Journal Writing in
Career and Technical Education:
A Tool to Promote Critical Thinking Skills

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One of the defining characteristics of the twenty-first century workforce has been the appearance of high-skill, high-growth occupations for which job entry no longer requires a four-year degree (Brand, 2004). However, given the complexity and breadth of these jobs, job entry does require workers to have a complex array of problem solving skills. The workers of tomorrow must not only know how to make decisions for their own work roles; but they must also understand how the decisions they make may affect how others perform their roles. Brand (2004) suggests that today's education curriculum is not meeting the needs of most students. As a result students are not prepared for the workforce. One of the deficiencies lies in the significant gap in problem solving skills among high school students. Ultimately this gap will present these students with challenges as they prepare to enter the workforce. Career and technology educators must become more pragmatic, resourceful, creative, and flexible in their curriculum and delivery approaches if they are to provide students the critical thinking and problem solving skills they require in order to compete successfully for jobs in both the national and international work arenas.

In a study by Lundstrom and Booth (2002), the researchers found that the educational goal for most students was to learn information for the sole purpose of passing an exam. This focus on passing exams results in a surface approach to learning which is easy to encourage but hard to discourage in favor of a

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deeper, more thoughtful attitude toward mastering knowledge. To overcome the problem Lundstrom and Booth, as well as Boud (1992, 2001) and Park (2003), reasoned that students require
tools to help them find connections between their course work and the real world. One of the tools the researchers proposed was a learning journal.

Many career and technical education programs (CTE) are based on developing the discerning practitioner. Learning journals are potentially powerful teaching and learning tools which can instill in students the practice of thoughtful and self-evaluation. Hatton and Smith (1995) state that reflective practice is often substantiated by the use of journaling or other reflective writing. Used effectively, journal writing provides a teaching method that promotes critical thinking and learning skills; skills that move the students from knowledge and comprehension of information through application, analysis, synthesis and evaluation (Park, 2003). Nevertheless, few efforts have been made to use learning journals in secondary or post-secondary education (Bartscher, Lawler, Ramirez, and Schinault, 2001; Dart, Boulton-Lewis, Brownlee, and McCrindle, 1998).

Benefits of Learning Journals

What is a learning journal? A learning journal is "an accumulation of material that is mainly based on the writer's process of reflection. It is written over a period of time, not 'in one go'" (Moon, 2002, p. 4). Essentially, a learning journal is a vehicle for individual reflection.

The use of learning journals encourages students to appraise their own learning and achievement as well as examine their thoughts and feelings about what they are learning. The journal entries serve as a resource by which the students can review their learning; comprehend how far they have progressed; and reflect on their personal work ethics, values, attitudes, beliefs, and motivations. In addition to promoting independent thinking, journaling also encourages students to take responsibility for their learning by making them more autonomous and active in the learning process. Learning journals assist learners in processing new information by motivating them to monitor their goals, to interrelate ideas and concepts that will

assist them in understanding and meaning, and to increase their self-awareness (Dart, et al, 1998).

In the academic context, journals provide a means for students to contemplate material that has been introduced in the classroom. In the personal context, journals provide opportunities for students to examine their self-development as students as well as their evolving professional development. In both contexts, journal writing serves as a tool to promote the constructive and reflective critical thinking process. That is, in the process of making sense of and understanding new information, journal writing enables students to recognize their own relevant ideas and beliefs, to evaluate these in terms of what is to be learned and how it is to be learned, and to decide whether or not to alter their ideas and beliefs (Dart, et al, 1998). Journaling activities reach the very core of what Plato, Socrates, and Aristotle viewed as the true purpose of education: intellectual training that begins with basic knowledge and is completed with theoretical and practical intelligence (Elias and Merriam, 1995).

Structure of Journal Writing

Despite the value and benefits of journal writing, the thought of incorporating journal writing activities into an already packed full curriculum might cause an instructor to run screaming down the hall. However before giving up in despair, take a few moments to envision how such an activity might be structured and assessed in a CTE classroom.

