

Characteristics of a Successful Online Learning Experience; a Case Study of Internet-based, Adult, Cooperative, Creative Writing Group Project.

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Abstract

The Internet is now an important medium for the delivery of educational content, and its influence in this area is likely to significantly increase in the future. The Internet allows a much wider variety of learners to access educational materials. And these educational materials themselves are exceptionally diverse and likely to vary widely in their effectiveness and quality. There are benefits and drawbacks to using the Internet to deliver educational opportunities. The structure of the curriculum can greatly increase the former and reduce the latter.

This paper focuses on one example of online learning: The Company Therapist project—an adult cooperative group creative writing project. It uses Jonassen et al. (2003) criteria for meaningful learning: technology should be used to engage students in active, constructive, intentional, authentic, and cooperative learning. My main goal was to design and develop an instructional structure that supports meaningful learning as defined above, takes full advantage of this medium, and caters to the needs of adult students that choose it as their preferred method for getting their education. The result of this design and development effort was The Company Therapist project, which ran continuously from 1996 to 1999. While the project is 10 years old now, the strategies used to design it are as instructionally valid today as they were then. The *product* of this course can be found at www.TheTherapist.com. Using the data from this project, I discuss the instructional structures necessary to support meaningful learning and student motivation.

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The Company Therapist project is a single subject learning system designed to teach creative writing to a small community of self-selected writers. It is a hyperdrama written jointly by its audience. The project ran for four years, and an archived version of the site is still available for viewing at www.TheTherapist.com. The degree of The Company Therapist's success can be measured by the satisfaction of its student writers, readers, fans, the media coverage it received, and the numerous awards it won.

There were several goals embraced by this project, which fell into three broad categories. The first goal was to design and produce an educational structure which was capable of supporting a community of students that (a) were of varying skill levels, (b) had widely different time availability, (c) were geographically, culturally, and socially diverse, (d) didn't know each other, (e) and only communicated with each other via email. The second goal, closely tied to the first, was to use this structure to teach creative writing. While the first goal embraced the diversity of online learners, the second narrowly focused the educational content area. The final, third goal was to extend the project beyond the student participants and open it up to a larger audience of Internet browsers. Turning the product of a creative writing course into an online entertainment opened up the project to a much larger community of readers, writers, and reviewers than would ever be possible in a regular brick and mortar classroom, thus turning student work into an authentic writing experience. Given these goals, this paper examines how the instructional design of The Company Therapist project supported meaningful learning and how the structure of an online educational community affected students' motivation to learn and to participate in a non-compulsory creative writing project.

Theoretical Perspective

There are several common forms of Internet-based educational materials. The first type consists of online courses offered by universities. These courses become available to students from different universities; the geographical location of the school in relation to the student becomes irrelevant; and more students could get access to a particularly gifted teacher via the Internet (Fisher, 2001). The second type of online learning environment is corporate training. This is a special case of web-based courses. Not only do large corporations need their employees to learn new skills, but people interested in advancement are clearly a target audience for online corporate training (Kruse & Keil, 2000). The third type of online learning opportunity is recreational. Some people learn for entertainment, and if they are not having fun, then the materials targeted to this audience are not well designed. Just-in-time learning is another form of Internet-based learning. These are small "chunks" of information that can be absorbed by individuals as the need comes up.

What all of these online educational opportunities have in common is the directional focus of the curriculum design. In general, the educational goals of the students and the types of educational settings that provide the instruction are important variables in the design of the curriculum structure for a particular learning opportunity. These student goals and educational settings can be combined to form a situational learning matrix, Figure 1 (adapted from Werby, 2007).

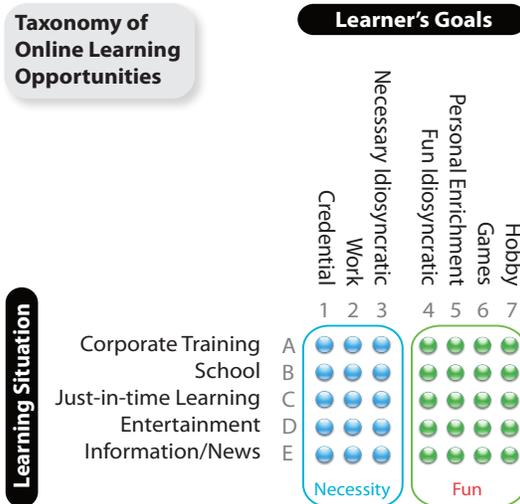


Figure 1: The Situational Learning Matrix

Educational content creators and publishers develop their materials with a particular goal in mind and for a particular audience. Student motivation to learn is closely tied to their goals for learning. To make any assessment of student progress meaningful, it needs to be carefully aligned with the goals of the class. The Situational Learning Matrix (Figure 1) provides a framework for goal alignment between the institutions and teachers providing instruction and the students taking those courses and helps to guide the focus of instructional design (Werby, 2007).

