

Why Play Games?

Bob Falco, PhD

Vice President
Set Enterprises, Inc.

Introduction

- Look around you. You are drowning in **data**, and its going to get even worse.
 - ◆ The key to survival for yourselves, your children, and your students is not to “turn off”, not to shun this data, but to learn how to rapidly organize it by seeing **patterns** within the data that have special value for you.
 - ◆ If you can do so, you convert the blitz of data into **knowledge**.
- Being prepared for life involves having knowledge at your finger tips and figuring out how and when to apply it.
- These thought processes can be developed by playing certain types of games.

What do we mean by a “game”?

- A game is an activity performed under strict rules in which **players seek to participate** because it is fun and challenging.
- A good game
 - ◆ Has more than one path to winning:
 - ◆ Involves seeing answers by observing patterns:
 - ◆ Uses logical reasoning.
- I am going to talk about and give you hands-on experience with games that have these qualities.

Importance of good games

- The structure of a good game requires one to perform specific **thinking skills** – just as an exercise machine exercises a specific muscle group.
- The fun of the game experience results in repeated play.
 - ◆ We have all observed this in sports, but a passion for playing is also observed in games of intellectual challenge.
 - ◆ Self-motivated **repetitive play** of these games is the key to develop thinking skills, just as repetition is required for an exercise machine to build a muscle group.

My background and motivation

- I've taught Mechanical Engineering at Michigan State University for 19 years.
- My interest in games as a way to develop thinking skills came from my research interest in Flow Turbulence, a subject that, so far, has not been advanced by mathematics, but by creative whole-brain thinking.
- I found that regular practice in “brainstorming” was very difficult to get. The answer was in playing challenging games that require both left and right brain thought processes.
- I've run the game company Set Enterprises with my wife Marsha for the past 10 years.

Game playing the hands-on part of this seminar

- I will illustrate, through playing, that games can be great **tools** for exercising the mind, and developing thinking skills.
- We are going to play and examine two games that draw on and exercise the types of thinking discussed above.
 - ◆ The first game requires us to apply a logical rule to a spatial layout of symbols to find a pattern.
 - ◆ The second game requires us to recognize words that can be formed from groups of letters.

The SET Game: an experience in whole-brain thinking

- This game requires us to apply a logical rule to a spatial array of symbols to find a pattern.
 - ◆ Specifically, there are 3 attributes in the game – shape, color and the number of shapes. There is only one rule: find 3 cards that are all alike or all different in each of their 3 attributes.
 - ◆ There are no turns, no time span, no reading or previous knowledge, and there is more than one answer.
- The SET Game requires us to think both logically (left brain) and holistically – in parallel -- to pick the information out of the spatial array of patterns (right brain).
- We must find the “information” embedded in the noise.

Quiddler Game: word recognition and vocabulary skills

- The Quiddler game requires us to form words from the letters we have in our hands.
 - ◆ Specifically, we must combine our entire hand into words.
 - ★ The words do not have to be related
 - ★ High score wins
 - ★ There is a bonus for the longest word
 - ★ A bonus for the most words
 - ★ Players can use the dictionary when its not their turn
- Thought processes involve the interplay between the left and right brain. The recognition of words is countered by the fact that the words may not have enough points to win.

Some common experiences that benefit from these thought processes – 1. driving a car

- Slowing down our car when we get too close to the car in front of us
 - ◆ We apply our knowledge of breaking distances vs speed for our car, of our reaction times, and the weather conditions.
- In a crisis situation, for example, a car comes out in front of us
 - ◆ You want to be able to swerve around it rather than plow into it.
 - ◆ Your mind has to apply the knowledge you have in this new situation. Games like SET and Quiddler are great exercises to build intellectual capacity to deal creatively with situations like this.

Some common experiences that benefit from these thought processes

2. Basketball

- “For every challenge thrown up by the defense there was an offensive counter. Having the court sense to recognize this in the flow of the game produced a real high.”

Senator Bill Bradley

- “Court sense” is of course the application of logic (a new play) to a moving spatial array of possibilities.
- The SET Game could be looked at as a callisthenic for preparation of this real world situation.

So Why Play Games?

- Because good games can:
 - ◆ teach us how to **convert data into knowledge** by recognizing patterns.
 - ◆ teach us how to **apply knowledge** gained to achieve solutions.
 - ◆ Exercise **both** sides of our brain.
- Because of the fun of playing, players get **repeated exercise** necessary to maintain and enhance these skills.

Conclusions and Recommendations

- Playing good games should be a regular part of our daily program to develop our intellect.
 - ◆ You should give a high priority to finding and playing good games.
- Finally a quote from Carl Sagan:

“I think the most significant creative activities of our or any other human culture – legal and ethical systems, art and music, science and technology – were made possible only through the collaborative work of the left and right cerebral hemispheres.”