MIT 500 Instructional Design and Development

**Watson School of Education-Instructional Technology
University of North Carolina – Wilmington**

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Self Instruction Module Project

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Contents:

I Executive Summary

This self-learning module is a demonstration of learning with the performance objectives grouped into domains of Instructional Technology. Once the situational analysis was completed and overall performance objective established, the domains of Instructional Technology were addressed in response to various aspects of the learner/client needs analysis. The Instructional design model chosen that best provides guidance to instructional issues at hand is Multiple Approaches to Understanding"- Howard Gardner, Harvard University

- Design was focused on identified needs for more effective, in depth, and stimulating representations, which could be effective for 200, plus nurses who bring different learning styles but who also are predisposed to hands on type learning. Motivation also a major issue was addressed through stimulating and relevance creating entry points along with imbedded self –assessment to enhance confidence and retention.
- Development involved creation of audio, visual, and video representations of content to enhance learning objectives. Grouping and sequencing of objectives and subsequent representations was also was significant as much of the performance requirements were sequential in nature.
- Delivery focused on providing learners with control and choice of learning in the form of a web based non-sequential module, which also addressed the client need for flexibility in learner access. In conjunction with this computer module learners are provided with detailed procedural demonstrations and all necessary props needed to perform/practice actual procedures along with assessment guidelines, which mirrored final posttest.
- Assessment includes demonstration of both cognitive and psychomotor related to overall performance goal. A performance assessment checklist was developed which provides specific criteria for each terminal and sub objective.
- Evaluation was conducted during and at completion of the module by learners them selves with effectiveness of individual representations measured along with learner comments as to likes and dislikes. This feedback was obtained by client and then transmitted for revision of instruction. The final module evidenced a high degree of effectiveness while dealing with other issues identified in the front end analysis

II. Theoretical Orientation and Rationale

Section A: Theoretical Assumptions

A.1 Situation Analysis:

Maxim Healthcare is a leading provider of a diverse range of home health care, medical staffing and wellness services nationwide. Their largest division Maxim Healthcare Services is a leading source of quality clinical personnel for thousands of medical facilities. Employing an ever-increasing number of clinicians, they provide aid of many hospitals, nursing homes, school systems, correctional facilities and other medical environments across the nation. Clients rely on their expertise, dependability and quality personnel. The company succeeds by its ability to provide high quality care thru recruiting, retaining, and training of clinical healthcare providers in a highly competitive industry environment dominated by cost pressures and high field employee turnover.

The Wilmington office serving primarily New Hanover County, in accordance with industry regulatory requirements is responsible for insuring and validating that all personnel who perform nursing activities are competent in various medical procedures and that ongoing review training in these procedures is offered, encouraged, and certified in a system of ongoing competency testing.
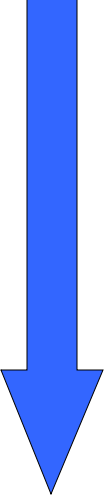
Continued competence is the ongoing application of knowledge and the decision-making, psychomotor, and interpersonal skills expected of the licensed nurse within a specific practice setting and consistent with his/her practice role in providing, or assuring the provision of, nursing care in a manner which contributes to the health and welfare of the clients served

Currently some basic required review training and competency testing is done at new employee orientation, while other more specific training/assessment is done periodically dependent on specific nurse/client needs. All current training is performed individually or in small groups at the company office conference room using text based manuals along with limited company supervisor facilitation. The company typically orients approximately 200 nurses per year and has 50-100 on staff at any given time. (Its important to note all nurses hold either RN or LPN degree, which indicates they have at some point received in depth training specific to the topic at hand and have demonstrated prior learning capabilities at an advanced level.)

To this end, Ms. Rebecca Malik (Director of Clinical Services- Wilmington) who overseas Maxims nurse training, would like to add a competency **review** training and assessment program specific to a critical nursing function to the new hire orientation process for all nurses. This function involves the post operative / in home maintenance and care for persons who have undergone a tracheotomy. *(A surgical procedure in which a cut or opening is made in the windpipe (trachea). During which a surgeon inserts a tube into the opening to bypass an obstruction, allow air to get to the lungs, or remove secretions. Note once this procedure has been done and is in place, the condition is then referred to as a **Tracheostomy**)*

Currently this review training is provided to specific nurses who have tracheotomy patients. The instructional review is delivered by a text manual in office setting and assessment is done by Ms Malik in the field with actual patients. Result of field assessment relative to performance objectives specific to demonstrating safe care and maintenance of tracheostomy have been positive.

