

Story telling and retelling as narrative inquiry in cyber learning environments

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The purpose of this study is to investigate story telling and retelling as a learning strategy to facilitate meaningful learning on environmental education in cyberspace. Because story telling is a way of making meaning for the individual on social life, it can build a richer context through which learners can enhance environmental ethics indirectly. This study discusses the development of a cyber learning environment via computer networks, which supports learners in understanding the natural world and helps them build environmental awareness through storytelling at the elementary level. The project was designed for facilitating narrative inquiry with individual and collaborative learning through online activities. From the theoretical and practical review, this study suggests design strategies for building cyber learning environment through story telling.

Keywords: story, narrative inquiry, environmental education, cyber learning environment

Introduction

There are some aspects of human experience that cannot be uncovered with the traditional scientific thinking, or through so-called logical exposition. Narrative inquiry has been considered as an alternative mode of thinking and learning, which is a way of understanding, organising and communicating experience as stories lived and told. Within the inquiry field, we live out stories, tell stories of those experiences, and modify them by retelling and reliving them. Because stories form the intellectual and practical nourishment of oral cultures, and to the extent that our modern literate culture retains oral practices, narrative continues to play a vital role in teaching and learning (McEwan, and Egan, 1995). It is not just a manner of speaking but foundational to learning as a whole. Through storytelling individuals can learn to express themselves and make sense of the external world.

Narrative inquiry, as a way of making sense of human life and world, has been studied through various approaches. For example, Clandinin and Connelly (2000) refer to narrative inquiry as a research method to understand teachers' knowledge and to enhance teaching abilities. They believe that experience happens narratively, so educational experience should be studied narratively. McEwan and Egan (1995) consider some implications of narrative in practice of teaching and learning. Teachers can use narrative as fundamental to represent contents and to communicate with students. Students can use narrative to express their thinking and learning, and to explore the connection between the self and the world. Storytelling as a particular form of narrative inquiry will bring to special features of individuals' thinking that have tended to be somewhat neglected in more traditional studies.

Storytelling has been considered as a mode of experience in a variety of academic areas, such as the arts, literature, and even science. When science is an attempt to understand the story of universe, storytelling is one important way of recognise, interpret, and construct an interaction between human and nature, especially for building environmental ethics.

Nowadays many nations institutionalise regulations related to environmental conditions for the preservation of the natural environment. Some other efforts have also been paid attention to enlighten people on environmental awareness and ethics. Historically environmental education spent an inordinate amount of time teaching facts and principles to memorise. This kind of learning is important for learners to understand environmental conditions, but if the learning is stopped with the fact learning, they can do little with science (Ellis, 2002). Beyond this, they need to know how nature goes on, and how it is related to human life. Storytelling can be a positive way to achieve this kind of learning goals.

Based upon the current educational trends, this study developed a cyber learning environment via Internet and the web, which supports learners to understand natural conditions, to articulate concepts and theories, and then to build environmental awareness through storytelling methods at the elementary level.

In this study, the learning environment was designed for individual and collaborative learning through on-line activities. Teachers become on-line tutors to support the learning processes, and learners become story tellers to construct a deep understandings of the environment.

Storytelling as a way of experiencing the world

Narrative is a mode of knowing and understanding that captures the richness and variety of meaning in humanity as well as a way of communicating who we are, what we do, how we feel, and why we ought to follow a certain course of action. A narrative involves facts, ideas, theories, and dreams from the perspectives and in the context of someone's life. Individuals think, perceive, interpret, imagine, interact, and make some decisions according to the narrative elements and structures.

The story or storytelling, as a form of narrative inquiry, has received a lot of spotlights from educational theorists and practitioners for a long time. One influential version of this inquiry is represented in the educational theories of John Dewey, who devoted his life to figure out human experience. According to Dewey, educative experience is liberating and uniting, in the sense that it opens the continuous path of reconstructing and recreating the habituated meanings of the world as well as the enduring attitudes of the self. A genuinely educative experience must build up through an individual's continuous reconstruction, moving from past, present to future experience, and involve the tensional transaction between internal conditions of the individual and his social world (Dewey, 1938). Each learner must reconstruct the periods, phases, or levels of the growth of human mentality. Based upon Dewey's thought, storytelling, as a rock bottom characteristic of human experience of the world, has a temporal context, a spatial context, and the context of other people. According to Bruner, a story must construct two landscapes simultaneously - the outer landscape of action and the inner one of thought and intention (Bruner, 1991). Narrative is a fundamental aspect of meaning construction, which is a negotiated activity that starts in early childhood and characterises the whole of human life (Fusai et al., 2003). Human life is filled with narrative fragments, enacted in and reflected upon storied moments of time and space. Narrative thinking is a key form of experience, and a key way of acting upon the reality. Storytelling gives individuals chances to understand others narrative in a social context, and to clarify their own thinking.

