An ecological view of literacy learning
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Abstract
This article refutes the common, persistent belief in literacy learning as a linear, sequential process best broken down into small steps that can be taught mechanically in order to produce timely, quantifiable ‘outcomes’, regardless of the vast diversity among learners, teachers, institutions of learning, communities, cultures, media and languages. This naïve and simplistic belief, which flies in the face of virtually all evidence from direct observation, research on literacy learning, evolutionary biology, cognitive science, psychological and social science research, neurophysiology, educational theory, public policy, anthropology and communication, nevertheless remains well entrenched, despite its destructive consequences. Presented here is the evidence in support of an alternative view, an ecological perspective which takes into account the complex ecosystems within which teachers and learners learn, adapt, interact, communicate and connect. Furthermore, it presents a sensible and humane model for documenting and assessing learning and teaching ecologically, the Learning Record. This model is well supported both theoretically and practically, with over 20 years of successful implementation for thousands of students at every level, from pre-school to graduate school; in every discipline, from maths to biology to writing; and across diverse student populations, from inner-city schools to reservation schools, migrant populations, students with disabilities and newly arrived English language learners.

Key words: complex systems, ecological approaches, assessment, literacy, pedagogy

“The first step is to measure whatever can be easily measured. That is okay as far as it goes. The second step is to disregard that which can’t be measured or give it an arbitrary quantitative value. This is artificial and misleading. The third step is to presume that what can’t be measured easily really isn’t very important. This is blindness. The fourth step is to say that what can’t be easily measured doesn’t exist. This is suicide”. (Social scientist Daniel Yankelovich, describing the McNamara fallacy).

The conventional view of literacy learning is as the acquisition of a set of skills for the apprehension (consumption) or creation (production) of text-based materials such as books, periodicals, signs, worksheets and forms. The process in this view is linear, sequential (often depending on the ‘building block’ model), bounded and finite, ending some time in elementary school or at the latest, middle school. Teaching is typically reduced to standardised and circumscribed techniques, scripts and activities that have been made ‘idiot-proof’. Anything outside of this model is considered remedial or pathological: adult literacy learning, underachieving, ‘resistance’, ‘learning disabilities’. For these cases the medical model is adopted: assess, diagnose, treat, assess. The more apparent it is that this model of literacy learning is entirely inadequate to reality, the more tightly it is embraced. More control is called for: more assessment; more complete and detailed scripts and textbooks broken down into tinier and tinier steps; more programmed activities and interactions; more ranking and sorting of students, teachers and schools; more diagnoses and treatment, more bribes for performance and punishments for ‘not meeting standards’. Finally we resort to medication and other state-sanctioned forms of regulation and control: metal detectors, surveillance, time-outs, suspensions, expulsion, not to mention more subtle forms of control such as disapproval, scapegoating, prizes, spying and coercion.

Evidence suggests that this model is not only dysfunctional, but actually destructive of the very outcomes it hopes to achieve: well-educated and well-informed adults who enjoy lifelong learning, find satisfaction in their lives and make meaningful contributions to society.

British social scientist and philosopher Roy Bhaskar writes:

“According to the transformational understanding of social activity, the existence of social structure is a necessary condition for any human activity. Society provides the means, media, rules and resources for everything we do ... We do not create society – the error of voluntarism. But these structures which pre-exist us are only reproduced or transformed in our everyday activities; thus society does not exist independently of human agency – the error of reification. The social world is reproduced or transformed in daily life . . .

On this transformational and relational conception, society is a skilled accomplishment of active agents. But the social world may be opaque to the social agents upon whose activity it depends in four respects, in that these activities may depend on or involve a) unacknowledged conditions, b) unintended consequences, c) the exercise of
An ecological view of literacy learning

We cannot afford to maintain an opaque view of the social world of learning. The world has changed, and it continues to change. The change is not merely a change of pace, with the acceleration of human activity and experience. Nor is it simply a result of greater numbers or kinds of people. The changes in the world are evolutionary and require new ways of thinking, relating, communicating, teaching and learning. Human intellectual and social development is now realised as a lifelong adventure, not a mechanistic school-based process that ends at age 18 or 21. Literacy is at the heart of this developmental continuum; it is instrumental in cultivating, co-ordinating and defining activities, experiences and relationships. Increasingly, it is occurring in technologised environments where information, communication and expression are highly mediated, ephemeral, multimedia, interactive, collaborative, international, and where boundaries between creators and audiences ('writers' and 'readers') have fundamentally disappeared. If you are not convinced, take another look at the reach of MySpace, Flickr, SecondLife, World of Warcraft, YouTube, Wikipedia, blogging, Twitter, Jaiku, PageFlakes and your own cell phone, where the creation of ring tones is an industry with billions of dollars in annual sales globally.