Creative writing, like any other subject area examined by The Situational Learning Matrix, is taught and learned for different reasons and with different goals (as a means of teaching grammar and vocabulary, as a vehicle for cultural knowledge, or as a structure for practicing writing skills and language comprehension). A creative writing course can be part of the core curriculum of school or be offered as an entertainment. So depending on the goals of the institution offering the course and the goals of the students taking it, the format and teaching style of creative writing instruction are different. The Company Therapist project fell into Entertainment/Personal Enrichment position in the above matrix and taught creative writing to adult students.

In their book *Learning to Solve Problems with Technology: A Constructivist Perspective*, Jonassen, Howland, Moor, and Marra (2003) write that the goal of technology-using educators is to support meaningful learning—that is to use technology to engage students in active, constructive, intentional, authentic, and cooperative learning. In these instructional settings, students actively engage in meaningful tasks, learn the lessons that their activities have to teach, are able to articulate their learning goals and know what is being learned, learn in a real-life and useful context, and belong to knowledge-building communities.

What is meaningful learning in a creative writing course? Hull (1989) identified writing as a social activity developed by people for the purpose of communicating ideas and thoughts. As such, writing and composing can only be an authentic activity for an author if the writing satisfies those functions. Good writing, like most other things, requires substantial practice. “[P]articipation in practice is the main activity through which

learning occurs,” wrote Brown and Palincsar (1989). But writing without a goal can be extremely difficult (Hull, 1989). A creative writing course thus needs to provide an authentic goal for writing to its students—a goal that its students would find authentic beyond getting a good review or a grade from their teacher.

While developing a group learning situation, it’s important to understand the possible forms of interactions among the participants and adjust the group dynamics to increase the frequency of desired behavior and reduce that of undesired. The interactions between members of a group can be cooperative or collaborative. In a cooperative interaction, the overall goals are shared by all of the participants of a group, but the work load can be distributed in many different ways. Cooperative group members can make different contributions to the whole. If group members work on different parts of the project, it’s important to analyze the individual contributions and responsibilities to the whole. The relevant questions are: Are all participants equally responsible for the overall project? Are there disparities in work loads? In a cooperative task, the work load does not have to be distributed equally among the group and usually is not. Collaboration, on the other hand, specifies that group members work together on each piece of the overall project. This distinction between collaboration and cooperation clarifies expectations of individual contributors in a group. Note that it might not be necessary to achieve equality of work load across the whole project in order for it to be collaborative. Some parts of the project can be performed cooperatively and some collaboratively. The result is a mixture of these group dynamics (Dillenbourg, 1999; Werby 2007). Most real world activities are only partially collaborative.

Project Structure, Student Motivation, & Assessment

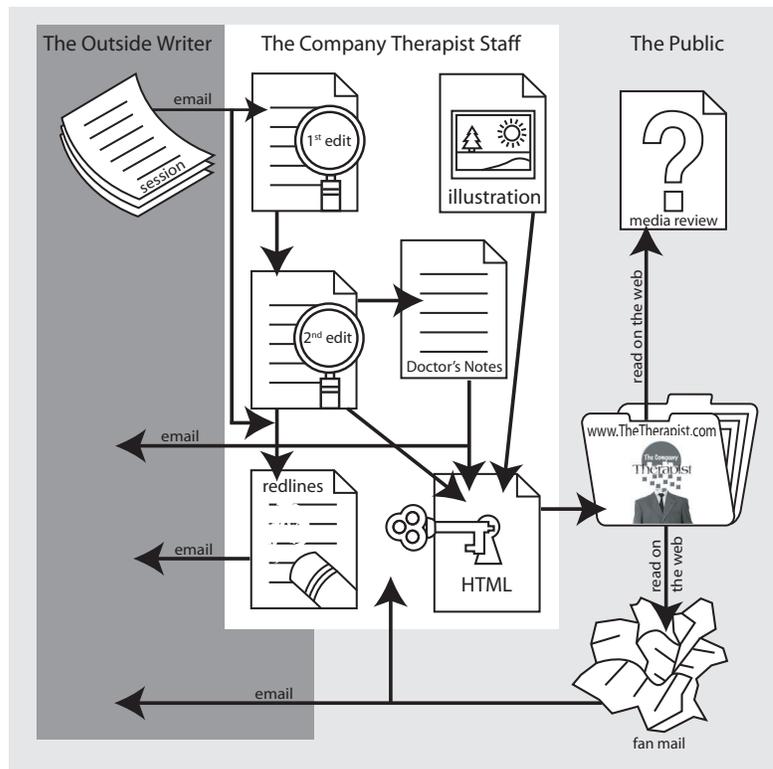


Figure 2: The Company Therapist Process Diagram (adapted from Werby, 2005).

