20

Active Online Learning: Implementing the Case Study/Personal Portfolio Method

Peggy Kasloff, EdD
City University of Seattle
School of Management

Abstract

Students in online classrooms must be prepared with the skills necessary to be successful in the twenty-first century. Pink (2005) stressed that educators must provide learning that not only engages the left-brain thinkers but also the right-brained thinkers who will create and problem solve. To meet that goal, and at the same time challenge learners to develop critical thinking skills, the case study method was employed and examined. This chapter

explores the use of the traditional case study method expanded to include personal portfolio entries that lay the foundation for active learning.

Introduction

Preparing students to be successful in the real world of the twenty-first century boardroom, the twenty-first century classroom, the twenty-first century medical operating room, or in fact anywhere in the twenty-first century workplace, must be the foremost goal of every educational institution. With the growing number of students opting for online programs, educators must develop learning strategies that ensure that online students develop the skills needed in the twenty-first century including the higher-level thinking skills needed to be a creative and critical thinker (Pink, 2005). According to Barrett and Moore (2011), "Problems have always mobilised and stimulated thinking and learning; they energise our activity and focus our attention" (p. 3). Educators must find strategies to harness that energy and curiosity to arm students with the skills needed to be effective problem solvers.

Utilizing relevant and thought-provoking case studies challenges students to think deeply, analyze, synthesize, and create solutions that can later be applied to other similar situations (Chen & Bradshaw, 2007; Zach & Agosto, 2009). Much literature exists on the value of using the problem-based learning approach in the classroom (Ballantyne & Knowles, 2007; Barret & Moore, 2011; Young, 2006; Zach & Agosto, 2009), and now more than ever, there is a growing need to apply this learning strategy to the online classroom. "Online instructors are encouraged to focus on real-world application of course material and promote growth of practical skills in their students (Riha & Robles-Piña, 2009, para. 12).

It is equally important to ensure that students are equipped with strong interpersonal skills to enable them to work collaboratively in teams. According to Kemp (2006) these skills can be developed in the online classroom. With creative, goal-oriented planning, instructors can facilitate an online course that motivates, challenges, and stimulates learners while preparing them for real world situations and experiences (Zach & Agosto, 2009).

Creativity, another skill needed for success, needs also to be developed in the online classroom (Mintu-Wimsatt, Sadler, & Ingram, 2007). Keebler (2009) stated that the "online learning environment must provide the means for students to collaborate in an open environment to share their ideas, reflect, and explore alternative perspectives" (para. 15). The kinds of activities that were most beneficial for learners were ones that encouraged collaboration (Ruey, 2010). Lock and Redmond (2006) wrote that "the social and collaborative nature of learning is important in education in the twenty-first century," and according to Ruey (2010) providing a constructivist classroom environment leads to a "more collaborative, authentic, and responsible" (para. 21) online learning experience.

During the past decade, the number of online students increased dramatically, and more institutions are incorporating this method of instruction than in previous years (Braun, 2008). In the report *Class Difference$* published by the Sloan Consortium (2010), "The most recent estimate, for fall 2009, shows an increase of twenty-one percent over fall 2008 to a total of 5.6 million online students" (p.8). With the increasing number of online students, educators must be able to adjust to the online learning environment by adapting themselves to the demands of the online forum in order to provide the highest quality of education to all learners. Within the framework of a course outline, instructors must modify the course assignments to meet the needs of students.

The Online Adult Learner

Unfortunately a "one-size-fits-all" theory of adult learning does not exist; however, to better understand how adults learn, instructors should become familiar with the various characteristics and needs of adult learners (Cercone, 2008). It is also important to realize that a learning theory does not address the best way to teach, but understanding how adults learn helps instructors become more effective with their approach to instruction in

an adult learning community (Swan, 2005). The various models of adult learning outline different facets of learning that should be addressed when dealing with adult learners (Merriam, Caffarella, & Baumgartner, 2007). Teaching adults is different from teaching children, though the reasons may not be clear.

Much research has been conducted on andragogy, the art of teaching adults (Martin, 2009). Knowles and Associates (1984) outlined the characteristics of adult learners. Adults have matured and are now self-directed human beings. They are independent and need ample room to be involved and responsible for their own learning. Based on adult learning needs, and to encourage a deeper level of understanding of content (Hackmann, 2004), instructors should take on the role of guide, instead of "sage on the stage" (Gueldenzoph & May, 2002; Hackmann, 2004).