These environments are marked by abundance of information and connection, not scarcity; by randomness and spontaneity, not predictability; by diversity and plurality, not standardisation; and by uncertainty, not certainty. I'm sorry if this is upsetting, but it is simply the way things are. Generally speaking, the current literacy landscape is rich, expansive, exploratory, at once personal and relational/social.

The most congruent approach to the phenomenon of literacy and literacy learning is ecological. Ecological approaches expand our awareness beyond the individual learner, teacher and text, or even the 'small group' and 'facilitator' to consider connections, relationships, flows and dynamics of change over time in the various levels of systems-with-environments, from neural networks forming in brains to reading groups, classrooms, homes, communities, schools, societies. If all of this seems complex, that is because literacy is complex. The complexity is irreducible to simple standardised explanations, exercises, tests and programmes.

The contemporary ecological view sees literacy developing as a function of complex adaptive systems (individuals, groups, cultures) evolving toward greater complexity and integration. They dynamically seek an ongoing harmonious balance between order and chaos. This is a dance, not a drive for equilibrium and stasis. Complex adaptive systems are holistic: they form wholes at every level, from neurons inside the human brain to interpersonal relationships to groups or tribes, societies and nations.

When they achieve their healthy expression, these systems are, in Daniel Siegel's terms (2007), flexible, adaptive, coherent, energised and stable. They are flexible enough to handle changes in their internal and external conditions; they are adaptive enough to change in response to changing circumstances; they are coherent enough to maintain their unity; they are energised in interacting with their environments and they are stable enough to sustain their existence over time. As Varela et al. (1991) pointed out, these systems are characterised by distribution, emergence, embodiment and enaction. It's worth explaining just how these terms are used in describing complex systems, and how they can help us better understand the development of literacy in children and adults, schools and societies.

**Distribution**

In complex adaptive systems, processes and activities are distributed. They depend on networks of associations and relationships, which are necessary to support and maintain the system. Distribution is internal, external and internal-external (the interaction of organism and environment, or medium, as Maturana and Varela put it in *Autopoiesis and Cognition* (1980)). Obviously literacy learning is not a simple transfer of knowledge and skills from teacher to student. While it is tempting to think in terms of individuals acquiring skills, demonstrating competence and internalising 'content', such a perspective does violence to the phenomena we wish to understand. The fact is that students (and teachers) are immersed in environments saturated with texts, in classrooms, neighbourhoods, homes and communities. Texts are shared with others in the form of advertising, text messaging, e-mail, books, magazines, newspapers, graffiti, television, websites, blogs and so on. They are woven into the context of everyday life and relationships with many people. Literacy is apprehended and cultivated across multiple interactions with people, media, technologies, experiences and activities. Even a 2-year-old can begin to read the 'golden arches' or the simple narratives of children's television programmes.

In neurophysiological terms, literacy learning creates new neural networks in the brain, particularly in the neocortex, that integrate the flows of information and energy from the limbic system (often called the 'reptilian' part of the brain, responsible for fight or flight responses); the left hemisphere, responsible for linguistic processing, linear logic and positive emotion-states; and the right hemisphere, responsible for autobiographical memory, imagination, image processing and holistic understanding. So literacy learning is not only distributed across neurons, but across entirely different parts of the brain.

**Emergence**

Learning and literacy is not atomistic, capable of being analysed into smaller and smaller units that can then...
be simply used as easy-to-replicate ‘building blocks’ for assembling a one-size-fits-all standard programme or curriculum. Rather, it emerges, as a plant or tree grows, from a compact seed that develops greater and greater complexity in function and structure. It develops dependent on the affordances and conditions of its environment, growing towards light and space and water. Learners, too, move from initial simplicity toward greater complexity in their reading, writing and thinking. But this movement is organic; it cannot be regimented or narrowly contained. Generally speaking, schools do not even keep up with the proliferation of complexity in literacy development, much less nourish it. Because students are not engaged and challenged enough, their growth is actually stunted, rather than fostered.