The Company Therapist project's explicit goals for its contributing student participants were (a) to create membership in a long-term writing community, (b) to give amateur writers exposure to a professional environment (deadline-driven, well-defined standard of quality and format, editorial support, etc.), (c) to help those students develop their writing skills using a series of instructional support structures, and (d) to get recognition for writers' work by exposing them to a large audience. And the instructional structure of this project had to be determined based on its goals and on its place in The Situational Learning Matrix. The Company Therapist project falls under Personal Enrichment/Entertainment position in The Situational Learning Matrix. The individuals who participated in this project did so for personal reasons. Most wrote because it was fun, rewarding, and entertaining. For readers, The Company Therapist was pure entertainment.

The Personal Enrichment/Entertainment classification of The Company Therapist project placed very specific requirements on its design. Since the structure of this project's curriculum was non-compulsory, creating conditions for self-motivation for the participants was critical. It was thus important to examine and understand the goals of individuals participating in this project and accommodate their needs, desires, and expertise as learners accordingly. What was students' motivation for participating in the project?

Motivation and assessment are closely linked. If a student does poorly on an exam, that student may be motivated to study harder—this is an example of motivation based on teacher's summative assessment of student's work. A writer feels inferior (or less successful) to his or her contemporaries and is motivated to take a class—this is an example of motivation based on self-assessment of one's ultimate potential and current state of expertise. For an instructional structure to succeed, it needs to build-in motivational scaffolds and certain forms of assessment. The Company Therapist project featured audience assessment, media, and industry assessment in addition to self-assessment, peer assessment, and teacher/editor assessment.

Self-assessment. In The Company Therapist project, formative and summative self-evaluations remained mostly private, discounting occasional email rants and bouts of self-doubt. The diagnostic self-evaluation was expressed via overcoming the barriers to entry in participation in The Company Therapist project. Perspective writers had to first investigate the rules of participation and judge themselves capable of working in such environment. Each writer had to sign a contract prior to submitting work—a psychological (but not actual) hurdle.

Teacher assessment. While there were no grades for the work submitted to The Company Therapist, students did get several forms of feedback. Diagnostic feedback on technical, constructive, and higher order writing skills were given with the first submission from a student. The perspective writer had to meet a certain technical level of proficiency in order to participate in this project. Formative (or ongoing) evaluations of technical and structural skills were given to the writers via redlines—a comparison sheet of all edits between a student submission and a final, posted version of the story. Doctor's Notes provided higher language skills assessment (e.g., if the intended meaning of the submitted content wasn't clear, the writer could see it through this feedback).

Email communications between editors and writers about the evolving story and characters also served the

function of conceptual feedback and story development assistance. Since the structure of student writing contributions was tightly controlled by the design of The Company Therapist project, the initial diagnostic feedback just reiterated rules of participation, if they were not followed closely by the first-time submitting writers. Formative assessment of writing continuously realigned the structure of student writing to meet these requirements or sent the contribution back for a rewrite with editorial comments.

There was no teacher summative assessment of students' work in this project. Student writers came and went as they pleased and received comments only on their current submissions. It was up to the readers, media reviews, and other student writers to provide summative evaluations of a body of work up to date. To the present day, the project receives fan mail, sometimes addressed to a writer or referring to a particular character (these being equivalent for this project).

Peer assessment. In The Company Therapist project, writers were encouraged to communicate with each other directly by email to discuss each other's work, to plan joint story lines, and to encourage each other by showing appreciation of a particularly good submission. In this project, these peer assessments mostly dealt with higher order writing skills as only the final, edited contributions were posted on the site.

Audience, media, and community assessment. The Company Therapist project differed from its traditional counterparts, where there are limited opportunities to publish students' work or expose them to an audience wider than the class. In this project, student writers were continuously exposed to thousands of readers, media reviewers, and the evaluations of educational and entertainment communities. Figure 3 summarizes the different forms of assessments in The Company Therapist project.