Journal writing has at least two formats, structured and unstructured. While there are many ways in which instructors can design and implement journal writing assignments, the method of introducing journal writing utilizing first a structured format and then gradually moving towards a more unstructured form may prove effective.

Structured Journal Format

For success with journal writing assignments in the CTE arena, initially students may be given detailed instructions regarding what should be included in their learning journals. Students can be provided specific items such as: topics, key points, format, and length of time and number of pages required

for each entry (Bain, Mills, Ballantyne, and Packer, 2002). Presenting the students with questions is another way of ensuring they keep on task. It is much easier for students to answer a question than to develop a thought process around newly created material. "The questions guide the process of journal writing so that initially there is a focus on describing, then on organizing and reviewing the material and finally on analysis of, and reflection on, the material" (Moon, 2002, p.85). Figure 1 provides an example of a structured journal assignment.

The structured format focuses the students' thoughts on specific concepts and clearly outlines what should be included in the entry. By providing precise questions, the instructor challenges the students to analyze the information and to form answers supported by their understanding of the information. Using a structured frame, the instructor can observe whether or not the students grasp the concept of a journaling assignment or if they are struggling to find meaning. Students who are struggling with the process need feedback as soon as possible to assist them in improving their writing skills and to move them from simple description to deeper reflection as well as to search for personal connections, solutions, and conclusions (Bain, et al, 2002).

Figure 1
Structured Journal Assignment

In chapter 2 we discussed several safety practices in electrical trades and automated industrial systems to assist you in working safely with live electrical circuits. List these practices in the order you find most important (1 being the most important). Explain the importance of each practice. How you will comply or benefit from each practice? What are some of the possible implications for non-compliance?

Unstructured Journal Format

Once the students have become proficient utilizing the structured approach, they can gradually move towards a more unstructured form of journal writing. At this point the structured journal writing criteria are removed, and the students begin writing their entries in ways that best suit them and their needs. Figure 2 illustrates an unstructured journal writing assignment.

It is debatable whether any form of assigned journal writing activity is truly unstructured. Even when the instructor provides little or no criteria for journal entries, if students know that their journals will be assessed by a person in authority, they are likely to presuppose what they believe the assessor is expecting. Moon (2002) states, "The difference between structured and unstructured forms of journals is somewhat arbitrary and there is no reason why a journal should not start structured and them become unstructured as the learner gains more experience of writing" (p. 46). Although the structured format may prove beneficial in the early stages of the assignment it may prove to be more of an obstruction later on. Often times the largest increase in development and satisfaction in journal writing assignments occurs when the behavioristic, structured format is discarded and the students are permitted to engage in a more humanistic unstructured approach by writing freely over subject matters of their own choosing (Moon, 2002).

Figure 2
Unstructured Journal Assignment

In chapter 2 we discussed safety issues in electrical trades and automated industrial systems. Which parts of this chapter are most critical for you to understand before doing live work? Why? Which parts are least beneficial? Why?

Moon (2002) recommends that with unstructured journal assignments, the instructor's role is to encourage and remind the students to

- Make each entry personal. Journal writing is a very personal type of learning and its usefulness is directly related to the extent to which each student internalizes the information.
- Be honest. Students will only truly learn from the experience if they honestly face the realities of who they are.
- Let the words flow. There is no need for students to censor their thoughts or try to organize them right off the bat. They should first capture the essence of their ideas. Later they can go back and reflect on and organize them.
- Be informal. Students should use their own words, words that they understand and that make sense to them.
- Dig for deeper understanding and meaning. Students should reflect on "truths" they have discovered through their own experiences. They should work towards finding answers to questions that are of importance to them.
- Be flexible. Once students have moved towards the unstructured approach, they should experiment with various ways to construct their journals. The object is for students to utilize their individual talents and find ways to express their own personal needs and future professional goals.
- Be selective. Students should write about those things which are of true value to them. The entries are about quality of thoughts, not quantity of words.
- Seek assistance. Students should seek out advice from peers and instructors whenever it is needed. (Moon, 2002).