In neurophysiological terms, the flow of energy and information ‘grows’ neural patterns that, when repeated, become permanently established. As Siegel (2007) puts it, with repetition, a state becomes a trait. Unless there is some kind of damage to the brain, people do not ‘forget’ how to read. Rather, as those earliest patterns of literacy skills and understanding become established, rich associations and greater complexity arise from them. How else to explain the second grader struggling with a basic reader who grows up to read and write scholarly books? These literacy practices are emergent, gradually expanding to encompass all of the myriad ways that we compose, interact, communicate and read in very diverse technological environments.

**Embodiment**

It is little understood that reading, writing, speaking and listening are embodied activities, not merely cognitive processes. At the cellular level, these activities draw on and create neural pathways in which information and energy becomes encoded in networks. We cannot read without moving our eyes, and of course the rest of our bodies as well; the same is true for writing and speaking. Equally significant is the embodiment of relating, as the teacher and student interact, and as the student and teacher respond to their environments. Proximity, gesture, facial expression, gaze, movement and tone of voice all have an enormous impact on learning situations. So do hunger, fatigue, illness, disability, age, chemical imbalance, sensual pleasure and sexual desire (which at least partially explains what brings teenaged boys to read poetry). The embodiment of literacy and literacy learning has implications that go beyond this simple and obvious recognition, however. It raises real questions about the wisdom or effectiveness of methods that require children filled with energy and imagination to sit still at a desk, to fill in bubbles or workbooks, and to recite, in unison, the sounds of the letter ‘c’ as in ‘cat’. Complex adaptive systems are systems that are in motion, and that motion flows naturally toward more complexity, more knowl-

edge captured in the system, more understanding, all of which has survival value for the system, whether it is a child, a class, a school or a community. However, the process can be hindered, contaminated, disrupted and thwarted, which results in many of the common pathologies of schooling, as we have witnessed time and again.

**Enaction**

Systems evolve toward complexity (with corresponding flexibility, adaptability, coherence, energy and stability) through enaction: interactions and activities and practices. The French have a proverb: there is no such thing as love; there are only acts of love. In the same way, there is no such thing as a complex adaptive system without the enactment of the relationships, flows and connections within and through it. Literacy does not exist apart from the practices and activities of reading, writing, speaking and listening, as well as using a computer or a cell phone or any of myriad other technologies – programmable thermostats, DVD players, ATM machines, and so on. For complex adaptive systems literacy is enacted through a wide range of these practices and activities, both at the individual level and in the larger social spheres. This fact is little recognised by textbook publishers, assessment providers and curriculum designers. In neurophysiological terms, literacy depends on the enaction of neurons ‘firing together’ in ways that create enduring patterns in specific parts of the brain (as the familiar phrase puts it, “neurons that fire together, wire together”). But these patterns are not the product of simple-minded repetition of the ‘c’ sound. They are built up through associations and relationships that are themselves enacted practices.

In the ongoing activity of relationship with a caregiver, in cultivating attachment and attunement that can assure survival, a healthy infant effortlessly develops the astonishingly complex capacity for speaking and listening. The use of language then becomes another medium for relating, through practices that maintain the relationship and restore it when it has been disrupted. Literacy learning is not the acquisition of a cognitive skill: it is irreducibly relational and social. We read, write, speak, listen and think as a means of relating to and learning from other human beings. The diversity in patterns and processes of enaction as literacy is acquired is breathtaking, and defies reduction into a simple series of universal, programmable steps. Rather, for systems to thrive and maintain wholeness as they evolve, it turns out that a context rich in possibilities for diverse kinds of enaction is the most useful and efficient environment.

**Shouldn’t we be making things more simple for children?**

While it is true that children can become overwhelmed with excesses of sensory stimulation and fragmentation, complexity actually poses less of a problem than
we might imagine. True complex systems are apprehensible as wholes at every level, from the most general to the most minute. We do not teach a child what a tree is by taking it apart leaf by leaf and beginning with one leaf at a time, adding in more leaves and twigs and branches as they get more ‘advanced’. The child takes in the whole tree with no difficulty, even at a very young age. The understanding of ‘treeness’ then develops more and more specificity as the child learns there are different varieties of trees, that trees change with the seasons, have systems for growth and development, and so on.

