SIMPLE STATISTICS: MAKING IMPROVEMENT IN TEACHING AND TESTING

GOALS:

1. Encourage nursing faculty to determine their own statistical educational variables for consistent review and comparative analyses.
2. State the definition and purpose of the National Council Licensure Exam (NCLEX).
3. Establish an effective faculty effort to identify current facts related to student NCLEX testing success, what appears to have worked in nursing education to prepare for the NCLEX test, and what appears to have failed in nursing education as a part of NCLEX preparation.
4. Define, recognize, and use appropriately the concept of leadership and/or management in the pursuit of educational perfection.
5. Recognize the use of learning management systems (LMS) in relation to the need for basic faculty understanding of their individual program simple statistical data.
6. Increase a faculty's understanding of collective and unique testing trends leading to testing success or failure.
7. Recognize the existence of pre-prepared pre-entrance nursing exams.
8. Use statistical simple calculations to better understand the correlation between faculty teaching methods and NCLEX testing outcomes.
9. Correlate faculty teaching and teaching methods, NCLEX outcomes, and pre-requisite nursing program testing scores.
10. Differentiate between different charts and graphs that could effectively represent collected data.
11. Increase awareness related to encouraging student success.

KEY WORDS FOR APPLICATION

1. National Council Licensure Exam (NCLEX)
2. Test of Essential Academic Skills (TEAS)
3. HESI A2 (On-line Practice Tests)
4. HOBET (Health Occupations Basic Entrance Test)
5. Entropy
6. Entrance Exam(s)
7. Statistics
8. Learning Management Systems (LMS)
9. Predictive Analytic Systems
10. Canvas (LMS)
11. Leadership
12. Management
13. Statistical Analysis
14. Multiple Choice Questions
15. Critical Thinking
16. Comparative Statistics

17. Correlation
18. Correlation Analysis
19. Data
20. Item Analysis
21. Mean
22. Median
23. Mode
24. Product
25. Quantitative Data
26. Qualitative Data
27. Range
28. Ratio
29. Reliability
30. Validity
31. Value
32. Variable
33. Pie Charts
34. Line Graphs
35. Bar Graphs
36. Feynman Technique of Learning
37. Mentors
38. Transformational Leadership

Faculty, according to the working collaborative ability and willingness of its members, can be strengthened by sharing with other faculty members statistical student testing information for the purpose of meeting and improving teaching and program outcomes. With the right attitude by all faculty members and the expectation and guidance of a supportive director, shared simple categorically determined (according to mutually selected types of testing or situations) will provide the basis of improved program teaching and testing outcomes.

This document is not intended to tell a nursing faculty specifically "how to do it." However, this document is intended to increase knowledge and information about testing and simple statistics to the point of encouraging nursing faculty to mutually (together) determine their own "best way" through use of simple statistics to strengthen all nursing program testing outcomes. Figuratively speaking, fuel and somewhat of a statistical road map to more success is shared in this document, but the actual best road to travel and means to reach a goal of ultimately improve student testing success is related to sharing of agreed-upon and faculty-acquired simple statistics related to student success (or lack thereof).

FACULTY APPROACH TO NCLEX TESTING SUCCESS

The National Council Licensure Exam (NCLEX) is a nationwide exam for the licensing of nurses in the United States and Canada. There are two types of exams—NCLEX-RN (Registered Nurse) and NCLEX-PN (Practical Nurse). After graduation from a school of nursing, he/she becomes eligible to take the NCLEX

exam. This test, as you know, is considered to be the crowning determinate of nursing educational success.

As nursing educators, we feel a significant amount of responsibility for our student's NCLEX testing outcomes. There is probably nothing more satisfying to nursing instructors than to have (what most consider) a high percentage of graduate nursing students pass their first NCLEX exam. Conversely, there is nothing more disheartening to have too high a percentage of graduate nursing students who *do not* pass their NCLEX examination on their first try. Since we are nursing educators, we have to ask ourselves why some of our students did not pass on their first try—after all, he/she seemed to do just fine?! The lingering questions is: What could we have done better to help encourage all student NCLEX testing success? The increase in on-going faculty awareness and accountability will most likely result in occasional program adjustments that will result in more positive testing outcomes.