Regardless of whether journal assignments are structured or unstructured, it is immensely beneficial if the instructor provides the students with examples of what he or she considers a good journal entry. The instructor should explain the merits and

relevance of the sample entry and the approach used in creating it. Instructors should prod students to go beyond basic descriptions of topics or issues and encourage them to look at different perspectives, to explore alternative solutions, and to articulate conclusions that are relevant to their personal experience (Bain, et al, 2002).

Assessment

In addition to determining the form of the learning journal assignments, the instructor must decide how, or if, the assignment will be assessed. Summsion and Fleet (1996) point out that "at present, there are substantial difficulties involved in attempting to identify and assess reflection. Given current methodological and pragmatic limitations, the assessment of reflection raises complex issues of consistency and equity, as well as border pedagogical and ethical concerns" (Conclusion section, ¶1). Despite the difficulties inherent in the assessment process, there is, nevertheless, a number of reasons to implement journal assessment. Assessment of learning journals can assist the instructors in ascertaining if the students comprehend the material or if they have completed the assignments. If journal entries are not assessed, a student who is intent on investing only a minimum amount of energy, will not put forth the effort necessary to make journaling valuable and worthwhile. (Kneal, as cited in Moon, 2002). Assessment of their journals ensures that students are accountable for their work.

Providing students with feedback on a journal requires greater sensitivity than other evaluation situations. Journal entries are, and should be, very personal. The students' journals should be treated as confidential and only discussed elsewhere if they contain information that poses a threat to a life. Cowan (as cited in Moon, 2002) provides some guidelines for an instructor's comments:

- Avoid writing comments in the first person. The journal dialogue is between the writer and him or herself, not between the writer and the instructor.
- Avoid suggestion of judgments. Let the writers decide for themselves what is appropriate.

- Ask a question or make a comment only when it is needed for clarification.
- Indicate places where more thinking might be appropriate or supportive. However, keep in mind the sense of ownership students may feel towards their journals and remain aware of the fact that instructor comments may be viewed as intrusive.
- Write comments in pencil or attach sticky notes or a separate page of comments. Students may be more receptive to comments that are written separately, rather than on the pages of their journals.

Assessments of learning journals may be either formative or summative. Formative assessments provide students with feedback on their work as they progress through class. A summative assessment, on the other hand, occurs after students complete their work and furnishes the students with an overall evaluation of the quality of the completed work, generally, though not always, by assigning the work a letter grade (Moon, 2002).

Journals can be assessed through either formative or summative methods without allocating a grade. Several alternative methods are possible. Instructors may require a student's journal to meet some criteria of completeness or quality before the student is allowed to progress to the next module or learning activity packet. Another journal assessment method is for instructors to allot a substantial number of points to all journals that are satisfactory and return those journals that are not satisfactory to the students for additional enrichment. Later, students may resubmit the journals. Or, instructors may advise students that a quality journal that meets pre-set criteria will increase their course grade by up to X% of a grade point (Moon, 2002).

When an instructor decides to assign grades to students' journals, he or she must determine what percentage of the course points will be allocated to the journal assignment. Often those who allocate a small percentage of points initially (10%) do so to ensure the journals are maintained. However, frequently these allocations are increased, sometimes dramatically, as the instructors become more confident of their ability to adequately

assess the journals and of the value the journals provide the students (Moon, 2002).

If the journals are to be graded, it is vital that instructors establish clear-cut assessment criteria in order to keep the assessment process fair for all students. If instructors assess journals on their "gut reactions" or personal interpretations, they risk grading inconsistencies (Sumsion and Fleet, 1996). With precise standards for assessment, instructors are better able to support the students in their learning (Wildman and Niles, 1987). Assessing the journals with established criteria tells the students that the instructor has a purpose for and perceives value in the learning journal assignment. Students will understand that journaling is not a futile activity, but one that the instructor believes will assist the students in developing problem solving skills and critical thinking ability.