Literacy “can’t help happening” when conditions are favourable. This requires an ecological view of the complex systems in which the child’s development is situated. A Montessori pre-school teacher described a young child who was in the school for 2 years and did absolutely nothing except build things with Lego. His parents were extremely anxious as they watched his peers learning to read and write, to count and add. The teachers simply let him alone. Finally it was time for him to join the class for kindergarten through third grade. All of the other children coming into the class had learned to read and were beginning to write and to do simple maths. He looked around at the alphabet and the numbers on the walls, and within 2 weeks he was completely fluent in reading, writing and maths: he had realised that like Lego, letters and numbers could be ‘snapped together’ to build words, sentences, mathematical relationships. Language and mathematics are architectures.

The management task for supporting literacy learning is not the reduction of complexity into atomistic fragments. Rather, it is increasing refinement in understanding from larger general wholes to more and more differentiated, abstract and sophisticated wholes: from ‘bedtime story’ to theme, genre, metaphor, stylistics, thesis, argument, poetics, page design and so on. The literacy of students increasingly includes the comprehension, composition and communication of richer, more diverse media: YouTube videos, PowerPoint presentations, websites, blog posts, avatars and virtual environments. Most often they develop their capacity to manage these new media through participation in peer and online “communities of practice” (Lave, 1991; Lave and Wenger, 1991) rather than through formal schooling.

Students’ natural evolution toward thriving in these radically new and diverse literacy environments is not a question of simplistic step-by-step lesson plans but rather support and guidance for exploration and experimentation and adaptation. They manage this process through the progressive apprehension of wholes. This requires a shift in our understanding about literacy learning and a corresponding shift from our present way of educating and assessing students.

How can teachers, families, schools, communities and cultures address literacy as a complex system?

Cultivating and supporting literacy learning begins with our ultimate aspirations for learners and works backward to put in place the causes and conditions that foster their emergence. Aspirations are quite different from outcomes! They do not have a fixed endpoint, for one thing – ‘results’ continue to unfold along the aspiration’s trajectory. Therefore, there is no such thing as ‘failing’ to meet an aspiration. So let’s assume, for example, that our long-term aspiration is for cultivating adults who are well informed, able to communicate through and apprehend a wide range of media, who enjoy learning and engage in it as a lifelong practice, who can discern among a wide range of information sources that which is more likely to be accurate, true or wise, who can adapt to new environments for expression and communication. Let’s also assume that this aspiration is shared by learners. But at the very least, learners have an unshakeable aspiration for connection and communication with other human beings. We are irreducibly social animals.

Then the first question we ask, as educators, is this: how will I be able to tell whether what I am doing in my teaching is helping students move toward this aspiration? Another question: how can I as a teacher continue to develop and adapt my practices and understanding in support of this aspiration? This may seem like a very daunting prospect, given the complexity described above. However, until these questions have been addressed, there is no point considering the seemingly more immediate question: what should I do on Monday?

There is a well-established model that meets the first two questions (and many others) in ways that also suggest a range of possibilities for the immediate question. It is a model that supports the view of learning as an activity in and by complex systems through diverse practices and activities. It is called the Learning Record. It is a way of documenting learning based on evidence produced in ongoing activity, no matter what the context, subject, learning tasks or products of that activity are. Furthermore, there is a well-grounded framework for analysis and evaluation of this evidence that goes far beyond ‘portfolio assessment’.

What is the Learning Record?

The Learning Record (LR) is an evidence-based system for gathering, organising, analysing, evaluating and reporting evidence of student progress and achievement. While it offers a consistent structure for organising and presenting this evidence, it does not constrain either the contents or the methods by which the evidence is produced. The principles of the LR model include review and analysis of diverse forms of data about student learning over time in the course of regularly occurring class activities, including samples.
of student work and observations that focus on what students demonstrate they know and can do.

**Structure and process of the Learning Record**

The process of keeping the Learning Record begins by establishing the student’s background from two sources: teachers or students interview someone who knows the student well, and they also provide reflections of their own about their own development (Part A).