By considering national research and prepared testing trends by various testing companies, there is some hope of beginning to understand, at least, their findings that help to encourage NCLEX testing success. However, we cannot ignore the fact that faculty-prepared nursing classroom test and entrance exams can be a profound over-all indicator of NCLEX success.

Though there are many reasons for lack of NCLEX examination success by graduating nursing students. This document addresses some related research to enhance/improve NCLEX success. These faculty-shared student statistical testing outcomes (when systematically, collectively, and graphically documented over-time) can be used by any nursing faculty to increase a faculty's understanding of specific, on-going, and personally unique trends that result in ongoing student or program testing success.

PREPARED TESTING TO ENCOURAGE SUCCESS

There are efforts by some nursing programs to have pre-admission company-prepared testing and pre-NCLEX practice situations that are supposedly researched to produce positive outcomes. TEAS (Test of Essential Academic Skills) HESI A2 (On-line Practice Tests), HOBET (Health Occupations Basic Entrance Test), were determined to be commonly used pre-admission tests by nursing programs.

> *It was noted that of all the testing categories presented on a pre-admission test, the section of SCIENCE was the best indicator of nursing education that resulted in NCLEX success. (Science Categories: Math and Logics, Biological, Social Science, Physical). Perhaps, selective student science astuteness could be a significant part of a program's individually developed pre-admission test.*

THE ROAD TO SUCCESS

As a basis of understanding of how to be NCLEX-success savvy, a director of a nursing program should consider and know when/how to practice the concept of faculty leadership and faculty management. Leadership means that the director of a nursing program <u>involves</u> faculty in determining activities that will result in the determining the faculty's chosen statistical assessments, evaluations, and outcomes. Management, conversely, means that the nursing director <u>tells</u> the faculty what to do, maybe how to do

it. Determining effective *leadership/directorship strategies of management and/or leadership could significantly improve a NCLEX no-pass problem.*

Collectively, as a group of nursing educators, blaming and pre-determining the *supposed* problem by one or a few of the faculty member(s) or finding generalized undocumented fault with nursing experiences or clinical practices can happen, but (let's face it) finding the real problem is not that easy. You know it is far more complicated than that!! Through the use of the faculty establishing and using collective simple statistics, the assessment and evaluation of a problem(s) become obviously objective. This becomes a far more acceptable collection of information that negates just "what feels right/good." This supports the concept of effective leadership.

A nursing faculty does not need to perform "high math!" Just basic easy to understand differences that are the most obvious pre-determinates of NCLEX testing success. By the entire faculty working together to keep on-going documentation of simple statistics related to scores of like-tests (e.g. multiple choice, fill in the blank, critical thinking, essay, etc.) faculty members can, over a period of time, pre-determine successful student entrance criteria and/or in-class exams that will (in most cases) identify more successful student and better testing outcomes.

There are many testing and observational opportunities for faculty to apply a numerical value to student performance. For example, testing of multiple-choice questions, regularity of attendance, and classroom problem-solving abilities using critical thinking related to multiple choice options could be easily noted by faculty and even documented. These retrospective observations and documentations over time n be easily compared to eventual individual student NCLEX success or lack of success.

Teaching methods that often prepare students for NCLEX success are related to a student learning the process of writing effective multiple-choice questions and related answers to multiple-choice questions. Also, (and just as important) students must practice the skills for selecting the correct multiple-choice answer as it relates to the stem of the question.

By comparing each graduating class regarding individual student's statistical testing trends in each course and according to categories, existing program entrance testing outcome, and their state board exam outcome, it does not require stupendous energy, academic prowess, or costly computer programs for a faculty to recognize a student's academic trends.