Another characteristic of adult learners is that they carry with them a plethora of experiences which must be included and valued by the instructor (Cercone, 2008). According to Gould (2009), Piaget, an early constructivist theorist, determined that for new learning to occur there must be some previous basis on which to attach the new learning. These are called schemata (Gould, 2009). Therefore, if new concepts are relevant and relate to adult experiences, effective learning should result. The most effective learning is meaningful and can be applied to their work or personal experiences (Cercone, 2008). To that end instructors must design the course activities that are real-world issues leading to significant learning. Gould (2009) suggested that discussion, case study, and problem-solving activities are valuable approaches to adult learning.

In addition, adult learners do well when the goals are outlined, enabling them to realize that what they learn will be advantageous to their personal goals. Adults are ready to gain new knowledge and want to immediately find ways to apply their new learning (Cercone, 2008). The best case scenario occurs when an online student is able to develop a plan that can then be used in his or her workplace. That kind of immediate satisfaction results in a very positive learning experience for the adult. Effective instructors should be flexible in allowing students the breadth of a topic. Adults are internally motivated to learn (Gould, 2009) and, as mature learners, they will often reflect on their learning (Jones, Connolly, Gear & Read, 2006).

As we know, no two adults are the same. They possess degrees of the adult learners' traits, and because of this instructors must recognize the differences and make accommodations to meet the learning needs of all the students. Andragogy does not address the process of learning but offers a baseline of adult learning traits that play into successful learning (Cercone, 2008). What has emerged from the research in this area, however, is that adults thrive in an experiential, self-directed learning environment. Rudestam and Schoenholtz-Read (2010) wrote that "learners are actively attempting to create meaning" (p. 100). Therefore, the instructors must provide a student-centered classroom environment in which active learning is the foundation. The students take the lead role and the instructor assumes the role of facilitator (Martin, 2009). Students will be challenged to take the initiative to develop their higher order thinking skills and collaborative, social skills in order to be successful. A student-centered, hands-on learning environment is an effective strategy used to prepare students for the twenty-first century workplace. Rhia and Robles-Pina (2009) stated that "online instructors are encouraged to focus a real-world application of course material and promote growth of practical skills in their students" (para. 12). Andragogy helps us understand that adult learning is more about the process than about the content of the subject (Holyoke & Larson, 2009).

Constructivism

According to Cercone (2008), "There is no one theory that explains how adults learn, just as there is no one theory that explains all human learning" (para. 16). However, to provide an effective and challenging online experience, educators must continue to examine the traits of adult learners. "One of the challenges of teaching in an online course is the development and inclusion of materials that teach the concepts in a meaningful manner (Engleman & Schmidt, 2007, para. 4). Building an online environment where expectations are high, rigor of content is emphasized

(Engelman & Schmidt, 2007), and higher-level thinking skills are essential, should be facilitated by the instructor (Mandernach, Forrest, Babutzke, & Manker, 2009). In addition, preparing students to be successful in the workplace requires strong skills of collaboration and communication (Zach & Agosto, 2009).

The constructivist theorist Vygotsky focused on building meaning from socially interactive, goal-directed activities (Eun, 2008). In the constructivist approach, learning is based on experiences and ideas. Learners become active as they discuss, debate, and solve problems collaboratively (Ruey, 2010). In doing so, adult learners have the opportunity to utilize their past experiences to solve future issues. In addition, they develop and strengthen their communication and collaboration skills. Students are engaged, motivated, and empowered to direct their own learning as they strive to reach both short-term and long-term goals. The very nature of the constructivist approach to learning aligns with the characteristics of adult learners (Knowles & Associates, 1984).

Problem-based Learning

Imagine how an instructor can create an exciting, dynamic, and energizing online classroom experience. How can one provide activities that will meet the needs of adult learners, while at the same time ensure that the rigor of the content is not forgotten? Is it possible to change students from being passive learners just going through the motions to earn the course credit to enthusiastic problem solvers with a passion to learn and create? These important questions may determine the success of meeting the mark of excellence for online learning in order to sustain the growing number of students who will choose the online classroom experience instead of the traditional classroom.