Assessment:	Diagnostic	Formative	Summative
Self-	<ul style="list-style-type: none"> • Ask to join the project • Sign the contract • Submit the first unit of writing for review 	<ul style="list-style-type: none"> • Technical Editing • Story Editing 	<ul style="list-style-type: none"> • <i>Evangelize</i> the project to family and friends
Teacher/Editor	<ul style="list-style-type: none"> • Allow to participate in the project 	For each individual submission: <ul style="list-style-type: none"> • Editing • Email comments • Redline notes • Doctor's Notes 	N/A
Peer	X	<ul style="list-style-type: none"> • Email communication among writers (commenting on a particularly good piece of writing) • Collaboration among writers 	<ul style="list-style-type: none"> • Collaborative efforts among writers (based on the writing ability and story lines up to date)
Audience	X	X	<ul style="list-style-type: none"> • Fan mail
Media	X	X	<ul style="list-style-type: none"> • Awards • Media reviews

Figure 3: The Company Therapist's Assessment Chart. This chart shows the various forms of writing assessments for The Company Therapist project (adapted from Werby, 2005).

The Company Therapist project shows that there was educational value to cooperation and collaboration in a group creative writing environment that could not have been achieved without it. First, there was modeling—peers can model certain aspects of interaction to their each other. Second, there was appropriation—this is the

process of borrowing and “making your own” the cognitive tools that were observed during the interactions with others. And last, there is internalization—this is the process of transfer of cognitive tools from the social plane of interaction with others to the inner plane of internal reasoning (external to internal dialogue) (Vygotsky, 1978; Brown & Palincsar, 1989; Brown, Bransford, Ferrara, & Campione, 1983, pages 106-126).

To support meaningful learning and collaborative behavior among its students, The Company Therapist had project-specific educational scaffolds. Figures 4 and 5 give a summary of general and individual instructional supports developed for this project.

<i>Individualized Scaffolds</i>	different writers needed and received different amounts of interactional, instructional, and technical help
	individualized help with character development
	editing
	redline notes with edits
	character employment records
	individualized graphical support
	embedding story line into <i>stable</i> characters’ stories
	“cross-pollinating” story lines
	extensive email dialogue
	medical reference support

Figure 4: Individualized Educational Scaffolds and Instructional Strategies for Writers (adapted from Werby, 2005).

<i>General Scaffolds</i>	all writers get the same amount of interactional, instructional, and technical support
	story set in well-known location
	predefined format of writing
	a set of <i>stable</i> characters
	easy to join, easy to leave
	location independent
	marketing support
	community of writers (via email)
	overall graphical support
	deadline driven
	audience and fan mail
	no beginning, no end
	story set in present day
	manageable “chunks” of writing
	freedom to skip
	freedom to choose topics

Figure 5: General Educational Scaffolds and Instructional Strategies for Writers (adapted from Werby, 2005).

Does The Company Therapist Project Support Meaningful Learning?

Jonassen et al.’s (2003) paradigm for meaningful learning was that it had to be active, constructive, intentional, authentic, and cooperative. Using the previously stated definitions of these components of meaningful learning, The Company Therapist project can be judged on how well it succeeded as a meaningful online creative writing learning opportunity by examining its structure and data from its three-year run.

To show that the participants in The Company Therapist project were engaged in active learning, I analyzed the amount of work each student contributed to the project. In particular, all the writing for The Company Therapist project can be broken out into units of work based on individual submissions from the students. A standard unit of work is one therapy session (Figure 6). In addition to the total individual time investment, the duration of individual tenure with the project can be examined (Figure 7). And finally, the level of activity can be seen in the number of characters each student writer created.