Here are examples from Learning Records in several of my university courses (all identities in examples from student work have been protected)

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**Part A1: Interview with mother**

C. has a diverse reading background, from *The Dopey Little Dinosaur*, her first book to read for herself, to any Jane Austen books, her favourite author. She is also a huge Harry Potter fan, and has influenced me greatly in that area. One of her favourite books is *Pillars of the Earth* by Ken Follett. C. has also been writing in spiral notebooks before she could even read. She would draw a picture and add whatever letters she thought would make the correct sounds. I think her first book was at age three, but it could have been two. Of course, her writing has improved greatly since then. In regards to technology, she has less knowledge. She did take a web design class in high school but that’s about it.

**Part A2: Personal reflection**

I have never been all that computer literate. Any savvy I have I learned from my boyfriend, who is a computer science major. I needed help with everything from downloading programs to troubleshooting. My dad has also taught me things about computers since his career change to that subject, which happened when I was a teenager. I now can navigate the Internet fairly well. I use listservs often and can generally download things. But I’m afraid my knowledge is far behind many of my peers’. Reading and writing have always been my strengths. I can’t remember a period in my life when I wasn’t a voracious reader. I always excelled in my English classes, and now English is my major. I hope to write as a career someday, but that may not happen. For right now, I work as a consultant at the Undergraduate Writing Center, where I assist people with their writing assignments.

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The next step is to gather ongoing evidence of learning: virtually any kind of evidence can be included in the LR, including tape recordings of performances, drafts of papers, sketches and diagrams, diagnostic test results, quizzes or exams, links to online materials, selections from blogs, multimedia and other samples of student work. These diverse products constitute one form of evidence in the LR. Teachers (in the earlier grades) and students (in upper grades) also provide observations of their own activity gathered over the semester to supplement this evidence, providing insights into students’ experiences and activities in the class.

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**Observations**

*Please include the following information for each observation.*

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**Date observed:** 21MAR06  
**Date entered here:** 21MAR06  
**Context:** Pairs  
**Activity:** Website problems  
*Observation:* Rob was having issues with his website today. He could not get Dream Weaver to manage all of his images and web pages correctly. I showed Rob that everything needed to be kept in the same folder so that the links updated correctly and so the images would display when the website was uploaded.  
**Date observed:** 23MAR06  
**Date entered here:** 24MAR06  
**Context:** Small group  
**Activity:** Project 2 problems  
*Observation:* I am still having trouble figuring out what to concentrate on for project two. I spoke with everyone else at my table to see where they were headed for the project. After speaking with Rob, Rick, and Scott I decided that I would delve into a specific problem that occurred at Six Flags.

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In the analysis portion of the LR (Part B), this evidence is interpreted in terms of the strands of work in the course (the trajectories for specific learning objectives) and five dimensions of learning, based on the work of Russian psychologist and learning theorist Lev Vygotsky:

- confidence and independence;
- knowledge and understanding;
- skills and strategies;
- the use of prior and emerging experience;
- reflectiveness.

The five dimensions of learning provide a conceptual framework for discussion, analysis and evaluation that can be shared by students, teachers, parents and administrators. They scale up from the level of individual students (and teachers) to the evolution of classes, programmes and schools. Curriculum can be designed to foster growth and development reflected in these five dimensions, as shaped and defined by specific subject areas as course strands.
Part B2: Final analysis of data

Develop your summary interpretation of your development in terms of the major strands of work and the five dimensions of learning. Be sure to connect your interpretations with specific examples included in the observations and samples of work.

I think at first when I enrolled in this course I expected information to be handled in a way similar to that of most UT classes; meaning that it was going to be presented in the material we used and read, and then merely reproduced for exams. I took a class last semester in which we used the learning record to assess our progress, and I had some mixed feelings about the success of the LR in general. I think most of my hesitation to use it again was because I didn’t know how to assess my own learning without guidance from an outside source of authority. One thing the Nonviolent Rhetoric class has taught me is how to know when you’re learning something. I guess you could say, it taught me how to learn in general because if you don’t know you’ve learned something, that knowledge will likely not be used.

In addition to learning on my own, I have noticed marked improvement along our major strands of work and within the five dimensions of learning. In terms of rhetoric, I feel that I’ve become more able to compose coherent and logical processes of thought, and in accomplishing that, I’m better able to communicate my ideas to others. I noticed improvement in the way I communicated my thoughts even in the blogs. I’ve included some of my more recent blogs in order to show improvement. I noticed that I took more consideration of my audience: who they were, what they wanted to read, and what they’d be more likely to respond to. I didn’t necessarily cater my thoughts to my audiences wants or needs, but I did try to present them in a way that incited more conversation and more collaboration among my classmates.