Before moving forward in the understanding of problem-based learning, it is important to differentiate between a cooperative team learning project and a collaborative team learning project. Many online courses have a component of team work. However, experience has shown that these team assignments are often carried out as cooperative learning assignments where each student takes a part of the task and completes it independently of the other team members. Then all the isolated parts are put together into a final product. In many cases an experienced instructor can identify who wrote each piece. Collaborative work, according to Hennessy and Evans (2006), "due to its formal structure and clearly defined outcomes, generally requires basic recall or, at best, synthesis of facts" (para. 15). Contrast this with an assignment in which all team members actively work together to plan, discuss, debate, and design a final artifact that is seamless and is a composite of the entire team's contributions (Hennessy & Evans, 2006). Collaboration, an approach where the students are required to take charge of their learning, is mirrored in boardrooms in all types of organizations. Collaboration brings about an energy and a synergy that result in a product that surpasses what one person alone could have created (Gomez, Wu, & Passerini, 2009; Slotte, & Tynjala, 2005).

Collaboration provides opportunities for students to share information, create connections, and build online communities of learning (Zach & Agosto, 2009). Abrams (2005) explained that a connection exists between collaboration and increased critical thinking skills. Moreover, Ashcraft, Treadwell, and Kumar (2008) stated that "collaborative learning. . .whereby students interact and build on each other's ideas is constructivist in nature" (p. 110). It follows that the constructivist approach, which involves collaborative learning, could be used as a strategy for building strong higher-level thinking skills. Lock and Redmond (2006) emphasized that "online learning needs to be constructivist-learner-centered and collaborative" (p.234).

Problem-based learning, a method based on the social constructivist approach (Gomez, Wu, & Passerini, 2009; Hmelo-Silver & Barrows, 2006), was first discovered in the 1960s at McMaster University in Ontario, Canada (Tripathy, 2008), where it was found that students could learn basic science in small groups. The activities they used were problem-based tutorials that replaced the traditional lectures (Barret & Moore, 2011). Years later, in the mid 1980s, Harvard Medical School developed courses where students spent time on problem-based learning activities (Torp & Sage, 2002). Compared with the traditional methods of learning, prob-

lem-based learning is more authentic, motivating, challenging, and comprehensive (Hmelo-Silver, 2004). Barret and Moore (2011) stated that "future programs must provide graduates with sufficient domain-specific technical knowledge and the transferable skills essential to succeed in their future programs. Problem-based learning will do that!" (p. 87).

Problem-based learning, a cooperative and collaborative method of learning, is a learner-centered approach that encourages student discovery and inquiry (Schroeder-Moreno, 2010). Students control their own learning, thereby becoming more responsible and self-directed active learners (Ruey, 2010). Problem-based learning encourages learners to use reasoning skills to analyze and solve problems that exist in the real world. By working in small groups, they not only add different perspectives (Ko & Rossen, 2010) but also develop stronger collaboration and communication skills (Palloff & Pratt, 2005). Savery (2006) described the problem-based learning method as "learner-centered that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem" (para. 4). Higher-order thinkers and problem solvers who collaborate and communicate clearly are those who are sought after by successful companies (Zach & Agosto, 2009). Effective online instruction must provide opportunities for students to engage collaboratively in real-world situations where they must communicate and interact effectively with others. Connecting theory with practice lays the foundation for a more valuable online course (Young, 2006).

Online instruction has been shown to be equal to, or even more conducive to, the problem-based method of learning than face-to-face environments (Rollag, 2010). Asynchronous learning enables students to take the time to think and rethink before they respond or share their ideas with the group. In addition, the ongoing discussion is documented, thus allowing students to review the information that has been shared. Shy personalities who may have difficulty in face-to-face social situations may find the online learning environment more comfortable (Rollag, 2010). Online learning may also assist in developing creativity, a skill sought after by many employers in the corporate world (Mintu-Wimsatt, Sadler, & Ingram, 2007). Moreover, research has shown that the online environment helps students develop collaborative skills (Kemp, 2006).