Consequently, there is no excuse for a faculty to dismiss this simple (and documented) data collection as a significant factor to assist in better understanding of determinates that will result in more successful NCLEX outcomes. Simple displays of retained graphical comparisons, when kept correctly and consistently, will identify, disaffirm, and/or confirm pre-disposing factors that seem to be precursors to academic and testing success.

TIME CHANGES EVERYTHING

The concept of entropy says that every student (even faculty) "group" over time will have their own personality and characteristic changes requiring ongoing awareness of the need for constant monitoring. This means that faculty should take note of the current statistical *trends* that lead to academic success or failure due to the changing uniqueness of faculty and students! After all, faculty

are academic professionals that are *expected* to explore possible inconsistencies and are *expected* to alter teaching trends and behaviors that will lead to student academic success.

Very important---An accurate and consistently successful *faculty-determined Program Entrance Criteria and faculty testing* for a specific nursing program must be determined overtime! Making assumptions and appropriate adjustments as a result of faculty member's increased variable awareness is a dynamic procedure resulting from faculty ongoing statistical research. Making appropriate changes to either course work, clinical experience, or testing are determined by comparative studies related to a faculty's researched outcomes.   It should be constantly surveyed for accuracy and changes—and it will change, somewhat, according to the fact that there are characteristics, overtime, of students and unknown factors! However, the pursuit for the most reliable and accurate nursing program entrance requirements and entrance exam outcomes followed by close on-going course in-class testing, and relevance of clinical experience opportunities must go on!

It is easy to recognize, usually, the increased awareness by all nursing faculty as to course testing outcomes and mutual consideration of testing variables and their results. Such intellectual collective concern by all faculty members will result in a positive and goal-oriented working behavior that highly encourages (and maybe forces) faculty teaching excellence.

The problem comes when student(s) do not meet continuing excellence in academic and clinical behaviors. Specific written and signed academic expectations signed by each student as a pre-requisite to the nursing program helps to *encourage effort* toward academic excellence. It provides, also, an opportunity for dismissal of a student from a nursing program which shows that a student will not succeed in educational expectations with a reasonably high probability. It is better to redirect students to educational programs that would be more likely to support a student's success than to continue to encourage a student that obviously or is not likely to succeed in a nursing program.

ENTRANCE EXAM CONSIDERATIONS FOR SUCCESSFUL NCLEX RESULTS

Let us consider a very few possible examples of nursing program entrance considerations that could be pre-disposing factors of future program/state board test success or failure. For example, consider data/variables that are, probably, some general differences within a student group —and certainly the five (5) stated, hereafter, are just a few that might be considered.

Whether you are using a purchased specific generated corporate pre-nursing entrance exam or have your own nursing program entrance exam for admission, be careful in your selection and use of certain questions so as not to appear discriminatory in your questions or entrance criteria.

Some possible and simple information-collecting statistics for consideration might be:

1. What was the average passing score of all students taking the entrance exam?
2. What is the age range of potential students taking the exam?
3. What are the differences in past years of health care experience?
4. At the end of the course and post taking the NCLEX exam, what is the relationship of your selected variables related to the NCLEX score? (There are numerous possibilities for statistical comparisons).

From this information (and many others that could be used), simple statistics can be determined for improved awareness for increased NCLEX success.

By comparing admission information of each nursing student who was accepted into the nursing program with the NCLEX score (degree of success or failure), a faculty should be able to identify possible successful trends that might become a part of an entrance exam and course expectations.

Duo-testing is a possibility. That is, there is no problem in giving both a company-generated researched entrance exam and, then, giving a faculty researched and generated entrance exam. You might find the testing outcomes interesting and productive in making future positive changes. Note if the pre-admission tests show/predict somewhat the same information about each student.