Assessment of learning journals does not have to be complicated. Educators can develop rubrics as simple or complex as the nature of the program and the prominence of journal writing in the program dictates. Bloom's taxonomy of educational objectives, King and Kitchener's model of reflective judgment and structure of learning outcomes taxonomy are a few resources to look to for guidance in developing a rubric. Whatever the rubric format, the essential concept is that the students know and understand the journal assessment criteria.

One additional concern in assessing journals is the matter of how to address the volume of reading it creates for the instructor. Instructors can alleviate this problem by asking students to summarize information in their journals. Alternatively, instructors can ask the students to identify several key areas of their journals for assessment. Recognizing that not every entry will be a magnum opus, the instructor gives the students the opportunity to single out what they consider their best work. At the same time the instructor now has less requisite reading while still being able to scan the entire journal (Moon, 2002).

Conclusion

Journal writing is a multifaceted activity that can take many forms for many purposes. Learning journals stress a

concern for the learning process as well as or more than the learning product (Moon, 2002). Journaling makes students more aware of how and what they learn and enhances their over-all learning experience. Writing in their journals encourages students to self-reflect and self-evaluate.

Journal writing fosters independent thinking by the students, and presses students to take responsibility for their learning. In these ways, it makes them more autonomous and more active students (Bain, et al, 2002; Boud, 2001; Mannion, 2001; Morrison, 1996). By using journaling as an alternative form of assessment, career and technical education can move one step closer to narrowing the existing gap in problem solving skills among high school students. This, ultimately, will present these students with greater opportunities as they prepare to enter the workforce of the twenty-first century.

References

Bain, J.D., Mills, C., Ballantyne, R., & Packer, J. (2002). Developing reflection on practice through journal writing: impacts of variations in the focus and level of feedback. *Teachers & Teaching, 8*(2), 171-196.

Bartscher, M.A., Lawler, K.E., Ramirez, A.J., & Schinault, K.S. (2001). Improving student's writing ability through journals and creative writing exercises. Unpublished master's thesis, Saint Xavier University, Chicago, IL.

Boud, D. (1992). The use of self-assessment schedules in negotiated learning. *Studies in Higher Education, 17*(2), 185-200.

Boud, D. (2001). Using journal writing to enhance reflective practice. *New Directions of Adult & Continuing Education, Summer* (90), 9-17.

Brand, B. (2004). Rigor and relevance, a new vision for career and technical education. Paper presented at the National Centers for Career and Technical Education webcast. Retrieved February 10, 2006, from http://www.nccte.org/webcasts/description.aspx?wc=134

Dart, B.C., Boulton-Lewis, G.M., Brownlee, J.M., & McCrindle, A.R. (1998). Change in knowledge of learning and teaching through journal writing. *Research Papers in Education 13*(3), 291-318.

Elias, J.L., & Merriam, S.B. (1995). *Philosophical foundations of adult education* (2nd ed.). Malabar, FL: Krieger.

Hatton, N. & Smith, D. (1995). Reflection in teacher education: towards definition and implementation. *Teaching & Teacher Education, 11*(1), 33-49.

Lundstrom, T.S., & Booth, S.A. (2002). Journals based on applications: an attempt to improve students' learning about composite materials. *European Journal of Engineering Education 27*(2), 195-208.

Moon, J. (2002). *Learning Journals*: A handbook for academics, students and professional development. Sterling, VA: Stylus.

Park, C. (2003). Engaging students in the learning process: the learning journal. *Journal of Geography in Higher Education 27*(2), 183-199.

Sumsion, J., & Fleet, A. (1996). Reflection: can we assess it? should we assess it?. *Assessment & Evaluation in Higher Education, 21*(2), 121-130. Retrieved March 15, 2006, from http://weblinks1.epnet.com.argo.library.okstate.edu

Wildman, T.M., & Niles, J.A. (1987). Reflective teachers, tensions between abstractions and realities. *Journal of Teacher Education, 38*(4), 25-31.