the social level and, later on, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.”

Vygotsky (1978)

Social constructivism, a theory developed by Lev Vygotsky, is a type of cognitive constructivism. Within the social constructivist learning environment, the learner is given the time to talk while the teacher plays the role of a listener, observer and comes to aid according to the condition. Social constructivism thrives in these two closely related elements; learning communities and Zone of Proximal Development (ZPD). As for feedback, social constructivist interaction is essential for feedback (Johnson & Black, 2012) to ensure the feedback process is sustained. Furthermore, social constructivist needs to be integrated in the learning environment to stimulate the feedback process. A considerable amount of literature has been published on the relationship between these elements of social constructivism and feedback.

- *Learning communities*

This concept is quickly gaining the interest of many because it fits well with the changing philosophy of learning and literature and has proven that it works (Cross, 1998). In other words, the learning community is the foundation to a successful education (Clark, 1998). Bruner (1996), as cited in Clark (1998), describes the “community of learners” as a group of learners who models ways of doing or knowing, provides opportunities for emulation, offers running commentaries, provides "scaffolding" for novices and even provides a good context for teaching deliberately.

Prior to that, Clark (1998) describes five characteristics for this element:

- The learners must come to know one another. A community of stranger is a contradiction.
- All members of the learning community must share the common purpose of learning
- Learning in community is an active process in which each member is actively engaged in either group or individual projects in support to both the learner and the group's learning
- Learning opportunities and activities within learning community are of real value to themselves and ideally to others as well.
- A sustainable learning community is a pleasant place to be

Within the learning communities, the teacher's role is not reduced. Instead, the teacher takes on an additional function of encouraging learners to share their new-found knowledge (Bruner, 1996). Learning communities were first initialized when Rogers (1969) wanted to establish a ‘community of learners’, who were free to pursue those ideas which excite them, ideas which have intense personal meaning.

For Rogers, these qualities were ‘realness’ (the teacher shows authentic feelings such as boredom, interest, anger, or sympathy), ‘prizing, acceptance, trust’ (of the student’s personal and intellectual qualities), and ‘empathetic understanding’ (the ability to feel how learning seems to the student). Piaget (1976) and his notion of active learning also believed that students perform better when they think together in groups, record their thinking and explain it by presenting an exhibit to the class. As they actively engaged with others to think together, they became more interested in learning. This was further justified as Vygotsky (1986) introduced the notion that “learning is a social experience”. Individuals thinking alone first make personal meaning. Then, they tested their thinking in dialogue with others to construct shared meaning. Finally, they constructed collective meaning by reviewing shared meaning in a larger community.

Cross (1998) described that within learning communities, knowledge is not only simply “discovered” but was also socially constructed. As a result, instead of having the facilitator conveying the information, students actively construct and assimilate knowledge through a reciprocal process (Bruffee, 1995; Schon, 1995; Whipple, 1987 as cited in Zhao & Kuh, 2004). In this way, learning becomes deeper, yet personally relevant and becomes a part of the student’s very identity, not just something the student has.

Community of learning is then further constructed when Wenger (1998) transcribed his view of this particular learning into a model of apprenticeship and work-related learning that was developed as a social learning framework to include four components; community, identity, meaning and practice. According to Wenger (1998), meaning was described as participation and reification, which was historically and contextually bound, constituting learning from negotiated experience and participation in the community while practice was learning by doing, involving participation with the community, with the aim of achieving shared goals. Wenger (1998) defined identity, through the use of objects, shapes experiences and contributes to identity formation, with identity seen as learning as becoming. Community, described by Wenger (1998), was similar to learning as belonging, where the community was the learning context with three essential components; mutual engagement, joint enterprise and shared repertoire.

These characteristics are necessary in sustaining the feedback process. Shared objectives and purpose within community of learning will place feedback in an active role. This is because the students in the community of learning will apply iterative feedback to achieve a common goal.

- *Zone of Proximal Development*

“...the ZPD is the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. . . What children can do with the assistance of others might be in some sense even more indicative of their mental development than what they can do alone.”
(Vygotsky, 1978)

The concept of ZPD is based on Vygostky’s belief that social interaction is an essential element to successful growth on these aspects: cognitive and intellectual. Based on Figure 8, the ZPD is an area of cognitive development which is placed between the learner’s prior knowledge and understanding and beyond the learner’s current level of understanding. In order for the learners to develop ‘progress’, they need to be facilitated towards the zone. Successful migration across this zone is very much dependent on social interaction. In this area, therefore, there will be gradual scaffolding for a new skill or task on the learning task either via teacher guidance and/or with peer collaboration until the learner is able to complete the task independently. Zone of

proximal development also illustrates an importance on the readiness to learn, “where upper boundaries are seen not as immutable but as constantly changing with the learner’s increasing independent competence at each successive level” (Brown et al., 1993 quoted in Ash & Levitt, 2003). In short, the progress across a ZPD is the axis to learning (Vygotsky, 1978).