Stories have two functions for learning in the epistemological and transformative view. In the epistemological view, stories include a certain kind of knowledge that learners should possess to construct their experiences and to fully participate in their social community. In the transformative view, stories are designed to provide moral messages taken to heart and to transform the way of life. For the former view, stories can be used as exemplars of concepts, principles, or theories, and as cases to represent a real situation or a problematic situation to be solved (Jonassen & Hernandez-Serrano, 2002). For the latter view, it should be considered for learners to provide an opportunity to rethink the given stories and retell the story in terms of their interpretation. Through retelling or rewriting or creating a story, individuals can enlarge their experience and be involved in mutual interdependence and growth (Crick, 2003). To compose their own stories of experience is central of narrative inquiry, and a way of enhancing individuals' experience and social interaction.

There are several attempts to apply storytelling in a learning situation. Some have studied using technology to support teachers and learners for storytelling, such as using a word processor to write a story, and employing communication tools to share a story among learners (e.g. Fusai et al, 2003). However, there are little 'try outs' to apply storytelling for enhancement of learning processes into cyberspace built through internet and the web. Some developments have presented stories in electronic form using texts, graphics, and sound on-screen for providing learners with a certain kind of knowledge. However, some other applications should be discussed in terms of instructional design, rather than just putting stories in an electronic form, in that storytelling can be assumed to have more possibilities for learning and teaching.

Cyberspace, as an alternative living and learning environment for individuals, has been discussed in terms of its possibilities to expand learning opportunities. However, people sometimes meet harmful and useless

information rather than reliable material, and work in a sequential thinking process without genuine reflection. To overcome the bad aspects of cyberspace, storytelling can be a good way to make individuals' experiences better in that storytelling gives opportunities to think and rethink about the self and the world. Moreover, the features of cyberspace may extend the potentials of storytelling in that individuals can use computer tools to make their learning processes efficiently, and interact in asynchronous and synchronous modes in cyberspace.

Design Issues to build cyber learning environment

The following assumptions are considered to build a learning environment for narrative inquiry based upon the theoretical review: first, storytelling and retelling will provide learners an understanding of reality in a social context, and enable them to transform experience in a temporal context. Telling stories can assist individuals in the sharing of their human diversity, and mediate in the process of exploring and articulating their identity from a particular perspective. Second, teachers can be a facilitator to lead learners' transformative experience and a co-learner to cooperate in learning processes. The teacher is a pivotal factor in shaping the learner's educational experience. Teachers must have more diverse roles in learner centered learning environments than in teacher centered environments. When students experience someone's stories, teachers must pay attentions to their understanding. When students engage in their own storytelling, teachers must lead their students to the right direction for enhancing future experience. Third, cognitive and moral development in environmental education can be enhanced in the process of telling and retelling individuals' experience. The ultimate value of environmental education goes beyond the inculcation of facts or information to environmental ethics including aesthetic appreciation (Carr, 2004). Story telling and retelling can be an alternative strategy connecting learners to nature, and promoting their moral and aesthetic experience.

Learning activities

Based upon the assumptions, two kinds of learning activities are selected: listening and watching a story, and telling and retelling a story.

Listening and watching a story

A story, as a form of someone's narrative, can provide a richer example of how an individual interacts with the world in a holistic approach. When learners indirectly experience stories told, their knowledge and skills would be extended in both cognitive and moral levels (Hernandez-Serrano & Jonassen, 2003).

In the activity of listening and watching a story, one or more stories are presented in an animation style, and students articulate what concepts and principles the story tells them. Each story consists of a problematic situation related to environmental conditions, characters concerning the situation, and a plot configuring to beginning, middle and end phases. Stories were constructed by experts of environmental education, modified into the prescribed learning modes by instructional designers, and developed by computer programmers in terms of team approach. Concepts and principles related to environmental awareness are embedded in each story. This activity offers learners contexts to experience in external worlds.

Telling and retelling a story

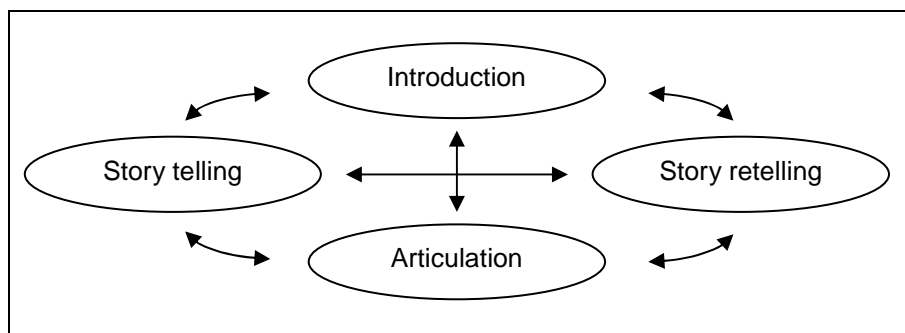
When individuals retell or rewrite their own stories beyond listening and watching, many more chances take place in enhancement of reflective experience and in mutual interdependence and growth (Crick, 2003). To compose their own stories of experience allows learners to transform individual experience and social interaction (Clandinin, and Connelly, 2000; Fusai et al., 2003).

