# Boat Building: A Metaphor for Teaching as a Creative Enterprise

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ABSTRACT: A boat building metaphor is presented as a way of exploring teachers' development of pedagogy and teaching methods. People in these two professions create their own knowledge of what makes a good product. Construction and use influence design on the part of both teachers and boat builders as they incorporate changes in their future designs, depending on how successful they determine their current product to be. This is also accomplished by interpreting rules, that act as guides, from their own community of practice. By using a new context, that of boat building, educators may construct uncommon meanings and view teaching in a way that is new to them.

RÉSUMÉ: La métaphore d'un chantier naval représente la façon d'explorer le développement pédagogique des professeurs et les méthodes d'enseignement. Dans ces deux parties, les gens édifient leur propre connaissance à partir de ce qui constitue un bon produit. Chez les constructeurs de bateau aussi bien que chez les enseignants, la conception influence la construction et l'utilisation alors même qu'ils apportent des changements dans leurs futures conceptions; selon le degré de réussite qu'ils déterminent sur leur produit actuel. A partir de leur propre expérience, ceci se réalise aussi en comprenant des règles qui viennent servir de lignes de conduite par la suite. Avec l'utilisation d'un nouveau contexte, celui de la construction d'un bâtiment naval, les enseignants peuvent édifier de nouveaux aspects dans l'enseignement et de nouvelles philosophies.

*The classroom, with all its limitations, remains a location of possibility. (hooks, 1994, p. 207)*

This exploration of teaching as a creative enterprise looks at teaching as learning. In this sense, teachers create new knowledge that they subsequently incorporate into their work. As a result, teaching "offers the space for change, invention, spontaneous shifts, that can serve as a catalyst drawing out the unique elements in each classroom" (hooks, 1994, p. 11) and the classroom "will also be a place where teachers grow, and are empowered by the process" of learning (p. 21).

Many discussions on learning make the distinction between teaching (what the teacher does) and learning (what the student does). The lack of attention to teachers' creation and construction of knowledge during the teaching process appears common in many discussions on the topic (Driver, 1995; Wood, Cobb, & Yackel, 1995; Forman, 1996). The metaphor in this paper is intended to treat the teacher as learner while engaged in the process of teaching. Teaching and learning are similar acts because the teacher is a lifelong learner engaged in pedagogy and methods of teaching. The teachers' process of teaching, like the boat builders' process of building, determines their product because use influences design. Therefore, boat building is an appropriate method for exploring teachers' development of pedagogy and teaching methods and their process of learning during instruction. This paper is designed to begin a dialogue that focuses on the teachers as participants in the creation of their knowledge of what it means to teach – not as agents who deliver methods which promote learning but whose experiences facilitate their own learning.

This metaphor may expand our ways of knowing (Pugh, Hicks, & Davis, 1997) by playing a role in the exploration of what it means to teach. While boat building is presented as a sequential event, the process has less to do with chronological order as it does with the stage in which changes are typically implemented and evaluations of those changes made.

## The Metaphor of Boat Building

*I suggest that education be seen as a handmade process of production. Education is art and it is craft. To work as an educator is to be an artist, an artisan .... Our best products cannot be mass-produced. Each has to be unique, and it is precisely this uniqueness and its endless range of possibilities that makes it valuable. (Sztajn, 1992, p. 37)*

This description of boat builders is based on an ethnographic study of dory builders in the Bay of Islands, Newfoundland (Dwyer, 2000). Over a period of several months, six builders, all males, were interviewed, and the process and product of building were documented. The term *dory* refers to a small, wooden, flat-bottomed, flare-sided boat, while the term *boat* includes dories as well as other boat types. Pugh, Hicks, Davis, and Venstra (1992) stated that metaphors are structured as they have a pattern that is shared between the items being compared, and they have relationship within their structures. Although boat building may be a less familiar metaphor with a less predictable organization for many readers (Whitney, Budd, & Mio, 1996), Reyna (1996) concluded that novel metaphors are processed differently than conventional metaphors. This is due to the role of memory in that once metaphors become conventional, their interpretations are more likely to be retrieved than constructed.

During this description of boat building, certain aspects are emphasized to provide some relations to facilitate comprehension of the metaphor. However, the entire application of this metaphor is not explicitly explained so that the reader may have the opportunity to make connections among the ideas and concepts presented (Whitney, Budd, & Mio, 1996).

## Design, Construction, and Use

*When we begin to teach we have to learn to teach standing up .... Teaching standing up isn't easy: it's an art in itself. (Murray, 1982, pp. 181-182)*

Boat building involves much more than the act of building a boat. It involves designing the boat, constructing and building it, and using it (as the builder of the dory is often the user as well). Many factors can influence each of these three components (design, construction, and use) that in turn will change the end product. Therefore, the process has a symbiotic relationship with the product.