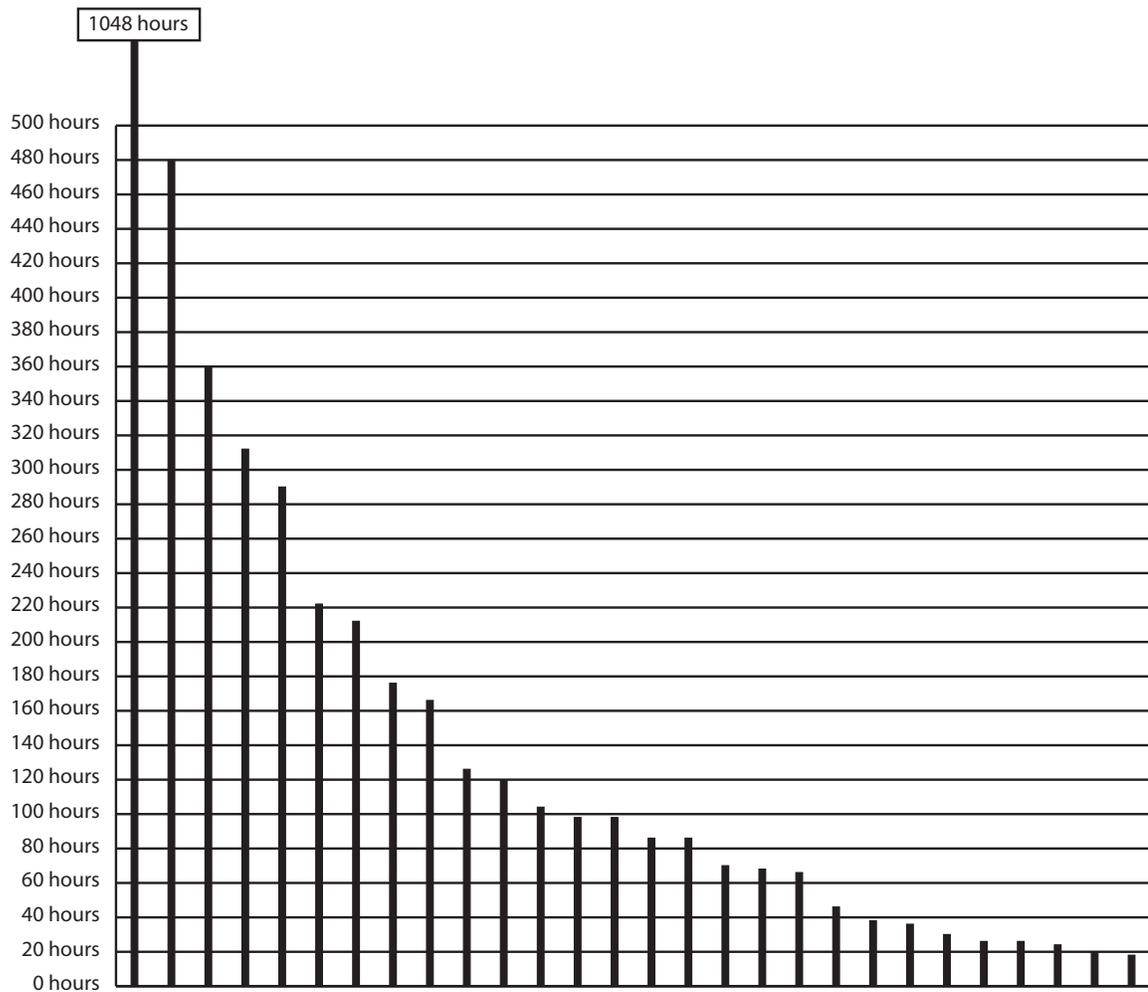


Figure 6: The Total Approximate Work Load per Author in Hours (adapted from Werby, 2005).

To show that learning was constructive, I need to demonstrate that student writers understood and could reflect on their accomplishments. There were numerous instructional scaffolds which were built into The Company Therapist project. Among these were redlines and Doctor’s Notes. These editorial comments and story feedbacks were designed to help students reflect on their work and to support constructive learning.

To document intentionality of learning in The Company Therapist project, I need to show that participants of The Company Therapist project understood the goals of this project and had personal goals that fit within its structure. In effect, the goals of the students and the goals of the project were aligned.

To show that the project supported authentic activities, I have to show that The Company Therapist had a

real audience for its student writers. The *page views* statistics can be used to describe where the readers of the projects came from (i.e., from which countries, which suffixes), how many of them visited each day, and which characters were popular (i.e., had more readers). Media reviews and fan mail also served to authenticate the writers' experience.

To show cooperation among group members of The Company Therapist project, I can examine the literary connections between the stories of the different characters and thus analyze the number of collaborations and cooperations between the writers. Since there were explicit hypertext links any time one character mentioned another, these references can be plotted to show a web of interaction among the writers.

A total of 28 individual authors contributed to the project, and the majority produced less than 30 units of content. The average number of content units was 32. Median contribution was 21. As it took a while to develop a character and story, individuals that contributed less than 10 units of content for their main character (as opposed to a supporting character) didn't get full benefit of participation in the project.