Collaboration is something I think can always use work, regardless of the person and their general ‘people skills’. In reading some of the books for this class, it’s become more and more apparent to me that listening and communicating takes more work than people usually believe. I think the concepts of both listening and communicating information effectively are directly related to collaboration. I used to be a little discouraged by group assignments because something always seems to go wrong; someone gets sick, someone doesn’t do their share of the work, or people end up trying to divide things too evenly, making the project seem piecemeal at best. But through the readings for this class and participating in class discussions and the blog posts, I was able to enhance my collaboration skills. This is most evident in the final project that I worked on with Aldie, Tanish and Jennifer. We all met multiple times to ensure that everyone’s thoughts and ideas were going to be included in the final project. We really had to listen to what each other wanted to say in order to be certain what they wanted to communicate was, in turn, communicated by the project. We worked well together, and I attribute a large part of the success of this project to our group’s collaboration.

In the realm of technology, I have learned much in this class as well as others. For Project 2, I drew on knowledge from our class discussions and instructions for Dreamweaver as well as information I had gathered about the program in my Multimedia Writing class. I ended up using knowledge from both classes simultaneously on different projects, and I think my long hours spent working with Dreamweaver are represented pretty well in Project 2. For Project 3, I learned how to use Final Cut Pro, with the help of Aldie, and expanded my experience working with Adobe Photoshop.

Among the five dimensions of learning, I have noticed improvement as well. My confidence about my work both individually and collectively has increased. I know that I have the ability to produce quality, even with a time crunch and during a very hectic semester. When I devoted time and attention to my work, I was consistently able to present work I was proud of. I see this in the website I created for Project 2, as well as in class other than this one. I have attached a grant proposal written for my Writing For Nonprofits class. This grant took me a while to create, but I think it shows my independent ability to produce quality, and a marked improvement in my ability to address my audience, the grantor.

My skills have increased not only in number, but also in the way I approach them. I have started organizing my thoughts prior to approaching a problem or a paper, or anything in life really. I used NovaMind on several occasions, and even taught one of my other professors how to use it. I think NovaMind is a great tool, and my group for Project 3 used it in order to organize all of our thoughts and put them in an appropriate order. Even though that may have been possible to do on paper, it was easier and more clearly visible in the program, and we were able to email each group member the NovaMind image to ensure everyone was focused on the same topic and subtopics.

My knowledge and understanding of our class’s topic, nonviolent rhetoric, has expanded drastically. I find myself analyzing everyday situations according to Nagler or Macy, and trying to figure out how their suggestions could remedy some of our problems. I was particularly drawn to the issue of listening to others, as is detailed in my attached blogpost, “Listen For You”. I think not only has my knowledge increased, but my ability to apply our readings and discussions to real-life examples...
exemplifies a true understanding of our material, as well as a fast desire to communicate better and improve the world around me as much as I can. My use of prior and emerging experience surprises even me. Because I took three upper-division rhetoric classes this semester, I was able to sort of ‘cross’ my emerging knowledge into all of my other classes, especially when it involved elements of rhetoric. I also took a class entitled ‘Violence’, where we examined the reasoning behind violence and the ways in which emotions escalate to become violence. I used information gathered from our class about nonviolence in that class to pose some interesting questions and stimulate great discussion among the students and the professor. I also discussed some of the issues I learned about in my violence class in our class, in class discussions, in blog posts, and in personal communication with several of my classmates.

I think my reflection on topics I’ve learned about this semester has really encouraged me to be aware of my learning in this class and in others. Using the observations greatly helped me to categorize my learning landmarks, and also helped me to understand how I learn best (by listening and then by doing). I feel that reflection about the things we’ve learned in this class in particular is really important because it allows the information to take hold of our thoughts and our bodies; the information is able to become a part of our selves when we allow simple reflection. Often, I would try to reflect on my learning in this class during our 5 minutes of silence at the beginning of every class. Reflection in general has become very important to me, involving both learning and life in general. I think it’s really important to think about what’s going on around you, especially before you act.

