ENTROPY

A FACTOR FOR CHANGE

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GOALS

1. Understand the implications of entropy within the work setting.
2. Develop methods for leadership that will help prevent excessive entropy.

KEYWORDS FOR APPLICATION

1. Erosion
2. Inevitable Change
3. Disorder
4. Documented Control
5. Employee Noncompliance
6. In-service Reminders
7. Mastery of a "Rolling Ship"
8. Nurse Administrator (DON)
9. Nurse Leader (RN)

Erosion of everything occurs. The term for this uncontrollable change is called "entropy." Everything in the world goes through the entropy process; that is, everything decays-- a replacement to be less or different than the original. The understanding of the concept of irreversibility is the central theme. The idea involves a scattering in various directions, which causes dispersion of all things. In thermodynamics, entropy is represented by the symbol "S" as a measurement of the molecular disorder.

Initially, the word "entropy" was a physics thermodynamics construct. That is, the concept took into consideration the change related to heat and mechanical energy/work and the conversion into one or the other. The idea is used, but not limited to, most disciplined areas. It includes psychodynamics, economics, evolution, health care, and informational theory.

Such a term (entropy) is an emphasis on the uncontrollable disorder. Things do not remain in the original state or cannot return to the normal state. It is inevitable in all things because nothing <u>ever</u> stays the same, whether it is a choice or a natural happening. It is seen every day in the work and expectations of others.

Why should there be concern over uncontrollable change and disorder? Because it can change drastically the desired and intended direction of an organization due to the randomness and confusion associated with the changing of organizational behavior! It is the same with human relationships over time.

Prevention and control of the extent and rapidity of the change is the only hope for the entropy curtailment. We are living, breathing, responding individuals that are dynamic in the way we react to the world. Through our knowledge of this process and our appropriate response to entropy, we, as nurses (administrators and leaders), have the key to stabilizing organizational success and associated human behaviors.

METHODS TO SLOW ORGANIZATIONAL ENTROPY

Every organization should have documented expectations of employees known as job descriptions, policies, and procedures. Whatever the expectations are known to be, the nurse leader is responsible for making sure that every nursing employee knows these expectations and follows them. These expectations are safety valves that permit employees to practice safely and accurately within the organization with diminished health and organizational legal concerns.

Every nurse will experience excessive entropy in the work setting unless there is a determination as to a process that reinforces expected work behaviors. The more employee *noncompliance* to these organizational expectations, the more effort by the nursing administrator is needed/required to slow the entropy process.

Some of the statements/documents/behaviors that help hold entropy in check are usually known as:

1. Policies and procedures
2. Rules and regulations
3. Accreditation requirements
4. Job descriptions/Performance standards
5. Mission statements
6. Organizational and personal philosophy
7. Organizational and personal objectives and goals
8. Scheduling of employees
9. Observation of performance
10. In-service meetings
11. On-call staff
12. Family support and expectations
13. Physical repairs on equipment and building
14. Satisfaction surveys

AND SO IT GOES—ON AND ON—NEVER ENDING

In-service meeting time is the time to reinforce expectations of job-related behaviors that could or are currently experiencing significant entropy. To further enhance the topic(s) discussed at an in-service meeting, it is crucial to have the attending employees/nurses:

1. Recognize the definition and occurrence of entropy as it relates to the facility/organization.
2. Verbally identify the unwanted occurrence(s) to their job and their related behavior.
3. Collectively commit as a person/group to their future successful job performance and possibly the updating of their job behavior(s), known as a job description.

Once employees begin to understand and can recognize deviation(s) from the expected behavior, there is a tendency to identify other entropy concerns within the organization.

Because time changes everything (even a facility/organization), there should be a concern that the existing mission, goals, policies, and procedures that represent the *current* changing facility/organizational needs. It also might involve changes in job descriptions.

Meeting or in-service minutes should have documentation of all concerns regarding organizational entropy, and the teaching/reminding method(s) used to accommodate the change(s). A signature that employees have reviewed, participated, and, then, had an opportunity to clarify the information is required and maintained with the minutes of the meeting.

Evidence of an informed employee's noncompliant behavior to follow a required organizational behavior intended to control entropy changes should be stated as such on his/her employee evaluation and dealt with accordingly. Reminders (in writing or verbal) are given to employees who appear to be wandering from the expected behaviors or attitudes.

THE FORGETTING CURVE IN THE ENTROPY PROCESS

Hermann Ebbinghaus (1850-1909 German psychologist) performed an experimental study on memory. Even though the research has poor *external* validity, because *he was the only participant* in the study, the study was considered "good" by psychologists. The "goodness" of the study is due to his conscientious efforts to control *internal* validity. Regardless of the total questionable validity of this memory study, it gives an example of entropy by comparing it to the process of forgetting.

The research findings: The forgetfulness in humans occurs exponentially along a curve. That is, the *fastest loss of any recall* occurs within the first few days and then tapers off, after that, to a slower rate. This process of entropy (forgetfulness) is encouraged, enhanced, and increased by stress!! So—this tells us that initial learning under stressful situations should be reduced, if possible. Positive reinforcement (*positive feedback*) to employees through a leader's verbal recognition of employees remembering to perform job expectations (instead of their forgetting) will help, also, to curtail entropy. A planned approach to teaching and *reinforcement again and again* of the same or updated content on a regular basis decreases the chance of excessive entropy of what is learned.

"ENTROPY"—A ROLLING SHIP TO BE CONTROLLED!

The leader's role is like being at the helm of a rolling ship and trying to hold the ship steady through the rolling waves. Figuratively speaking, there is a constant attempt to keep the ship in an upright position to prevent sinking. The mission, objectives, goals, and job descriptions are like the compass of that rolling ship, keeping the organization on the right course.

Just when you think everything is under control—think again! Evidence of disrupting entropy is just a few minutes away. Your mastery of nursing leadership skills and knowledge of entropy can control the *extent and rapidity* of negative change as it occurs and will keep the changes from literally redirecting the mission, objectives, and goals of the facility/organization.

LAST THOUGHTS

*ANYONE CAN HOLD THE HELM STEADY WHEN THE SEA OF LIFE IS CALM. THE PROBLEM IS THAT THE SEA (LIFE AND ITS HAPPENINGS) IS NEVER CALM! – HENCE, WE EXPECT TO SEE ENTROPY.

* "PEOPLE BELIEVE THEMSELVES TO BE DEPENDENT ON WHAT HAPPENS FOR THEIR HAPPINESS, THAT IS TO SAY, DEPENDENT ON FORM. THEY DON'T REALIZE THAT WHAT HAPPENS IS THE MOST UNSTABLE THING IN THE UNIVERSE. IT CHANGES CONSTANTLY." (ECKHART TOLLE)

*SHH—THE SECRET IS THAT YOU NOW KNOW THAT EVERYTHING CHANGES AND KEEPS CHANGING, NEVER TO RETURN TO ITS ORIGINAL FORM. IT GIVES YOU AND OTHERS A LEGITIMATE POWERFUL REASON TO KEEP APPROPRIATELY CHANGING YOUR MIND---AND UPDATING JOB DESCRIPTIONS TO MEET THE CURRENT NEEDS OF THE FACILITY/ORGANIZATION.

CRITICAL THINKING QUESTIONS

1. What are some recent changes in your work situation that is a result of entropy?
2. What did can you do to accommodate entropy?
3. What are you doing to reinforce positive behavior in the nursing staff?
4. What are you currently doing as a nurse leader when you recognize negative changes in behavior relative to a nurse's job description?

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