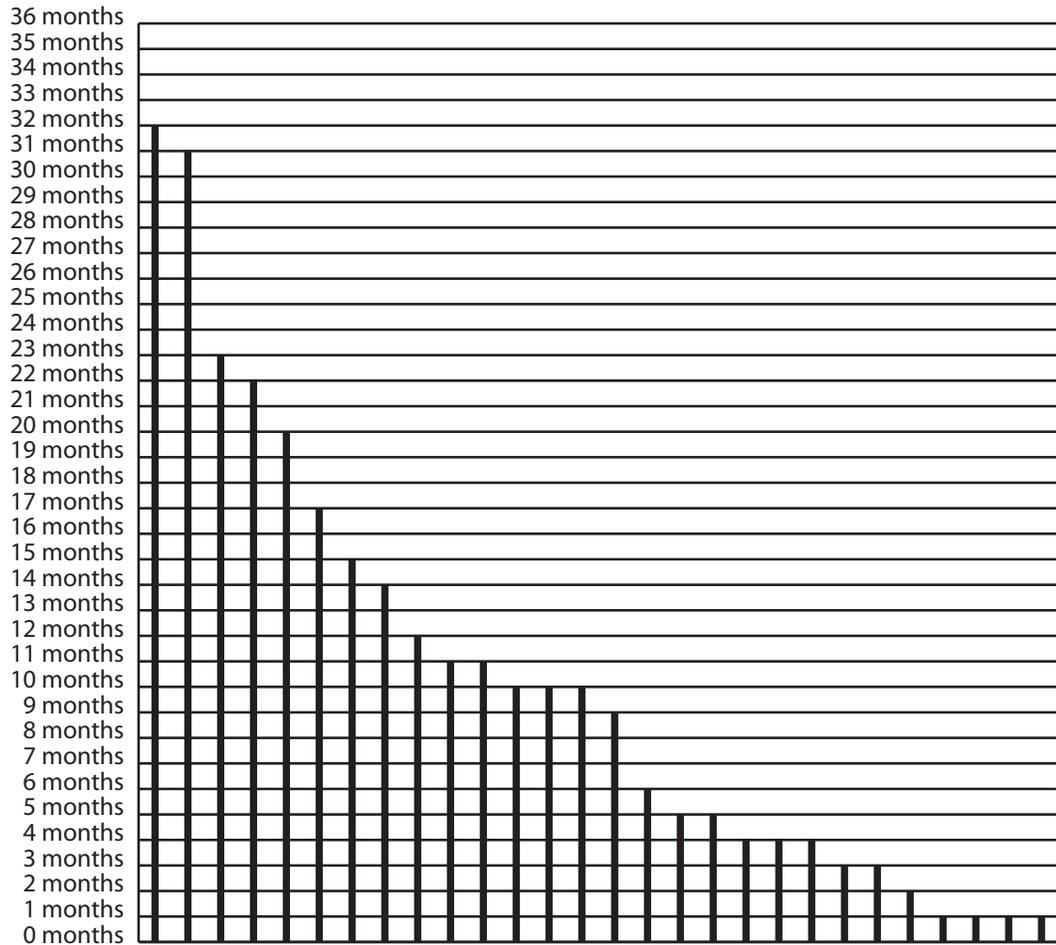


Figure 7: Durations of Writers Participation (adapted from Werby, 2005).

I believe all writers with substantial contributions to the project (10 or more units of content) showed summative improvement in their writing skills from their first contribution to the last. This improvement,

defined in a limited way, could be measured through following: a decrease in the number of grammatical and spelling errors per contribution; demonstration of improved self-editing skills; development of a unique voice; development of a unique story line; development of long-term story lines; better stories; evidence of background research; higher incidence of cross-interaction with other characters and writers; accomplishment of a set goal; and a high degree of personal satisfaction with one’s work. The distribution of grammatical and spelling errors were tracked over time with redlines. Email feedback from the authors and redlines served to monitor writers’ self-editing skills.

Jonassen wrote: “Research has demonstrated that authentic tasks with real audiences have resulted in increased learning, stronger writing, and longer retention of learning and even increased performance on standardized tests of writing” (Jonassen et al., 2003, p. 55). The Company Therapist project was read around the world. While the bulk of the readers came from the United States, there were audiences in Europe, Asia, Canada, Russia, Australia, and the Middle East. There was a stable audience of a few thousand individuals that visited the site monthly (Figure 8). The statistics of page views per day (and per month) and their URLs of origin were provided by the Earthlink Communications Inc. (the web host which stored and served the pages of The Company Therapist from its servers when the project was active).