In the final section of the LR (Part C) teachers and students develop an evaluation, comparing the evidence in the LR with grade criteria defined by the instructor. The instructor responds to the evidence, the analysis and the student’s estimated grade with the final evaluation.

Part C2: Final evaluation and grade estimate
Include here any comments you’d like to add, especially concerning:
- Reflections on your learning experience in the course.
- Any supplementary information or comments not included in Parts A and B.
- Any suggestions for the instructor for future classes. Then, indicate your final grade estimate.

The thing I enjoyed most about this class is not only the engaging material that we read, the projects that we undertook, and all the opportunities we had to express ourselves, but also the class’ usefulness in the outside world. I’ve taken numerous classes, such as Intro to Geology, that I honestly can never imagine having any use for after taking the final exam. The information leaves my head faster than it came in, and I wonder why I just spent an entire semester, let alone a lot of my parents’ money, sitting in that classroom and learning that material. However, I knew immediately that this class was something different. As I mentioned before, I think what I liked so much about this class is the fact that expressing your opinion, even if it was controversial, was encouraged. It was a refreshing change from being lectured at and told what to think and memorize. The material, concepts, and ways of thinking taught in this class concerning the subject of nonviolence are very useful outside the classroom, especially now because we are in a time of war and it seems like conflict and aggression are at an all-time high. Yes, unfortunately this seems to be true. People need to be educated about the alternatives to violence; not only that they exist, but also that they can be realistically implemented. The latter was my biggest doubt and misconception going into this class. However, after this semester, I feel more confident that these concepts are applicable, and many of the books we read seem to lay out the steps very clearly and practically with real-world examples. One example that stuck out specifically, and that I blogged about earlier in the semester, was in Rosenberg’s book when he tells the story of going to speak at a refugee camp in an unnamed country that is hostile to Americans. Although the camp’s inhabitants initially scream horrible things at Rosenberg and accuse him of committing atrocities because he is an American, he fights every impulse to retaliate violently, physically or verbally, towards these people, instead giving them a chance to be heard and have their needs listened to and understood by someone who they previously thought of as ‘The Enemy’. Eventually, a man who initially was the harshest critic of Rosenberg invites him to have dinner with his family. That passage in particular was inspiring to me because since America is so hated now in so many parts of the world, especially the Middle East (where I’m assuming that passage took place), I wonder sometimes if we’ve dug ourselves so far into a hole in terms of how the rest of the world views us that we’ll never be able to dig ourselves out. Me too. However, although this passage was written 10 years ago, before 9/11 and the war in Iraq, I believe its general principles are still applicable. I believe they are universal.

I also am thankful for having had the opportunity to interact with such a wide variety of kids from different backgrounds and stages of life, especially ones that were so open and nonjudgmental towards others’ expressions of opinion. Having Kimberly in class was also a very eye-opening and humbling experience, as I have never really known or had...
much contact with deaf people before. It definitely put a human face on the condition, and any time in the future I am around deaf people or reading about deaf issues, I will immediately think of her. Overall, this class was of great use to me, not only for the content we read and studied in class, but also for the applicable life’s lessons that I gained from being around the other people in the class. I’m so glad to hear this.

As far as my own work is concerned, I believe I turned in a high quality of work throughout the semester, especially more so towards the end of the semester once I became familiar and comfortable with blog posts, projects, and the Learning Record in general. I kept up weekly with the blog posts, with one or two exceptions, and I also kept up with the reading consistently through the latter half of the semester. Additionally, I completed all assignments on time. I believe these things should be taken into consideration when evaluating my grade.

Final Grade Estimate (student): A-

In this way, the LR is well suited to document and assess collaborative work, experiments, exploratory learning, service learning, internships, creative enquiry, online projects and other kinds of work that are usually considered extremely difficult to evaluate.

Evidence-based assessment: why the Learning Record is not a ‘portfolio’

Portfolios of student work have been a major trend in student evaluation and large-scale assessment for at least 20 years. Portfolios are wonderfully rich sources of data about student learning – if you know where and how to look. E-portfolios in general have improved the collection of data and made it easier for students to gather data in electronic format, including types of data that cannot be represented in print. Some of these systems are far more technologically advanced than the Learning Record.

But there is a very big issue with portfolios, including e-portfolios: while they continue to make data collection easier for writers, they do little or nothing to aid readers. Confronted with a bewildering variety of data, now scattered in blogs, multimedia presentations, e-mail messages, collaborative group work, and so on, how do teachers make sense of students’ development? And where do they find the time to manage even a cursory browsing of such diverse and random samples?