INTRODUCTION TO LEARNING MANAGEMENT SYSTEMS (LMS)

A good place to start this unique road toward collection of successful educational statistical outcomes is to learn about the learning management computer systems on the market that are used for analyses, predicting outcomes, and determining outcomes.

Understanding of the need and use of sophisticated Predictive Analytic Systems as a choice of high-ordered analyses *would be helpful (and expensive)*, no doubt! However, in most cases, the general basic information and intelligent use of simple comparative analyses by faculty, overtime, will produce obvious collective information as to "what is going on" in a specific geographical area nursing program that will result in known intuitive and common-sense testing outcomes.

LMS became well-known and in popular use in the 1990. LMS could provide a technological advantage for tracking and ultimately understanding the statistics related to the variables a faculty identifies to help determine a student's success factors. Through purchase, it was/is intended to be the answer for many administrative needs, such as, documentation, tracking, reporting, and delivering of educational/training programs. Historically, it has been used to help instructors provide material/information and testing of students, perform administrative tasks and other assignments, track student progress, and manage record keeping. However, historically most LMS programs have been for online courses and blended learning educational offerings.

The program entitled, "Canvas" is just one example of a purchased LMS used by some colleges/universities. If any such sophisticated computer program is used, it requires a full-time administrator of the computer program (so research tells us) that is in constant contact with faculty and controlling the accurate input and evaluation of faculty data input and statistical outcomes. The computer efforts for use can be certainly helpful and somewhat requiring of time to set-up appropriately and used correctly for a specific need. Another option might be "Moodle" which is reported to be "possibly helpful."

These LMS variable/factors might help to support information related to NCLEX success or show areas of academic educational weakness—that is, testing outcomes, attendance, grades, etc. The faculty becomes the resource for data input, therefore, determining what you want/need as trackable variables. An LMS administrator is already in place in many colleges/universities. Their involvement increases the chance of validity and reliability of generated outcomes.

ASSESSING THE EDUCATIONAL PROCESS

So--- *leadership* (involvement of faculty) to direct an assessment of "what is going on" is needed. It is *not* the director of the nursing program that has the answers—it is the faculty. It is time for all faculty members, together, to do a down-to-earth and soul-searching statement regarding nursing program information:

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1. *Current Facts*

2. *What has worked (the good)*

3. *What did not/does not work (the failings)*

Initially, this three-prong process by the entire faculty by stating and recording current facts, what has been known to work (the good), and what did not work (the failings) forces objectivity, rewards what is *right and good* by giving credit where credit is due, but does not ignore what might be *wrong or should be improved*. Sometimes it is difficult to ascertain what works and where to start to improve! That is normal. Just force what is known and start from there. What is the old "saying"?--Never throw out the baby with the bathwater!? So--Keep what is good and build on what needs to be improved to eradicate the possible failings and what is supported by your simple statistics over time.

Once you identify what did not work (item #3), there must be a *prioritizing* of the identified wrongs or in what order "the wrongs" need to be addressed and who has the assignment for "spear-heading" the resolution of each needed improvement. When prioritizing the identified wrongs, be sure that the faculty votes on and agrees on the *major wrong/priority problem*. Then, assign faculty to work on each problem. Be sure to assign selected faculty to work aggressively on what the faculty agrees is the *major wrong/priority problem according to your statistical analysis*.

Maybe it is one person that works on a problem, or maybe several or a committee. And—when we say "works" on a problem we mean clearly defining the problem, resolutions, alternatives, and researched ideas that help resolve the problem. Regardless, it should be recorded and known by the entire faculty as to who is responsible and held accountable for the pursuit of resolutions and accompanying, maybe, research to backup suggestions. Frequent meetings for reporting by each person or group to update and ultimately accept responsibility for suggested changes or recommendations are to be expected by the director of the nursing program. (Be sure these expectations are a part of the faculty member's job description!)