Such occurrence in the space is also known as scaffolding. Social constructivists see learning as dual-agentic in which both teacher and learner engage to co-construct the socio-cultural realm (Adam, 2006). The scaffold will then be the joint decisions made by the teacher and learner (Silcock, 2003). Several studies have shared similar views on scaffolding. Roehler and Cantlon (1997) identified scaffolding as “the social interaction among students and teachers that preceded internalization of the knowledge, skills and dispositions deemed valuable and useful for the learners”. Davis and Miyake (2004) interpreted the process as assistance without which a learner cannot accomplish a goal or engage in an activity. Kim and Hannafin (2011) distinguished scaffolding as a help-line provided by the more capable to assist struggling learners to achieve what they cannot accomplish independently.

- *The relationship between social constructivist and feedback*

The essence of social constructivist namely ZPD in the feedback process can be seen as early as in the 1980s. Sadler (1989) suggested a form of scaffold such as a guided yet direct and authentic evaluative experience should be given to the students in order for them to develop their evaluative knowledge. This in turn stimulates the feedback process. At the same time, Sadler added that it also enables transfer of some of the responsibility on making evaluative decisions from the teacher to student. In this way, students are gradually exposed to the full set of criteria and the rules for using them, and so build up a body of evaluative knowledge. As the students receive such evaluative experience, it also makes them aware of the difficulties which even teachers face of making such assessments. With that, the students become insiders rather than consumers. Ergo, this transfer of roles ensures the feedback process is sustained.

A more recent study by Ash and Levitt (2003) revealed the application of ZPD in the iterative process of formative assessment. Ash and Levitt described the cyclic determination of differences between teacher and learner understanding can be interpreted as an ongoing diagnosis of the distance between the learner’s current and potential levels of ability in the ZPD. According to Ash and Levitt (2003), the essence of this argument involved cyclic appropriation and iterative use of another’s products. In their analysis on ZPD, Ash and Levitt identified the scope for the teacher and the student. For the teacher, it involved appropriation of student product such as questions or drawings. As for the student, it consisted of learner appropriation on teacher strategies, questions or activities.

Sustaining the feedback process occurs within an active ZPD. An active ZPD requires the characteristic of being dialogic. Higgins et al. (2001) pointed to effective feedback being feed-forward which is equivalent to being “dialogical and ongoing”. In their study, “dialogical and ongoing” methods such as discussion, clarification and negotiation between student and tutor can equip students with a better appreciation of what is expected of them, and develop their understandings of academic terms and appropriate practices before or as they begin to write. Gravett & Peterson (2002) described dialogue as an entity of relationships in which participants thought and reasoned together. Several studies have revealed that dialogue is a useful tool for reconciling the different perceptions of teachers and students of the feedback process (Adcroft, 2011; Carless, 2006; Maclellan, 2001 as cited in Min-Yang & Carless, 2012).

According to Nicol & David (2006) feedback in a dialogue form which provided the path for the students to engage with the teacher in discussion of the received feedback. Nicol & David (2006) further explained that discussions with the teacher assist students to build their understanding of expectations and standards, to check out and correct misunderstandings and to get an instant response to difficulties. Elsewhere, Min-Yang and Carless (2012) argued that it was necessary to nurture collaborative and mutually trusting teacher-student in order to sustain feedback. It is also revealed that feedback in its most productive forms was experienced as a social and relational process in which dialogic interaction within a trusting atmosphere could help to promote learner agency and self-regulation (Min-Yang & Carless, 2012).

Learning communities are essential to the feedback process. Students and their peers are the force in learning communities. Boud et al. (1999) defined peer learning as the use of teaching and learning strategies in which students learn with and from each other without the immediate intervention of a teacher. Peers provide bountiful information which, subsequently, could be used by individuals to create their own self-assessments (Boud, 1995) and follow up with actions to improve their work (Liu & Carless, 2006). Evidently, peer learning promotes significant learning which involves students teaching and learning from each other (Keppell et al., 2006). Peer learning have been identified as one of the contributing factors towards a sustainable and stimulating feedback. This learning method amplifies a sense of self-control over learning among students such as (1) exposing students not only to alternative perspectives on problems, but also to alternative tactics and strategies (2) developing detachment of judgement which is transferred to the assessment of their own work (Nicol & David, 2006).