Analysis of current training program regarding <u>proper care and maintenance of tracheostomy</u>:

Performance Objective	Assessment	TYPE learning	Current instruction method	Sequence
1. Define tracheotomy and reasons performed	**10 question T/F Written test.**	Verbal	**Text based manual**	
2. Identify problems requiring nursing intervention	**Field demo**	Concrete	.	
3. Demonstrate tracheostomy cleaning- when, why, how		Rule		
4. Demonstrate tracheostomy suctioning- when, why, how		Rule		
5. Demonstrate Tracheostomy tube (Cannula) changing- when, why, how		Rule		

Currently only nurses who are working with tracheotomy patients receive competency testing via review of a written text/drawings manual followed by brief written assessments and subsequent field assessment.

Ms. Malik would like to expand and improve this review training and competency assessment to include all nurses at their initial hiring orientation and to change assessment to an actual in house simulated procedure performance assessment using a pre determined (rubric) checklist.

Timetable for completion of project is mid Dec 2003. Ms Malik will provide technical assistance (SME) to instructional content and will review and provide input along the way.

A.2 Instructional Model

Given the situation presented above in determining the appropriate instructional design model(s) to follow several key points have been considered:

- The learners are exclusively adults,
- The learners are exclusively nurses (primarily female).
- Current text based delivery relatively ineffective and viewed as lacking stimulation, and motivation
- The learners all have previous related experience and have demonstrated a high level of prior learning specific to the learning objective.
- The learning audience will include 200+ existing and new hires that bring a potential need for addressing differences in intelligences of learning.
- The final assessment of learning objective is criterion based involving demonstration/application of knowledge to determine individual competency.

In researching effects of these points several criteria emerge for choosing instructional models.

1. According to Knowles theory of andrgogy, adult learners are typically self directed, goal oriented, and motivated by seeing relevancy in specific learning. The design and delivery of instruction should be one that creates relevancy and *allows learners control*.
2. Published reports including. *("Distribution of Learning Styles and Preferences for Learning Among Medical Care Assistants- Anthony Campeau, Ontario Ministry of Health. Feb 1997*,) clearly indicate medical professionals such as nurses have strong preference for hands on learning by doing. This type learners retention is significantly enhanced through inclusion of examples, simulations, et
3. Providing the ability to recall prerequisite learning (Gagne) is an important focus in selecting a delivery method.
4. Most current research indicates a significant variation in individual learning styles generally grouped into visual, auditory, or kinesthetic. Considering the large learner audience these variations should be addressed in selecting instructional model(s)

A summary of above criteria applied to Reigeluths framework for comparing models indicates as follows:

Type of learning	Primarily procedural (rules)
Control of learning	Both designer (content and delivery) and learner (selection of content focus)
Focus of learning	Focused on specific procedure with prior learning recalled.
Grouping	Individual
Interactions	Primarily Learner with material
Support	Emotional support involves presenting different type representations to meet individual preferences and intelligences, which enhances learner's interest and confidence.

Consequently, in choosing the appropriate instructional model(s), the decision is based on which can best address the identified criteria. For this project, I have selected Multiple Approaches to Understanding to assist in designing, developing, and delivering the instruction.

"Multiple Approaches to Understanding"- Howard Gardner, Harvard University. The aspects of this theory I find interesting and valuable to my instructional design is his emphasis on learning as performance based along with the emphasis on addressing multiple learning styles (intelligences) via presentation of multiple representations. I will be incorporating these aspects into my instruction by providing video, audio, text and simulations to content. Learner will be presented with a more in depth content focus incorporating a variety of sequences and representations to choose.
In addition the emphasis and final assessment will be based on both on cognitive retention and performing an actual task (tracheostomy suction), which follows Gardner's theory.

In reviewing the theory for compatibility and applicability towards specific instructional design needs, I used Reigeluth's framework:

	Design criteria needed	Gardner	Module Strategy
Types learning	Primarily procedural (rules)	Focus is on topics, which can be presented from a variety of perspectives in order for learner to go beyond learning facts at face value and develop a meaningful in depth understanding along with the ability to utilize that understanding. Therefore type(s) of learning would involve what Riegeluth's taxonomy describes as Application of skills, Understanding relationships, and Applying generic skills	In depth focus on suctioning procedure as opposed to more broad, less detailed instruction currently used. Utilize graphics, pictures, and video representations, which convey most important aspects to reach learning multiple styles and enhance retention.
Control	Both designer (content and delivery) and learner (selection of content focus)	Primarily teacher centered with control over what is learned and control / guidance of the learning process. Students do have some control over deciding amongst different methods of learning based on their interests and strengths.	Instructor has selected content and basic learning objective grouping. Will provide introduction leading to table of content, which provides learners with choices as to specific learning objectives. Also use of video representations is optional.