There is an interesting happening that occurs if the MAJOR WRONG/PRIORITY PROBLEM can be identified and resolved! Once it is resolved, all (or almost all) the other problems/wrongs seem to be reduced or go away. If this phenomenon does not happen, it is usually because the MAJOR WRONG/PRIORITY PROBLEM has not been accurately identified.

TEACHING FOR NCLEX SUCCESS

A well-known college faculty decided to increase their percentage of NCLEX passing by teaching and requiring students to:

1. Write multiple-choice questions according to testing multiple-choice question theory
2. Know and differentiate, theoretically, the different components (types of choices) related to multiple choice questions
3. Have students, individually or in a group, answer each other's multiple-choice questions as a part of a paper and pencil, group, or computerized exam
4. Substantiate the reason for their answer choice from a multiple-choice question either in writing or verbally in class
5. Discuss and provide rationale for the correct answer of faculty generated multiple-choice questions related to course content
6. Have all courses include multiple-choice questions (in some manner) as a determinant of the course grade
7. Use the computer to answer multiple-choice questions

Through this required process (stated above) of critical thinking by all nursing students in all nursing courses, they found the personal use of paper and pencil testing and/or computer testing of multiple-choice questions was an important and effective conditioning component of future NCLEX success, not because NCLEX is or is not computer generated, it required consideration of selecting an answer from several options by using theoretical reasoning. They claimed their tenacious, collective, and consistent uniform multiple-choice testing efforts as a faculty resulted in an outstanding increase in their state-board passing percentage. And—such cooperative and collaboration between faculty resulted in greater effort to support educational endeavors between faculty members.

Faculty members are often sure that one company or one testing method is better than another. However, it most often depends on the student and their personal propensity for a learning style and method. This we know: Consistent, frequent, repetitive, applicable, and alternative learning opportunities produce the most consistent positive outcomes. This encourages (almost forces) students to increase the intensity of their **critical thinking skills** which ultimately produces a better testing outcome.

REVIEWING THE LANGUAGE AND DEFINITION OF SIMPLE STATISTICS

Simple statistical language is necessary for the overall and over-time comparative statistical language related to testing outcomes. The standard deviation from the mean (quantifying the amount of testing variation) might be or might not be as useful; however, this specific statistical information is not covered in this document. There is no big mathematical equation or statistical problem! It is a shared language by all who are educated, universally, and often involves just a comparison of a group of numbers. For a faculty to mutually, consistently, and accurately relate to simple statistics, the shared language, definitions, and samples (when appropriate) are as follows:

Comparative Statistics/Studies: Compares and contrasts two things to determine differences or similarities that on the surface appear to be different

Correlation: Mutual relationship between two or more things

Correlation Analysis: Analysis used to understand the nature of relationships between two different variables

(Positive correlation is said to occur when the movement of one variable is similar to and/or accompanied by the movement of another variable on a line graph.)

Data: Facts and statistics collected together for reference or analysis

Item Analysis: Examines responses to individual test questions to assess the quality of each test question and the test as a whole

Mean: Average score

(It requires an adding up of all the testing scores of all students who took the test and, then, dividing that number by the total number of scores; such as, if the scores were 10, 12, 15—the added total of the scores is 32 divided by 3 scores—equals 10.66.)

Median: Middle score in a listing of scores from least to greatest

(If there is an even number of scores, then the median is the average of the two (2) middle scores.)

Mode: Score that shows up most frequently

(30, 56, 32 56, 56 = mode of 56) There can be more than one mode, or there can be <u>no</u> mode.)

Product: Answer to a multiplication problem

(The product of 2 X 6 = 12.)

Quantitative Data: Defines data with measurable information that is numerically expressed and is objective

Qualitative Data: Describes data that are not able to be measured and is subjective

Range: Difference between the maximum score and minimum test score

(In other words, it is the spread of test data; such as, the difference between 92 and 70 is 22.)

Ratio: Indicates a relationship between two numbers

(If the total number of students taking a test is 9 and only 7 pass the test, the ratio is 7/9, 7:9, or 7 out of 9.)

