

## Building Critical Thinking One Article at a Time

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As entry and mid-level managers, students graduating from college must understand how to track current trends and issues pertaining to their field. A learning activity incorporating knowledge mapping was designed to teach a simple method of tracking trends and to promote the development of higher order thinking skills necessary to successfully respond to these trends. The activity, which can be adapted to many different topics within the field of recreation, taught the transferable skills of data collection, synthesis, and application along with the content skill of understanding trends and issues within the recreation field.

### Theoretical Background

A quality college education teaches students to effectively employ critical thinking to solve the problems they face. Tappen (2001) defined critical thinking as a “willingness to give fair consideration to any idea, but to accept an idea only after you have reflected carefully on it and evaluated it in terms of evidence to support it and its congruence with your value system” (p. 186). In 1956, Bloom, shared a six stage learning framework that would help develop critical thinking skills. The stages included: (a) acquisition of facts, (b) comprehension of the main issues, (c) application of knowledge, (d) analysis of the ideas, (e) synthesis of the knowledge, and (e) evaluation of findings in comparison.

Recreation students were found to have statistically different learning styles from students in other majors and also to rely heavily on personal experiences which allowed for the development of uncritical opinions, rather than actual knowledge-based problem solving (Barnett, 1986; Moore, Riggins, Sylvester, 1986; Russell, &

Rothschadl, 1991; Szucs, Hawdon, & McGuire, 2001). Szucs et al. (2001) suggested that opportunities to strengthen problem solving skills be incorporated into class assignments.

Knowledge mapping is a teaching strategy that facilitates the development of critical thinking. Vail III (1999) defined knowledge mapping as “the process of associating items of information or knowledge, preferably visually, in such a way that the mapping itself also creates additional knowledge” (p.20). This concept is comparable to concept mapping (Novak, 1989, Novak & Gowin, 1984), mind mapping (Buzan & Buzan, 1993), and other graphic information organization methods (Eppler, 2006; Folkes, 2004; Trevino, 2005). The concept of knowledge mapping implies (a) a recognition of interconnected facts, (b) an awareness of information on many levels, and (c) a larger understanding as a result of this process. The use of knowledge mapping incorporates multi-modes of learning including visual, verbal, intrapersonal, interpersonal, and naturalistic (Gardner, 1993, 2006) which further facilitates the learning process.

### *Learning Activity*

Students were instructed to bring two current news articles to class each week that addressed issues they believed related to the field of parks and recreation. Use of the internet as a resource for articles was discouraged. For 14 weeks of the 15 week course students were given class time to share their current events with their fellow classmates. Discussions were encouraged through the use of probing questions. The instructor collected the current event articles and posted them on a large bulletin board located in a heavily traveled hallway where students and faculty of the Health, Physical Education, Recreation, and Dance department walked. Students witnessed the bulletin board grow each week.

Students of the class were divided into dyads at the end of class on week 14. Each dyad was instructed to work together to synthesize the information posted on the bulletin board. It was suggested that each dyad create a visual map to make interpretation easier. The dyads were instructed to bring their completed map to the last class. During the last class of the semester the class was instructed to work together to arrive at one commonly agreed upon map. During the initial group work several students stepped up and became the leaders for the rest of the group. One student was selected to draw the final map on the white board in front of the class. The remainder of the class then worked together to determine the best way to integrate the information developed from the remaining dyads. A new inclusive map was created and revised several times. The content of the articles was grouped into themes which included: obesity, wellness, tourism, therapeutic recreation, sports, technology, and community.

Once the final map was deemed to be finished the instructor asked the students to interpret the meaning of the map from the perspective of a parks and recreation manager. Students were asked what pieces of the map fit together and how that information would impact operation of a community recreation facility, the programs offered, and the policies implemented. Students determined that decisions regarding the sale of unused green space neighborhood parks, a current issue of a nearby city, would not benefit the community. Using the identified themes, the students suggested that the city create space for neighborhood residents to exercise and socialize in an outdoor environment. The students further suggested the creation of walking paths, tennis and basketball courts, a sports field, playgrounds and picnic areas as ways to get community members moving and improve physical health (see Figure 1 for a comparison of the learning activity with Bloom's taxonomy of educational objectives for critical thinking and with the knowledge mapping process).

<b>Bloom's Educational Objectives</b>	<b>Learning activity</b>	<b>Knowledge Mapping Steps</b>
Knowledge	Students gathered articles	Gathering information
Comprehension	Discussed the main points/ themes each week in class	Extracting the main topics concepts within the articles
Application	Initial grouping of ideas/ themes	Organize concepts into main themes
Analysis	Reviewing the materials and themes in the dyads	Create graphic map with the themes connecting with in area of interest
Synthesis	Synthesizing the dyad conceptualizations /maps into one class knowledge map	Connect different maps and concepts into one large map of the trends within the field of recreation and leisure
Evaluation	Debriefing – how these trends will impact the operations, budgets, planning of a community recreation center	Using the map to as a resource to guide application of concepts

*Figure 1. Associated aspects of the learning activity with Bloom's taxonomy and knowledge mapping steps.*

Outcomes of this critical thinking exercise included:

1. Students reported an increase in the amount of reading they did in newspapers and reputable magazines such as Time, Newsweek, and US News and World Report. Several students reported that they subscribed to a newspaper and read it daily for the first time in their lives.
2. Students learned teamwork by working collaboratively to arrive at an agreed upon product.
3. Students became aware of current trends and issues impacting the field of parks and recreation.
4. Students learned that the field of parks and recreation is multidisciplinary and that they needed to observe trends and issues that related to the field but were nested in other disciplines such as physical education, business, health, and politics.
5. Students practiced a method of critical thinking that encouraged them to pull together pieces of information into concrete information that could guide their choices and assist them in predicting possible future trends.
6. Students learned that using such a method can assist them in making informed decisions regarding what programs to offer, projects to propose, and issues that needed to be addressed.
7. Students in class were observed sharing the articles on the bulletin board with students not in the class thus reinforcing the critical knowledge gained and exposing others to the current trends in the field.

### *Recommendations for Use*

This pedagogical activity can be used in a variety of circumstances. In this educational situation, potential new managers learned a way to track trends and issues that could assist them in quality planning and programming. It could also be used as a method to synthesize content with themes such as “research the big picture”, “the programming cycle—an evolving picture,” or “management –better than a well designed machine.” This activity also could easily be extended to a community setting. Management could implement this method of knowledge mapping as a way to include employees in the communication, assessment, or planning process of an organization.

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