A Situational Leadership Exercise Based On The Biology Of A Starfish

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ABSTRACT

An experiential group leadership exercise based on the biological characteristics of the starfish has been developed. This exercise utilizes a group leadership role that rotates through the group members as each round of the exercise unfolds. The experience component of this experiential learning exercise is distinct and produces excellent measurable student reports. Students report that there is a significant difference in the experience of being an Arm or a Leg and the experience of being the "person in charge" when they play the role of Head. This experiential differential is made more distinct in the Starfish Group Leadership exercise since the participants play the roles sequentially and have the advantage of anticipating the role of follower or leader in advance of their participation. It is the author's opinion that this aspect of "experiential anticipation" not only enhances the intensity of the experience, but also allows participants to identify and enact chosen leadership behaviors. This exercise requires no prior preparation by the participants and can be conducted during a one-hour class period.

INTRODUCTION

The design of any experiential exercise has to find a balance between complexity and simplicity (Cannon, 1995). In order to produce "sophisticated managerial learning", a game or exercise has to have a level of realism sufficient to function as the intellectual basis for the accomplishment of meaningful learning. As Cannon, Freisen, Lawrence & Feinstein (2009, p. 245) state, "The complexity of a simulation game is expressed in the amount of information processing required to make effective decisions."

However, if the exercise designer is attempting to design a whole-person experiential learning exercise (Hoover, 2007; Hoover et al, 2010), then the emotional and behavioral components of whole-person experiential learning also have to be addressed. It is the author's opinion that the whole-person approach is needed to have the best opportunity to maximize factors that yield student motivation (Gentry and McGinnis, 2008), as well as to minimize "learning inhibitors" (Teach and Murff, 2009). The Starfish Group Leadership Exercise described in this paper addresses the emotional element as follows: 1) the exercise is simple enough to learn quickly, 2) the exercise clearly delineates a rapid and measurable skill learning curve, 3) the exercise is boisterous and fun, and 4) the exercise is challenging enough to retain student interest. The behavioral element is addressed by making the exercise extremely competitive, with all groups performing simultaneously in the same room in a "lowest elapsed time wins!" format. Scores for each round are posted immediately after each round, and all teams can measure not only their own performance learning curve, but also the scores and learning curves of the other teams.

The exercise has several interesting characteristics:

1) It allows the facilitator to more or less freeze content and thus to focus on process
2) It is lively and highly involving
3) It taps into inter-group competition
4) It utilizes group strategizing and group decision-making
5) It allows individual group members to experience the challenges of both leading and following sequentially, in the same format, and in the same setting
6) It rewards focus and effort
7) It reinforces perspectives of utilizing expertise, situational leadership and leadership effectiveness
8) It is fun

WHAT HAPPENS BEHAVIORALLY

The Starfish Group Leadership Exercise consists of the following elements:

1) Groups of five people are formed (six and seven work also if necessary).
2) At random, a Starfish Head (Starfish components are explained below) is chosen and designated as the group leader for Round 1.
3) The individuals on the group leader's immediate right and left are designated as Starfish Arms.
4) All remaining group members are designated as Starfish Legs.
5) Group role assignments are designated visually by placing a name placard (Head, Arm or Leg) in front of each person, by wearing distinctive hats, etc.

6) After the rules for speaking in the exercise are explained (see below), each Starfish Head is given the same list of 30 random integers (0 to 9).

7) At a go signal, each group deciphers the list of 30 numbers (which only the Head can see) in order, utilizing the Starfish speaking rules. This is done as quickly as possible.

8) Upon completing the list, the entire group jumps to their feet and shouts "Oyster."

9) The round continues until the list is completed by all groups.

10) Groups are timed and times are posted for each round for all groups to see.

11) Group performance scores improve from round to round, and at the end of Round 5, most groups have maximized their times

12) After each round, all group roles are re-assigned by rotating the name placards one position to the right.

13) Groups are given two minutes (carefully timed and enforced) to strategize before the start of Round 2 and all subsequent rounds.

14) A different list of 30 random integers is given to the new group Heads, and Round 2 begins on a signal.

15) Rounds continue until Round 5 is completed or groups begin to demonstrate they have reached their optimal levels of performance.