A form of peer learning in the feedback process is peer feedback. Hyland and Hyland (2006) defined peer feedback as a formative developmental process which provides the students the opportunity to discuss and discover diverse interpretations of their written texts. A study by Falchikov (2002) had shown that peer feedback plays a prominent role in learning because it enables students to a better self-assessment (Liu & Carless, 2006). Peer feedback should be capitalized as (1) students received more feedback from peers and more quickly in comparison to receiving feedback from lecturers (Gibbs, 1999; Liu & Carless, 2006). At the same time, peer feedback should be capitalised on when mass Higher Education is experiencing continuous increase of resource constraints and a decreasing capacity among lecturers in providing sufficient feedback (Liu & Carless, 2006) and diversification of the student population and a decrease in individualised tuition (Nicol, 2010).

- *Social constructivist and technology integrated learning environment (TILE)*

Research findings by JISC (2009) reported that in the technology-enabled lifestyles of 21st century, learners ensure that learning was accessible via their own personal choice of tools, ranging from mobile phones, MP3 players and handheld game consoles, to free online chat and telephone, social networking and media-sharing websites. For that reason, it is of utmost necessity for the practitioners to embrace the fact that these informal yet personal technologies play a significant role in learners' strategies for learning.

Nonetheless, technology integration does not isolate technical artifacts of various computer hardware and software devices during the process of teaching and learning. In fact, technology integration should include the selection of theories in setting the instructional strategies for appropriate integration of technology-mediated activities in teaching and learning (JISC, 2009). The point is illustrated by Okojie, Olinzock and Okgie-Boulder (2006):

“Technology integration should include the strategies for selecting the desired technologies, skill to demonstrate how the selected technologies will be used, skill

to evaluate such technologies, as well as the skill to customize the use of such technological skills in a way that addresses instructional problems.”

Thus, the key picture that emerges is that students are appropriating technologies to meet their own personal, individual needs – mixing use of general ICT tools and resources, with the official course or institutional tools and resources.

Previous research findings reveal evidence of elements of social learning theory such as social networking, peer support and peer community, inspires and adds value to the learning within TILE. Research studies by Leidner & Jarvenpaa (1995); and Webster & Hackley (1997) (both cited in Hrastinski, (2009)) argue that online learning was best accomplished when learners participate and collaborate. Herrington and Oliver (2000) found that ICT tools support and improve learning by providing endless opportunities for both students and lecturers to communicate, share and engage in collaborative assignments based upon the social constructivist learning theory. Woo and Reeves (2007) pointed out that Internet communication tools, such as e-mail and bulletin boards allowed learners to exchange information, contribute to discussions, while providing opportunities for learners to communicate interactively one to one or in-groups, making possible opportunities for collaboration such as team projects. Prior to that, it had been further recommended by Woo and Reeves to re-conceptualize online interaction in terms of meaningful learning based on the social constructivism learning theory. It had also been suggested that significant interactions within a learning community are antecedent to interactive collaboration which is a critical socio-cognitive process in online settings necessary to facilitate critical thinking (Akyol, Garrison & Ozden, 2009; Kehrwald, 2010 as cited in Gikandi et al., 2011). Similar views are echoed in a study by Crook (2012) which revealed that these possible interpretations of learning as a social experience are well supported by the communication and networking tools which are associated with the current generation of digital technologies.

4. Conclusion

The suggested conceptual framework from the preliminary study is hoped to create awareness among teachers in higher education and curriculum designers as they are able to develop the flow of the course with feedback for learning as the pedestal. Feedback requires different levels of support for students' understanding and ability to act on that feedback in a technology blended learning environment. Concurrently, the role of both teacher and students also changes according to the different points of the continuum which spans from the first day of the semester to the end of the course. Prior to that, the teacher will assist the students to:-

- understand (1) What constitutes feedback (2) What type of feedback is appropriate
- cultivate the following skill:- (1) When they [students] can expect their feedback while encouraging them to think about the activities on which they have received feedback, (2) what type of feedback they need to enhance learning and (3) take full ownership of their learning (Irons, 2008).

Subsequently, this increases the probability of students being able to immerse themselves in learning via feedback. Therefore, this empowers students to achieve higher quality learning outcomes than they might have otherwise attained, and by enabling them to accomplish these outcomes more rapidly.

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