In boat building, change is a constant feature. Many versions of one type exist and within parameters, there is no one correct way of building a dory except what is defined by each individual builder as *preferred*. Like teaching objectives, design methods allow a builder to envision a boat before it is built. The first step for the builder is to know the purposes for which the boat is to be used because this makes

design selection straightforward. Likewise, teachers must determine course aims.

The process of material selection is easy as builders tend to rely on design systems used by others in the community of boat builders. When the boat is completed, the design considerations become apparent. Use is a significant component because information about that particular dory is gained by the builder during operation which may influence change in future design (and consequently, change the construction). Like teachers, the way a builder interprets a problem has implications for what elements are considered relevant or irrelevant (Gargarian, 1996). Use becomes the art of interpretation. Some design aspects may remain for a long period of time. For example, a pattern of the use of certain types of building materials was observed because suitability was tested as dories were used. All aspects are controlled as the builder desires.

## Language

Just as teachers have vocabulary specific to their profession, a commonly used language regarding skills and techniques was observed in interviewing boat builders. The terminology could be separated into categories: building practices, building equipment, and design language. Generally speaking, the language used for dory building is specific to that craft type and other boat building terminology is rarely used. The mutual compatibility in the builders' use of words and language is the result of social interaction (von Glasersfeld, 1996). In dory building, the shed in which a dory is built is an area for the exchange of ideas and information. People (typically other men) drop by to discuss the particular dory being built, the fishery, or current events such as the hockey play-offs. These informal gatherings provide an opportunity for people with similar interests to come together. School staff rooms provide a similar purpose, although this may be their secondary function.

## Progression

Chronology of fishing boat use was much more easily recalled by the builders than the origins of dory use or design. History of boat building in a particular region is important because it allows for the comparison and contrast with present building methods. Significant influ-

ences and significant time periods can be identified that illustrate the dory's development in the Bay of Islands.

Evolution of the dory has occurred in a specific number of major phases that can be identified. The most powerful force that caused and created change in dory building was environment changes, including new technologies (such as the type of equipment used for fishing and boat building tools) and changes in the economy (like the status of current fish markets). The same is seen in the field of education as change is heavily influenced by the same variables of technology and economy. Computers and government cutbacks, for example, have precipitated changes in teaching approaches. In boat building, an illustration is the introduction of the outboard motor which had builders combine design cues from two different boats to synthesize into a new form. Refining of this new form saw more major structural changes, such as shape, length, and bend of the bottom of the dory. Earliest developments involved simply cutting apart and partially disassembling built dories to add in new shapes, requiring little investment of time and materials. However, this process demonstrated the importance of the transference of knowledge in boat building as builders use their knowledge from building one boat type to another from a different region.

In boat building, and teaching, a form (or course) is changed to suit a new context of use, and additionally, each person reproducing the item will change it to suit personal aesthetics. While the form may be maintained, it is possible to observe creativity, variation, and experimentation as the object is repeatedly built by the same person. However, the form still conforms to the basic principles of design, construction, and use. So while they share a basic structure, the builders' construction techniques and materials lend to the individualistic nature of the activity and the different shapes and sizes of the dories.

Dory construction uses various expressive elements. The builder's style of technique reflects current practice. The builder reveals his repertoire so that the building is like a recording of what has occurred – as the dory is built, techniques and themes are documented. This allows for the past to inform the future. If a 50-year-old dory and a three year-old dory are compared, important dory features of the two time periods are ascertained. However, even if built on the same design and with the same methods, builders claim they can never build the same dory twice as no two dories are ever identical. Similarly with teaching, when the history of prevalent teaching methods are exam-

ined, the history of prominent, and changing, philosophies of teaching and learning are evident. Teaching methods, like boat building construction techniques, reflect present ideology and offer a record of the interpretation of this ideology. Likewise with teaching, no two classes are ever identical.

## *Defining Characteristics*

Through the process of design, construction, and use over time, people create defining characteristics of what a dory is, how it works, and how it should look if it is to perform properly. Current dory use in the area suggests that the fiberglass dory is a choice of few fishermen because it is made from a mould that is a rigid, nonadaptable form. The designer/builder/user can incorporate changes in future designs of their own dories that would improve it for his purposes. Individuality is manifested in construction. A builder's design may deviate from the shared group aesthetic into the realm of personal satisfaction, personal aesthetics, and personal interpretations of the accepted dimension of the form. Teaching styles also reflect personal styles, aesthetics, and interpretations.