16) If the groups are limited to five members, a five round exercise allows all group members to function as the Head in the group leader role.

The sections below will explain the speaking rules of the Starfish Group Leadership Exercise and the situational leadership aspects of the Starfish metaphor. The paper will conclude with some examples of observed behavior and the implications for the use of this experiential exercise in management education settings. First, a simplistic biology lesson as we contemplate and come to know the lowly (but very unusual) starfish…

STARFISH BIOLOGY

1) Starfish are symmetrical, and always have an odd number of appendages

2) Starfish eat and reproduce and survive, but they do it in an unusual way

3) Starfish have no brain per se, but instead have a "nerve ring" circling the area at the base of the starfish arms

4) A nerve runs from the nerve ring to the tip of each arm. This collective mechanism of the nerve ring and the radial nerves is the starfish's brain equivalent

5) For this reason, cutting off a starfish arm does not kill the starfish, and the arm can grow back. However, if the nerve ring is severed, then the starfish dies.

6) At the end of each and every starfish arm, and connected to the nerve, is an image sensing and registering device or "eye"

7) Starfish have their "mouth" (a beak like apparatus) and their stomach centrally located at the starfish body center point

8) Starfish eat (in slow motion) as follows:
    A) a food source is detected by one of the eyes
    B) the starfish moves to the food source
    C) the starfish appendages acting as "arms" grasp the prey
    D) the starfish appendages acting as "legs" anchor the starfish
    E) the starfish appendage acting as "head" literally keeps an eye out
    F) the starfish mouth gnaws a hole in, for example, an oyster's shell
    G) (a bit gross here) the starfish extends its stomach externally through the newly created hole and digests its food
    H) when finished, the starfish moves on to other prey, keeping as many eyes out as there are appendages

9) Starfish move (in slow motion) as follows:
    A) the appendage spotting the prey becomes the head. Close observation of a starfish will always show the tip of one of the appendages tipped up or elevated relative to all of the others. This is the appendage acting as "head"
    B) given which ever appendage is functioning as the head, the rest of the starfish appendages assume the roles needed as "arm" or "leg" required to create the desired motion towards the prey.

10) Starfish, being symmetrical and odd numbered, have an equal probability of spotting prey from any direction since an eye is at the end of every appendage

IMPLICATION OF STARFISH CHARACTERISTICS FOR SITUATIONAL LEADERSHIP IN GROUPS

1) With task as the rationale for group formation, a group is an assemblage of task purposeful members just as a starfish is an assemblage of task oriented "arms" or appendages (see #1 above).

2) Groups, like any organic/biological system, must acquire inputs, engage in processing and produce environmentally useful behaviors/outputs in order to survive (see #2 above).

3) The **interactive and communicative network** creating by assembling a collection of disparate individuals for a common group purpose is analogous to the nerve ring of a starfish. The group does not have a separate and controlling "brain", but does have the capacity to detect, receive, process, and act upon: a) environ-

mental acquired perspective, and, b) group generated needs/agenda items (see #3 above).

4) A group has identifiable capacities, including group performance, only to the degree that each individual member is committed to the group to the extent that each individual is an identifiable and functioning member of the **interactive/communicative network** of the group (see #4 above).

5) Losing an individual group member does not kill the group since an individual can be replaced without group dissolution. However, severing or blocking the processes of the **interactive/communicative capacity** of the group does negate or eliminate group functioning (see #5 above).

6) For the group to function as a collective entity, individual members have to do their part. This includes acting as a detector of environmental information important to the group objectives (see #6 above), and being able and willing to function as the group leader (head) as circumstances may dictate (see #9a above).

7) Differing situational characteristics, especially which group member possesses the required information or expertise, should dictate which group member should be functioning as the leader (head) at a given point in time (see #8a above).

8) When a group member assumes the leadership role, the remaining group members have to exhibit followership behaviors by being acceptant of the emergent group objective (see #8b above), the emergent group leader (see #9b above), and act--as appropriate to the task--in support of the leader and the group objective (see #8c and #8d above).