Reliability: Quality assessment of performing consistently well

Statistics: Practice or science of collecting, analyzing, interpreting, and presentation of quantitative data

Validity: Quality assessment of being logically and factually sound

Value: This is the quantity or the amount of something

(The value of 100 plus 100 = 200.)

Variable: Element within a program that has a tendency to change

USE OF PIE CHARTS, LINE GRAPHS, AND BAR GRAPHS

There are three common types of graphs that could be used for ongoing comparisons. For instance, some simple examples are: Pie Chart, Bar Graph, and Linear Graph. One chart or graph might be more appropriate than another for a specific purpose. These three (chart and graphs) meet the usual needs for comparison studies.

Graphs and Pie Charts add a visual dimension for comparing of simple statistics. For example, student personal scores or grades, course differences related to student success, comparison between semesters, years, (and many more other comparisons) could graphically depict positive or negative change(s). Maybe, as one consideration, compare graphically a student's entrance exam score with the degree of NCLEX success.

By using a pie chart, line graph, or bar graph to represent the collection of data/variables, we surpass speculation and enter a realm of visual comparative statistics. This valuable visual information can provide the basis of nursing program courses and experience, testing, and many other comparisons that would likely lead to increased program excellence and a more revealing nursing program entrance examination; thereby, ultimately increasing NCLEX success.

Pie Charts--

A Pie Chart (by definition) is a recognizable division of a circle into different colored parts that represent collectively to be 100%. It provides a visual depiction representing different percentages of specific data/variables. Pictorially, it is like when you cut an edible pie into wedge sections. One of its most useful factors is that it is easy to read and understand.   In this instance, it can represent the comparison between pass and fail percentage scores or other selected finite information of choice. As with any other type of chart, a pie chart can be replicated again and again over time and new percentages of each pie chart compared with past pie chart percentages. Overtime, it can become an impressive colored transparent overlay to show improvement or decline in any percentage change.

Over time, comparison of the pie chart(s) from each semester/year will give an indication as to what educational behaviors, tests, expectations, variables are "working"—and what is not "working". The information magic is to use the pie chart to depict what is important for the faculty to understand in the way of percentage comparisons or, maybe, the mean, median, mode, range, and other statistical information.

Example of pie charts and a blank pie chart that can be printed and filled in with information: http://www.dvdshoppingcenter.com/piecharts-examples)

Line Graphs---

A Line Graph (by definition) can be a horizontal or vertical line that can show progression or regression of data/variables *over time*. The one direction of the graph (horizontal or vertical) could represent a time frame, while the *other direction* of the graph (horizontal or vertical) could represent the degree or an amount.

(Example of line graphs using a variation of other content: *http://www.dvdshoppingcenter.com/line-graph-examples*)

Bar Graphs---

A Bar Graph (by definition) is a visual depiction of horizontal or vertical bar heights that provide comparisons of data/variables. Bar Graphs are used for easy visual understanding through the comparison of data/variables.

In regard to ongoing determination of course test questions, it is recommended that each single positive variable (like each course test question) be reviewed and represented separately over a period of several semester/quarter tests on a Bar Graph. This separation of testing positive outcome data/variables (e.g. test question(s) can help determine all sorts of information. The comparative and unique situations are as different as you can image and can reveal all sorts of information in a very visual manner.

Simple logic while comparing all/any faculty selected variables will inform a nursing program director and faculty as to the most important datum/data/variable(s) that help to promote NCLEX success or possible NCLEX failure.   A simple comparing of bar graphs over-time can easily result in identifying, graphically, the most positive and/or negative educational relationships between any variables. This allows the director or faculty to make the necessary changes in future nursing program entrance pre-requisites and any program testing or experiences.