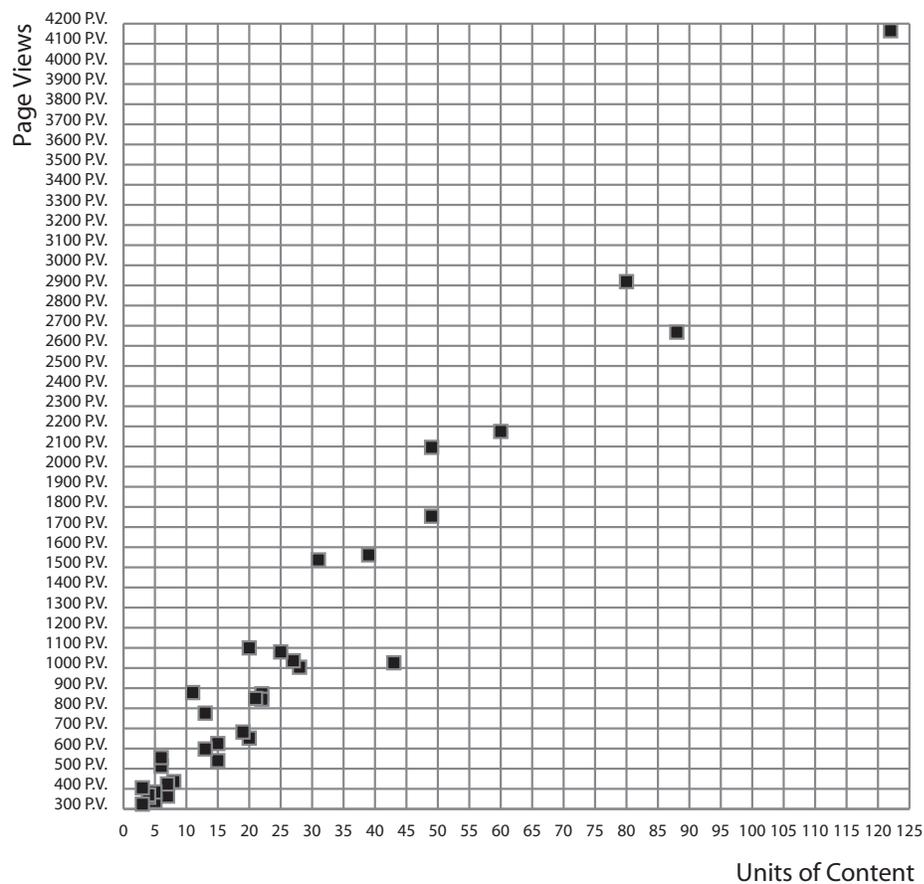


Figure 8: Page Views versus Content Units per Character (adapted from Werby, 2005).

Summary

Online learning takes on a wide variety of forms, and the number of learning opportunities available is continuously increasing. Museums are putting worksheets for students and tutorials for their visitors on the web. Government agencies are transferring guidelines and tests online. Corporate organizations are uploading their training materials onto the Internet. Educational institutions are making their courses available to their online students. Such a large collection of learning opportunities developed for different ages, in various formats, and with different purposes makes it possible, in theory, to customize learning not only to fit individuals' goals but also their learning preferences. "Simply put, people can learn more efficiently through e-learning—in large part because it makes learning more personalized and more accessible" (Commission on Technology and Adult Learning, 2001, p. 11). But what makes one computer-based instruction successful while others fail?

It is critical to match the needs and goals of students with those of online instruction. Adult students already seek out educational opportunities that best fit them. Young students pick high schools and colleges that can satisfy their economic, social, and academic needs. This is also true of students looking for an education on the Internet.

It helps to chart a general map of the online instructional landscape. "Taxonomy of Online Learning Opportunities" and "Taxonomy of Learning Goals" form a rough two dimensional outline of possible online learning scenarios—The Situational Learning Matrix (Werby, 2007). By specifying the goals of a student and the format of instruction in this way, online learning objects can be better matched to students. Small, narrow-niche classes can provide instruction to very few individuals, and they can also manually customize that instruction to the needs of those students. The Company Therapist was such a project. It was a creative writing course for a small number of students who self-selected themselves to fit the format of The Company Therapist project's type of instruction. The outcome was a successful effort to teach creative writing.

"An important use of technology is its capacity to create new opportunities for curriculum and instruction by bringing real-world problems into classroom for students to explore and solve..." (Bransford et al., 2000, p. 207). Online learning can deliver educational opportunities to many different people, in many different subject areas, and for many different goals. It can bring real-world problems to students. But this education will not be without cost. The Company Therapist project required a total of 4,420 hours of production and design time, for example. And while the learning experience was free to the student writers, the costs of running the project were considerable.

As Jonassen et al. (2003) point out that there is a need to develop curriculum that integrates technology into other classroom activities. But teachers are not necessarily the best equipped or in the good position to do so. Curriculum development takes time and resources. And the design and production of computer-based instructional structures require skills which are not commonly taught to teachers. Trying to figure out how the Internet is used in the classroom now, how it can potentially be used, and how to make it more effective, is an exciting frontier of modern educational research.