9) The Starfish Situational Group Leadership Model is an outline for enhanced group performance. It illustrates that as a group progressives from task to task, the role of group leader can shift to the group member best suited for the role by expertise, acquired technical knowledge, interpersonal skills and networking contacts, or enhanced perspective (see #8h above).

10) The probability of enhanced group performance is increased by group members being willing to shift both group leadership and group followership as situational variables dictate. This capacity allows the group to "spot opportunity (prey) from any direction" and increases the probability of group survival (see #10 above).

RULES FOR STARFISH MODELING BEHAVIOR: THE STRING OF NUMBERS IDENTIFICATION AND CONFIRMATION EXERCISE

1) Group members assume roles of "Head"/ Leader (initiating speaker and number confirmer), "Arm" (even number assignee), and "Leg" (odd number assignee) in rotating order at the start of each new round

2) <u>Only the Head/Leader role can initiate speech</u>. Arms and Legs can speak only when requested to do so by the Head/Leader

3) The Head/Leader can only say the following 8 things:
   a) to start a round---"**beginning**"
   b) to start the process of confirming a number---"**number please**"
   c) to confirm a number spoken by an Arm or Leg---"**number confirmed**". Note: "**number confirmed**" is always followed by "**number please**"
   d) to change from odd to even or even to odd---"**Arm please**" or "**Leg please**"
   e) to continue in an accepted even or odd category in order to have the number to be confirmed spoken aloud---"**higher**" or "**lower**"
   f) to end a round---"**finished**"

4) Arms can only say "**zero**", "**2**", "**4**", "**6**", or "**8**". Legs can only say "**1**", "**3**", "**5**", "**7**", or "**9**"

5) All Arms and Legs must speak in rotation. Thus, no Arm or Leg can speak twice in a row (with the requirement of a Head/Leader "higher" or "lower" as a speaking request between each alternate turn)

6) In groups with only one Arm or one Leg, the same role player must respond after each speaking request from the Head/Leader, but must say the number twice rather than once

7) After the Leader has said "finished", the group announces their completion by having all members stand up and shout "**Oyster!!**". The first group to shout "**Oyster**" is the round winner

8) All groups finish all rounds to completion, identifying all 30 numbers in order

9) All rounds are timed and all group performance scores are posted

10) Each number list is 30 numbers long, and consists of a random listing of the integers 012345678 or 9.

11) When a number is confirmed as being on the list, that number cannot repeat until at least an additional 3 numbers have been confirmed

12) In each round all groups will be working on the same list of numbers

DISCUSSION AND SUMMARY

One of the most striking capacities of the Starfish Group Leadership exercise is the ability it presents to the facilitator to more or less freeze content while focusing on process. The basic elements of the exercise are simplistic in nature. The numbers and speaking rules do not change from round to round. The only thing that does change is the order of the random numbers and the role assignments per group member. Thus, when the groups meet between rounds to formulate strategy and make decisions, the only dynamic they can influence is the processes they use to

interact and function as a high performance group during the timed rounds.

The exercise generates a high level of energy. The inter-group competition fostered by timing the groups, declaring a round winner and posting the scores serves to produce high performing groups. Since the exercise rewards group focus and team effort, it also produces an atmosphere that allows very little room for slackers, student detachment, or an attitude of mediocrity.

The cognitive/intellectual debrief of the Starfish Group Leadership exercise allows for the discussion of several leadership concepts. The situational aspects of the Starfish model, combined with the rotating leadership role, allow for some good points about situational leadership. The fact that the Head is the only group member with the answers (number list) allows for a focus on the concept of utilizing expertise power as a leader, as well as the challenges inherent in sharing expertise with others.

Finally, the ultimate "winner" in the Starfish challenge is invariably the group that: 1) most consistently exhibits effective group leadership by multiple group members, 2) engages in good strategic thinking between rounds, and 3) functions as a cooperative team. At the completion of the Starfish Group Leadership exercise, groups are able to identify exactly what they did right and wrong, to trace their group behaviors to their strategy and decision-making sessions, and to share their emotional reactions to the various roles across multiple rounds. Thus, the Starfish Group Leadership exercise affords a unique opportunity to combine intellectual insight, processing of emotional involvement and identification of specific behaviors contributing to success, all in one fun and involving experiential learning application.

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