Taking into consideration the needs of the online adult learner and the skills that are critical for success in organizations in the twenty-first century, instructors should develop teaching activities and utilize instructional strategies that will address both those areas. Research has proven that the problem-based learning method has been successful since the 1960s, and according to Savery (2006), ". . .more than ever, higher-order thinking skills, self-regulated learning habits, and problem-solving skills are necessary for all students" (para. 24). Therefore, before implementing any new teaching strategy, instructors must examine the roles they play in the online classroom and what drives their instruction. Do they still lecture and provide basic learning activities that result in recall and rote responses, or do they challenge their students to become engaged and active learners by presenting activities that demand analysis, critique, evaluation, synthesis, and application?

Problem-based learning clearly delineates the roles for the students and the instructors. First and foremost, the instructor must become the facilitator, providing students with clear expectations and explanations of how the course will proceed and what they must do to be successful (Hmelo-Silver & Barrows, 2006). Instructors, although now on the side, still play a vital role in the environment. They must continue to be involved by providing guidance and effective feedback (Mintu-Wimsatt, Sadler, & Ingram, 2007). Instructors must encourage discussion and promote critical thinking by applying strong facilitation skills. Interacting with the students and empowering them to become active, critical thinkers positively affect the overall quality of the learning. The need to stay connected with students is very important in the online environment, perhaps even more than in the face-to-face classroom (Mandernach, Forrest, Babutzke, & Manker, 2009). Research has shown that students who feel that the instructor is present and supportive have a more successful learning experience (Young, 2006). Students also perform better when they maintain a connection with the online instructor (Schroeder-Moreno, 2010).

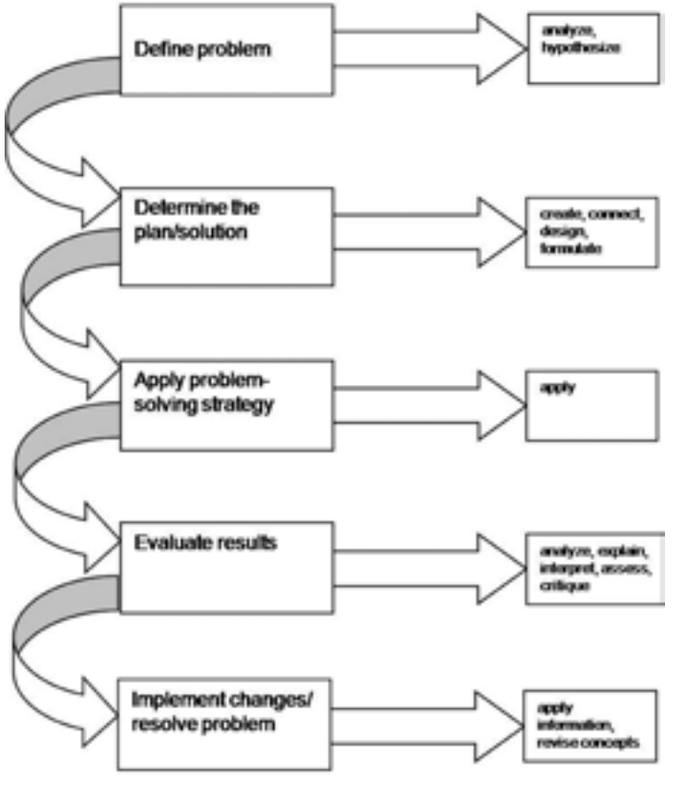
In addition, students become responsible for their own learning. As a collaborative group, they must engage in the problems that provoke debate, discussion, and conversations that result in the creation of new ideas and learning (Hennessy & Evans, 2006). The learners share their knowledge and ideas in their social interactions (Gomez, Wu, & Passerini, 2009; Ruey, 2010). Students learn by discussing ideas, reflecting on their own ideas and those of others, and negotiating until they create a workable solution (Ko & Rossen, 2010). Ruey (2010) believed that the constructivist instructional approach encourages adult learners to develop the skills that are needed to interact in meaningful learning in an online learning community classroom. Online learning environments must not promote passive learners who lack energy and excitement. Adult online learning must be engaging, challenging, and relevant. It must encourage higher-level thinking, creative problem solving, and a passion for collaboration. One of the tools that empowers students to meet those goals is the online case study method that is based on personal portfolio entries outlining the experiences of the adult learners.