(Examples of bar graphs using a variation of other content: *http://www.dvdshoppingcenter.com/bar-graph-examples*)

Information can be collected as a faculty or committee under director leadership which *increases* current decision-making power. It is recommended that this information be collected, retained, and compared over time. Once the program pre-requisite attributes of a successful student have been determined and verified by several years of testing by graduating students, it will be obvious what type of attributes are most likely to produce a successful student that can pass an NCLEX exam. This information, in this form and overtime, will become the undisputable pre-requisite information that will lend power to pre-requisite decision-making! Basically, simple statistical data comparison can be the most accurate determinate of nursing course and clinical change.

IMPROVING SIMPLE STATISTICAL OUTCOMES THROUGH STUDENT LEARNING ACTIVITIES AND SUPPORTIVE PROCESSES

Many possible supportive faculty endeavors have been recommended in literature and used by different nursing programs as an outcome of improved simple statistical understanding. Some successful behavior ideas that appear to improve learning or personal student success have been stated in literature as follows:

1. Use peer tutoring
2. Determine learning areas that need more study by performing test item analysis
3. Use case-based learning
4. If course failure occurs, require waiting one year before allowing the course to be taken again

5. Computer-based testing
6. One-on-one counseling
7. Change to alternative study path
8. Part-time study or courses
9. Referral to disability services
10. Repeat the course
11. Have a faculty open-door policy
12. Having a faculty caring attitude
13. Identify areas that need more study
14. Show commitment to the student's success
15. Private meeting with the chair of the department

The Feynman Technique of learning involves:

1. Choose a Concept
2. Teach a Toddler (In this instance a student teachs another student under supervision)
3. Identify Gaps (Grading student's ability to teach correctly necessary steps of a procedure to another student)
4. Review and Simplify (optional)

What the Best Mentors Do:

1. Put relationship before mentorship
2. Focus on character rather than competency (obviously mentorship involves mastering competency; however, go beyond competency to character, values, self-awareness, empathy, and capacity for respect)
3. Shout loudly with your optimism, and keep quiet with your cynicism
4. Be loyal and available to your mentee

CRITICAL THINKING QUESTIONS

1) As a director of a nursing program, how can you increase nursing educational accountability through the use of simple statistical faculty input?
2) As a director of a nursing program, to what extent do you need to assist faculty members to better understand simple statistical processes and how to incorporate this information into meaningful outcomes?
3) What LMS programs are currently being used by the organization and who, by name and title, will/can be of assistance to nursing educators in the collection, computerization, and evaluation of statistical information?
4) How does the faculty plan to use the statistical information to improve NCLEX outcomes?
5) What graphs are best utilized to increase the understanding of educational outcomes?
6) What collected statistical information best identifies what processes need to occur for positive educational outcomes?
7) What variables are/have been identified by the faculty that need to be the basis of statistical information?
8) What alternative educational processes are being used/taught by faculty that will ultimately increase the opportunity for first-time passing of NCLEX?

9) What processes will be used to keep what is "good" in the program that are believed to encourage positive NCLEX outcomes?
10) What processes will be used to change the "deficits" in the program that are believed to possibly result in less than acceptable NCLEX outcomes?
11) What in-class or course expectations occur by each instructor that encourage the theoretical concepts of multiple-choice test taking?
12) What statistics and processes are necessary for the development of a nursing program's unique pre-entrance exam?
13) What faculty behaviors are known to improve student learning and academic success?

RECOMMENDED READING

Transformational Leadership by this author (Reference for Problem Conquering)

Understanding Test Preparation and Application by this author

Critical Thinking by this author

The Feynman Technique: The Best Way to Learn Anything, http://getpocket.com/feynman-technique

Secrets of Success for High NCLEX-RN Pass Rates for BSN Nursing Programs, Nonie Wiggins, Volume 2, Issue 3 CONFERENCE PROCEEDINGS: October 4th-5th, 2012

What the Best Mentors Do, Anthony K. Tjan, Harvard Business Review, February 2017

 NCLEX-RN Practice Questions---

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