References

- Berners-Lee, T. (1999). *Weaving the Web*. New York, New York: HarperCollins Publishers.
- Bransford, J. D., et al. (2000). *How People Learn: Brain, Mind, Experience, and School*. Washington, D.C.: National Academy Press.
- Bransford, J. D., Vye, N. (1989). A perspective on cognitive research and its implications for instruction. In L. Resnick & L. Klopfer (Eds.), *Toward the Thinking Curriculum: Current Cognitive Research*, pages 173-205. ASCD 1989 Yearbook.
- Brown, A., Palincsar, A. (1989). Guided Cooperative Learning and Individual Knowledge Acquisition. In L. Resnick (Ed.), *Knowing, Learning, and Instruction: Essays in Honor of Robert Glaser*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Brown, A., Bransford, J., Ferrara, R., Campione, J. (1983). Learning, Remembering, and Understanding. In J. Flavell & E. Markman (Eds.), *Handbook of child psychology (4th ed.)*. Cognitive development (Vol. 3). Section on Metacognition pages 106-126. New York: Wiley.
- Carroll, J., Thomas, J. C. (1982). Metaphor and the Cognitive Representation of Computing Systems. *IEEE Transactions on Systems, Man, & Cybernetics*. 12(2), 107-116.
- Commission on Technology and Adult Learning, (2001). *A Vision of E-Learning for America's Workforce*, Report of the Commission on Technology and Adult Learning. American Society for Training and Development (ASTD) and the National Governors Association (NGA).
- Dewey, J. (1897-1938, book copyright 1964). *John Dewey on Education, Selected Writings*. Chicago, IL: The University of Chicago Press.
- Dillenbourg, P. (1999). "What do you mean by collaborative learning?" In P. Dillenbourg (Ed.), *Collaborative-learning: Cognitive and Computational Approaches*. Oxford: Elsevier.
- diSessa, A. (2000). *Changing Minds: Computers, Learning, and Literacy*. Cambridge, MA: MIT Press.
- Fisher, S. (2001). *Teaching and Technology: Promising Directions for Research on Online Learning and Distance Education in the Selective Institutions*. Report for the Andrew W. Mellon Foundation. (Draft)
- Hull, G. (1989). Research on Writing: Building a Cognitive and Social Understanding of Composing. In L. Resnick & L. Klopfer (Eds.), *Toward the Thinking Curriculum: Current Cognitive Research*, pages 104-128. ASCD 1989 Yearbook.
- Jonassen, D. H., Grabowski, B. L. (1993). *Handbook of Individual Differences, Learning & Instruction*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Jonassen, D. H. (1992). Designing Hypertext for Learning. In Scanlon, E. & O'Shea, T. (eds) *New directions in educational technology*. Springer-Verlag. Berlin.

- Jonassen, D. H., Howland, J., Moor, J., Marra, R. M. (2003). *Learning to Solve Problems with Technology: A Constructivist Perspective* (2nd Edition). Prentice Hall; ISBN: 0130484032
- Kommers, P. A. M., Grabinger, R. S., Dunlap, J. C. (Editors) (1996). *Hypermedia Learning Environments: Instructional Design and Integration*. Lawrence Erlbaum Associates; ISBN: 0805818294
- Kruse, K., Keil, J. (2000). *Technology-Based Training: The Art and Science of Design, Development, and Delivery*. Jossey-Bass. ISBN: 0787946265
- Lave, J., Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.
- Levine, M. (2002). *A Mind at a Time*. New York, New York: Simon & Schuster.
- Pethokoukis, J. M. (2002). "E-learn and Earn: As dot Coms Mostly Fade, Online Universities are Proving That There's Gold in Them Thar Screens." www.usnews.com/usnews/edu/elearning/articles/020624elearning.htm
- Scardamalia, M. & Bereiter, C. (1994). "Computer support for knowledge-building communities." *The Journal of the Learning Sciences*, 3(3), 265-283.
- Schank, R. C. (2001). *Designing World-Class E-Learning: How IBM, GE, Harvard Business School, And Columbia University Are Succeeding At E-Learning*. McGraw-Hill Trade; 1st edition ISBN: 0071377727
- Schank, R. C. (1990). *Tell Me a Story: A New Look at Real and Artificial Memory*. New York: Macmillan Publishing Company.
- Underwood, J. D. M., Underwood, G. (1990). *Computers and Learning*. Cambridge, MA: Basil Blackwell, Inc.
- Vygotsky, L. S., (1978). *Mind in Society, The Development of Higher Psychological Processes*. Cambridge, Massachusetts: Harvard University Press.
- Web-based Education Commission, (2000). *The Power of the Internet for Learning: Moving from Promise to Practice*. Report of the Web-based Education Commission. Senator Bob Kerry, Chair. Representative Johnny Isakson, Vice Chair. Washington, DC
- Werby, O. (2007). "Examination of Student Motivation and Group Dynamics in the Internet-based Learning Experiences," Ed-Media 2007, AACE, Vancouver, British Columbia.
- Werby, O. (2007). "The Situational Learning Matrix: a Design Tool for Creation of Internet-based Learning Experiences," Ed-Media 2007, AACE, Vancouver, British Columbia.
- Werby, O. (2005). "Development of Internet-based Learning Experiences; The Company Therapist Project," Doctorate Dissertation, University of California at Berkeley.