Case Studies

Case studies have their roots in constructivism (Webb, Gill, & Poe, 2005) and have been used extensively as teaching tools in medicine, business, law, psychology and other disciplines (Tripathy, 2008). Following the work of Vygotsky, a theorist who stressed the importance of experiential learning, case studies have become a basic part of adult learning (Rollag, 2010). Case studies were developed based on problem-based learning and constructivism (Ballantyne & Knowles, 2007) in order to stimulate the use of critical thinking and application (Tripathy, 2008). Although case studies were first used in face-to-face classrooms, they have been proven to be highly successful in online learning environments (Rollag, 2010).

Case studies represent real-world scenarios that present situations or problems that do not have one specific solution; thus, they are open for "…critical thinking and analysis, inferencing skills, comparison and contrast, evaluation, and internalization of concepts and principles" (Bonk & Zang, 2008, p. 109). Students are expected to analyze the case and determine possible solutions. In addition, they are then required to communicate their ideas to others (Ellet, 2007). Being able to critically analyze and support decisions promotes higher level thinking and problem-solving skills. Figure 1 outlines the steps in the case study method as well as the corresponding higher-level thinking skills that the learners must apply. Using that model the group begins with the problem and strategically works through all the steps. The most powerful result of

Figure 1. *Case Study Sequence - Step by Step*



applying this step-by-step method is that a number of higher-level thinking skills are applied in a collaborative manner. Although there is no specific design used to develop case studies (Tripathy, 2008), Ellet (2007) shared that ". . .they all have a common purpose: to represent reality, to convey a situation with all its cross currents and rough edges. . ." (p. 13). They are stories that represent situations that are really part of the workplace and give students the opportunity to apply theories and concepts learned in class to situations that they might face in the workplace. Case studies can be fictional or factual situations, but they must be realistic and open to many solutions (Tripathy, 2008).

Online education presents a number of issues directly related to the fact that there is no face-to-face communication, which can affect the quality of learning. However, a skilled instructor can create an exciting, challenging online environment where students become passionate about their learning and develop skills that will be useful in any workplace. Too often, however, online learning becomes dull and repetitive, and students just go through the motions, completing the weekly assignments until the course is completed. They may earn the credit for the course, but they will likely forget what they have learned.

Compare that learning environment with one in which the students are actively engaged, debating a number of possible solutions to a problem. Instructors who use the case study instructional method provide a forum where learners can develop higher-order thinking skills, communicate their ideas, and support their strategies (Vonderwell, Liang, & Alderman, 2007). However, even though the students are in control of their own learning, the instructor plays a very important role as facilitator, being present to guide students, scaffold learning, and provide timely, effective feedback (Palloff & Pratt, 2005). Instructors' comments and probing questions may also encourage student reflection (Lee, Lee, Liu, Bonk, & Magjuka, 2009).

Piloting the Case Study/Personal Portfolio Method

In a particular online graduate program, students had never been exposed to the case study method. In the middle of the course, the instructor proposed a pilot for any students who were interested. They could continue with the regular syllabus, which was already outlined, or they could try the case study method. Most of the students had no idea what that entailed, but they decided to give it a try. With almost all the students on this track, the instructor posted the case study and a few leading questions. Before too long the discussions came alive. The students took on the roles of the characters in the case and became animated and argumentative. They debated and supported the reasons for their comments, while other students tried to influence their thinking. It appeared to be highly effective! The students were learning! The instructor, who in the past always needed to push and prod for participation, was now able to hover above the discussion board, facilitating only when necessary but always available to support and guide. Although the number of posts did not increase for all students, the quality and depth of the responses did improve.

Implementing the case study method made a difference. Feedback from students supported the success of this change. In some cases students enjoyed the flexibility and creativity that resulted from working with the study. In other cases students were quick to apply the case study situation to their personal experiences, and in doing so they uncovered an immediate relevant connection between the course and what they were doing in their own workplaces. No longer was this just a discussion question to answer by parroting the textbook. They found meaning in the different applications derived from the case study. In addition, the students explored the various perspectives presented in the discussion, and although they often agreed with one another, situations arose that initiated discussion on a higher level. Compared with the traditional classroom activities of reading, lectures, discussion questions, and assignments, the case study method was more stimulating and engaging.

However, after a number of trials using the case study method, this instructional format was enhanced and improved with the addition of the students' personal experiences. Adult learning theory emphasized that instructors must recognize and appreciate the personal experiences that adult learners bring to the course. Therefore, the students were asked to keep portfolio entries describing those experiences.