In the activity of telling and retelling a story, students construct their own story in the basis of concepts or principles extracted from the reviewed story. Then they can get teachers' advice and peer reviews, and also provide peers their own feedbacks through the sharing opportunities. It can give Individuals to cooperate retelling a story with peers and teachers. This activity would provide learners transformative experience differentiated from that of the beginning state.

Learning process

The learning environment constitutes four phases for supporting the learning activities: telling a story, articulating what the story was, and retelling another story including sharing the story with others (see Figure 1).

Figure 1: The main steps of learning process



- Introduction: the learning objective and learning contexts are explained before getting started.
- Story telling: the pre-designed animation as a story is presented in the interactive mode.
- Articulation: the concepts and principles included in the story are articulated and reviewed in text and graphic styles.
- Story retelling: it requires learners to retelling or creating their own story using writing tools and sharing it with others using communication tools.

The whole steps set up in a recursive, non-linear way, which learners can go ahead and back within the learning process by their choice.

Support system

The environment also provides resources and tools that participants can use throughout the learning process, such as glossary, experts' knowledge, and communication tools. Resources include facts, principles and theories in forms of glossary and information bank. Resources can support learners to articulate and to extend the prescribed knowledge. Two kinds of tools, a writing tool and a communication tool are provided to assist in expressing learners' thought and emotion, and in enhancing mutual understanding. Tools enable learners to organise and to present their understanding in concrete ways, and to share their experience with others.

Teachers must have diverse roles to lead learners into genuinely educative experience. Teachers can be a tutor for supporting learners to understand what stories tell, a model writer for assisting learners to tell their own stories, and an evaluator for reviewing and promoting learners' experience. To be a successful teacher in this environment, teachers must be knowledgeable in environmental education, and sensitive about learners' progress and learning contexts.

Conclusion

Learners can meet mis-educative experience such as decontextualised learning contents and disconnected activities with their interests in many classroom learning. Human experience in Cyberspace is also subject to contaminate with under qualified sources, for example useless and harmful information, and a sequential thinking process without genuine reflection, even though cyberspace has potentials for positive effects on learning. Storytelling and retelling, as a way of narrative inquiry, would be considered to offer learners to get genuine learning experience and to transform the whole life in special and temporal contexts.

Some field trials with this environment in elementary environmental education have shown some interesting results in terms of formative evaluation: first, learners indicated more attentions to watch the

given story but claim a little difficulty on retelling the story. It means a need of strategies to support learners getting convenience on writing. Second, teachers indicated the positive possibilities of the learning environments for better context of environmental education.

In the theoretical aspect, this study would inform you how narrative can work in cyber learning environment. In the practical aspect, this study would provide some strategies to design story based learning environments.

References

- Bruner, J. (1990). *Act of Meaning*. Cambridge: Harvard University Press.
- Carr, D. (2004). Moral value and the arts in environmental education: Towards an ethics of aesthetic appreciation. *Journal of Philosophy of Education*, 38(2), 221-239.
- Clandinin, J. & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass Inc.
- Crick, N. (2003). Composition as experience: John Dewey on creative expression and the origins of "mind". *College Composition and Communication*, 55(2), 254-275.
- Dewey, J. (1938). *Experience and education*. NY: Touchstone.
- Ellis, Brian (2002). *How I learned the importance of storytelling in environmental education*. *Storyteller.net*. <http://www.storyteller.net/articles/90> [viewed 10 March 2004, verified 17 Oct 2004].
- Fusai, C., Saudelli, B., Marti, P., Decortis, F. & Rizzo, A. (2003). Media composition and narrative performance at school. *Journal of Computer Assisted Learning*, 19, 177-185.
- Hernandez-serrano, J. & Jonassen, D. H. (2003). The effects of case libraries on problem solving. *Journal of Computer Assisted Learning*, 19, 103-114.
- Jonassen, D. H. & Hernandez-serrano, J. (2002). Case-based reasoning and instructional design: Using stories to support problem-solving. *Educational Technology Research & Development*, 50(2), 65-77.
- Kvernbekk, T. (2003). On identifying narratives. *Studies in Philosophy and Education*, 22, 267-279.
- McEwan, H. & Egan, K. (1995). *Narrative in teaching, learning and research*. NY: Teachers College Press.

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