Boat builders, like teachers, are not governed by rules, they are guided by rules (Gargarian, 1996). A builder will try to work within the confines of community-established rules that developed over time, but he also innovates with his interpretation of the rules. Over time, some of those innovations may become accepted and develop into the community's rules. So while the dory's form has changed, its name has remained, suggesting slow, gradual refinements.

Through experience with the boats, people develop conceptions of "good" and "bad" in the three areas of design, construction, and use. Design and construction are tested through use. Exploring how it is used allows one to gain insight into why the dory was designed and constructed as it is. Time specific aesthetics of design, construction, and use also help to define the Bay of Islands dory, therefore demonstrating that dory design is based on the builder's interpretation of rules and existing knowledge (including prior experience). Understanding does become deeper and stronger when tested against new encounters and experienced with other objects and events (Zahorik, 1995). As new people build dories, and as new people teach, their new discoveries, whether generally accepted or not, will be exchanged or incorporated with those they learned or previously held as knowledge. A dory, or a teaching method, which is considered to embody all of the

desirable characteristics in a given period will eventually not be held in the same esteem in the years following.

## Meaning in Metaphor

*The instinct of workmanship fulfills a human tendency to "seek realization and expression in an unfolding activity" – an impulse to constructive action. (Harper, 1987, p. 148)*

Builders constitute their own community of learners. Their creation – the dory – because it could be shared, resulted "not only in its refinement but also in the learners [builders] obtaining a deeper understanding of other people's perspectives on the object and on the ideas to which it is related" (Evard, 1996, p. 224). These boat builders developed an understanding of the rules of a good dory as all of the six people interviewed had the same opinion of what makes a quality dory. Teachers also belong to a community of learners by learning with and from each other through observation and discussion of teaching practices.

"Metaphors can make abstractions concrete and thus easier to understand, but the images we use should not cause others to misunderstand the phenomena we describe" (Jones, 1975, p. 207). The metaphor of boat building is offered as a basis for the exploration of what it means to teach. Activities that involve designing and making or building provide a rich context for learning. As boat builders design their dories based on use, teachers are constantly designing their courses through use.

Designing is in large part redesigning (Gargarian, 1996). Boat builders base their designs on the examination of the needs to which their boats must respond, the availability of materials and tools, and their prior knowledge of building techniques and experience with other boats. Teachers base the design of their courses on the needs of their students, the availability of materials and tools, prior knowledge of teaching methods and experience with other students. Like boat builders who have to react to new technology and changes in the economy, so do teachers. For example, some teachers are still experimenting with how to use computers effectively in their classrooms.

Like boat builders, teachers usually need to decide on their own which techniques or methods (of teaching) to use. These decisions may reflect their beliefs about students, about knowledge, and about learn-

ing processes (Zahorik, 1995). Implementation of certain techniques, and the outcomes, may in turn prompt teachers to change their beliefs and/or approach to the course (that is, modify the technique). Changes in teaching goals and methods can be considered redesigning the course. Like boat builders, use influences design.

The selection of what parts of a course, or a boat, to refine may be the most difficult task – making certain elements relevant and others irrelevant. What counts as new knowledge may be determined in part by how well the idea fits with current practice. Therefore, current practice shapes what is considered important and useful, although over time, this may change (Woolfolk, 1998).

## Summary

*Distinctions call attention not to objects alone but to skill in the making and doing of that which functions as (among other things) a stimulus to the appreciation of the an individual's mastery of tools and materials, the outputs of that skill, and the activity of using the skill (Jones, 1975, pp. 217-218)*

Metaphor plays a role in restructuring conceptual relations. "Metaphor not only restructures our knowledge of the items explicitly presented as metaphor but also restructures the larger conceptual domains that they implicitly engage" (Katz, 1996, p. 17). By examining the process of boat building, we attempted to see through the objects to look for meaning. We were seeking a way of exploring a part of the teaching experience that does not frequently receive much attention: teaching as learning. This examination of the process of making knowledge influencing the act of teaching is intended to expand the thinking on the topic. As the dory design was accepted, used, and changed, it became part of the environment. Sometimes it is necessary to take an object out of its milieu in order to see it again for the first time. By using a different language, that of boat building, maybe teachers will see or see through their practice a little more clearly. Are there criteria that are important and relevant but not explicitly stated? It is obvious when a boat sinks, but is it enough for it just to float? This paper reflects our exploration of this metaphor, which has been very helpful in increasing our self-awareness of our own activities. While acknowledging the limitations of metaphor, our goal is to provide a tool that encourages teachers to observe themselves. While

we have offered one interpretation of the boat building metaphor, we invite you to construct your own interpretation and in doing so, reflect upon what it means to teach.

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