Standard portfolio entries can be compared to journal entries. Each entry was expected to be a reflection on a specific incident that the student experienced. Length or writing style was not emphasized for these portfolio entries. Each week the students were required to post one of these entries on the discussion board where fellow students would comment and react to the various scenarios. Once again the discussion reached another level. In addition, students bonded and formed supportive relationships with each other. They offered comments and suggestions and shared and supported one another. Slowly it became evident that these entries began to elicit more social interactions, which are very important in an online classroom (Eun, 2008). Although the students did not provide specific feedback and comments on the addition of the portfolio entries, their level of engagement provided evidence that learning was improving in a number of ways. According to McHann and Frost (2010), although journaling has not been widely used in business education, history demonstrates many examples of how leaders have found it to be a very helpful tool by which the employees can learn and grow. Educators also engage in reflective practices as a means of improving their skills. According to Hord and Sommers (2008), "The process of reflection can help stimulate conversations that allow us to reflect on what we are doing, what results we are getting, and how we might do things differently" (p. 88). McHann and Frost (2010) added that "with some methodological development, this tool can be put to powerful use to teach application and inculcate habits of learning by doing" (para. 33).

The addition of the case study and then the portfolio entries added a real world flavor to the course. However, one additional change was left to implement. Assuming students were able to relate to the case studies written by others, how much better would they relate to cases that they would create themselves? What if they included their own portfolio entries in those self-created case studies? McHann and Frost (2010) supported this idea and shared that the traditional case study was simply not enough and should be replaced with a case study in which the students'

". . .lives and work experiences become the living case study in which they learn deeply, existentially, and memorably the content of a given course" (para. 50). To complete these case studies, students would need to implement "higher-level thinking skills, self-regulated learning habits, and problem-solving skills" (Savery, 2006, para.24), which are skills needed in the twenty-first century workplace. Figure 2 outlines the steps of the case study/portfolio method. In addition, the higher-level thinking skills associated with each step are listed. Each of the large circles in the figure represent a specific step that is critical to the successful approach of problem solving, using the skills as outlined in each of the smaller circles. Adult students found this method relevant because they were able to insert their own experiences as they prepared their case studies. Following the sequence of the steps, students were empowered to not only build their case but also present and analyze it in a group setting, thus enriching their own ideas.

Figure 2. *Case Study/Personal Portfolio Method*

Lessons Learned

Best practices of educational instruction are successfully carried out when instructors fully understand the learning goals and plan for what the students must learn and then how they can apply that learning (Rollag, 2010). Students need to be given clear instructions and directions in

order to carry out their assignment. Rollag (2010) stressed that clear guidelines on learning objectives must be presented to students. Without them students become confused and frustrated. Online presentation adds to the importance for instructors to be very clear and concise and to provide specific examples on what is expected. Another important lesson learned is that because students are so often involved with only surface learning, they are severely challenged when asked to incorporate activities with higher-level thinking skills. To bridge that gap, instructors must be prepared to scaffold the learning (Bennett, 2010) until the students are gradually ready to work on their own. Instructors should model the expectation for the students. For the most part, instructors will find that even though the case study based on personal portfolio entries is an effective teaching strategy, every group of students will be different, and therefore the instructor must be prepared to differentiate to ensure successful learning for all.

Lastly, the cycle of learning cannot be complete without reflection on the concepts learned and the outcomes of the case study analysis and discussion (Lee et al., 2009). Engaging in this process can be conducted individually or collaboratively within the group. In either case this is the opportunity for students to take the new learning and incorporate it into their schemata. Instructors cannot forget that students seek feedback and critical assessment. Therefore, instructors must determine which evaluation method would be most effective. Palloff and Pratt (2005) emphasized that "Collaborative work should be assessed collaboratively" (p.53). However, the instructor must have the final word on the grade, regardless of what input is given by the learners. Alternative assessments might include asking the students to summarize their learning in an essay or apply their solutions to everyday situations in the news. Bringing closure to each case study must occur to complete the learning cycle.

As more students elect to learn in the online classroom environment, instructors must continue to find creative teaching strategies. The case study built on personal portfolio entries is one such methodology. However, one of the challenges with this teaching activity is that it is very time intensive. However, the dividends that result from implementing a case study-based-on-portfolio strategy are well worth the efforts.

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