This is where the Learning Record is unique. Because of its structure, information about student learning, no matter how diverse, is organised in consistent, meaningful sections that can be quickly accessed and understood by readers across all disciplines. Because the five dimensions of learning ground the LR, students and teachers can talk together about how development has occurred. Because students provide an analysis of their learning based on these dimensions, teachers can quickly determine whether students have grasped the important concepts, skills and activities of the course. Because students in the upper grades are responsible for evaluating their work based on matching grade criteria and evidence in the LR, teachers have a sense of how well students can connect evidence of learning and interpretations and judgement. This evidence-based approach has been proven both valid and reliable for assessing student learning and achievement.

This shared structure and underlying theoretical framework based on solid research about learning provide teachers and students a rapid and precise way of evaluating learning and discussing it together. No other portfolio system comes close to making the reader’s work both more manageable and more meaningful.

Because of this consistent, yet open structure, the LR has been used successfully across disciplines and course levels.

The LR’s positive and principled look at student learning in its context has had a demonstrable impact in these areas:

- Fostering student enquiry, experimentation and exploration;
- developing and improving effective teaching methods for faculty and future faculty;
- reversing faculty burnout;
- supporting research on student learning in authentic contexts.

It also has the potential to inform departments’ study of the impact of curriculum and programmes and to provide rich data for self-study.

There are several problems the Learning Record project addresses, but it was not created to solve problems. It was created to document learning over time in a principled, empirical way, faithfully capturing and reliably analysing the enormous range and diversity of students, their learning styles and processes, their learning products, teaching styles, assignments, subject matter and grade level expectations. However, here are some of the critical issues that have been resolved with the LR:

- Providing an accurate and meaningful evidence-based account of student learning for evaluation and assessment, based on regularly occurring actual work for a course.
- Informing instructors about the effectiveness of their teaching with an ongoing, real-time account of student experience in the course.
- Providing data for research on teaching and learning across a broad range of topics.
- Providing equitable evaluation for diverse kinds of students, diverse kinds of teaching, diverse kinds of assignments, diverse outcomes.
- Providing a common language and conceptual structure about learning, based on sound learning theory, that can be shared by students, teachers, parents and administrators.
- Providing a format for documenting student learning and achievement that is consistent across courses, subjects and institutions. Because the organisation of the LR is the same for any course, an English teacher can easily read and comprehend an LR from a class in biology for example.
- Providing a ‘content-neutral’ evaluation model that can accommodate any kind of data about student learning in any medium, online or offline.
- Engaging students in actively taking responsibility for documenting their learning and for presenting supporting evidence and analysis that accurately reflects that learning.
- Building relationships with students based on a positive ideal of looking together for evidence of learning, rather than deficits in knowledge or skills.
- Cultivating good practice in both new and experienced faculty by revealing just what is working well in real time, so that adjustments can be made, and unhelpful or unskilful practices can be abandoned.
- Providing ongoing regularly available data about student experience and performance for departments, programmes and schools to help them improve or revise their offerings and plan curriculum.
- Providing a record of teaching and learning for public accountability, for parents and communities as well as for accreditation or internal review.
- Helping students succeed more easily by revealing to them evidence of their own learning patterns and hindrances.

(More information about the Learning Record can be found at http://www.cwrl.utexas.edu/~syverson/olr)

Demographic and cultural conditions, technological environments, neurophysiological development, interpersonal environments, relationality and social dynamics are irreducible factors in the evolution of literary capabilities from the first intentional babbling of an infant to the expert performance of a PhD dissertation, scholarly article, professional presentation, scientific research report or high-level negotiation. Without a clear view of literacy learning as an emergent property in complex ecosystems, we tend to do violence to the phenomena we are trying to understand and cultivate, to the learning process, to teachers and students and families, and most importantly, to the delicate relationships among them. The losses can be counted among the lost souls living on our streets, in our juvenile detention facilities and in prisons, and in the incalculably vast loss to our human society.

References


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For further reading on the Learning Record http://www.cwrl.utexas.edu/~syverson/olr and associated bibliography:
http://www.cwrl.utexas.edu/~syverson/olr/biblio.html