Focus	Focused on specific procedure with prior learning recalled.	Strongly oriented towards topics as opposed to problems and interdisciplinary as opposed to specific domains	Focused on a specific procedure (tracheostomy suctioning) with clear emphasis on ultimate assessment as demonstrating both cognitive and psychomotor knowledge and skills.
Grouping	Individual	Can be individuals or groups	Individual computer based instruction.
Interaction	Primarily Learner with material- no training personnel involved.	Non-human: focused on students finding and interpreting information as well as learning via interacting with their environment.	Interaction provided in terms of self-assessment throughout module.
Support	Creating and maintaining confidence	Emotional support involves presenting different type representations in no set sequence to meet individual preferences and intelligences, which enhances learner's interest. and confidence	Learner will perceive control of learning. Self-assessments with performance checklists (grouped around 3 terminal objectives), which mirror ultimate posttest, will allow for confidence building. Ability to perform actual practice procedure will enhance confidence and retention. No time limit or other restrictions to create stress.
Motivation	Attention Relevance Confidence& Satisfaction		-Stimulation of immediate multimedia in entry point. -Immediate presentation of nurse's responsibility (and liability) in entry point. -Unlimited Self-assessment integrated into module with hands on performance/practice.

Section B. Instructional Goals:

The overall project-learning outcome desired by client ultimately relates to learners demonstrating procedures for **all above listed tracheotomy functions**.

Given a setting with equipment and medical doll, Learners will demonstrate proper procedures for <u>safe care and maintenance of tracheotomy</u> by performing procedural steps properly and in correct sequence according to a procedural checklist and rubric.

In order to provide level of detail needed, and in consideration of sophistication of different learning skills, objectives have been grouped and three (3) separate training modules will be done as indicated below:

Performance Objective	Module
Define tracheotomy and reasons performed	I
Identify problems requiring nursing intervention	
Demonstrate tracheostomy cleaning- when, why, how	
Demonstrate tracheostomy suctioning- when, why, how	II
Demonstrate Tracheostomy tube (Cannula) changing- when, why, how	III

Section C Task Analysis

Attached Pages:

Page 1: Terminal objectives
Page 2: Sub level- terminal objective A
Page 3: Sub level-terminal objective B
Page 4: Sub level-terminal objective C

Section D. Learner / Context / Needs Analysis

D.1 Learner Analysis Summary:

Three different sources of information relative to learners was used to develop this analysis:
1. Interviews with client trainers and supervisors.
2. Interviews with client nurses.
3. Published research on learning preferences of medical professionals. *("Distribution of Learning Styles and Preferences for Learning Among Medical Care Assistants- Anthony Campeau, Ontario Ministry of Health. Feb 1997,)*

Summary of findings were:

Prior learning is a critical aspect of this nurse function and for purposes of this module it is assumed based on a combination of prior work experiences, education, or in some cases assessed prior to hiring via written tests. This will be stated at the onset in the module as a prerequisite for continuing. Subsequently the instructional module will be geared to **a review of prior learning and** should not be a first time exposure for anyone. Learners will be given control as to which skills they feel need review.

Some fundamental skills, which are considered prerequisite learning and will not be covered in the review:

- Identification of supplies and equipment
- Creating and maintaining a sterile environment
- Basic post procedure documentation
- Terminology

Learners are predominantly female ages 22-50 all of which have either LPN or RN degree. In addition all nurses have worked at least one year in a Medical/Surgical Hospital environment. Nursing experience varies greatly as does personal background and prior learning characteristics. There is a generally positive attitude towards continued education training however nurses having been exposed to current training methods expressed an equally strong dislike for the current delivery method and basic content orientation.

Criteria	Status	Source
Entry behavior	General knowledge: Fundamentals of nursing .	RN, LPN degree. Minimum1yr hospital exp. Pre-hire testing.
Prior knowledge of topic	Specific topic related knowledge: sterility procedures, terminology, and documentation.	Pre hire testing
	Tracheotomy care taught in nursing school. Post school actual related experience varies significantly	Interviews
Attitude towards company	Generally favorable. High turnover profession.	Interviews Turnover statistics
Attitude toward content	Generally favorable- sees personal and professional benefit to content.	Interviews
Attitude toward current del system	Poor – Current system viewed as ineffective and unexciting. Does not match different learning styles, Linear format doesn't allow for selective topic learning. Most have prior CBI exposure.	Interviews / Research
Motivation	Generally positive attitude towards learning, but negative towards in office text based training modules. (ARCS model important to new instruction.) Competency testing as part of new hire orientation is required**.**	Interviews
Ability level	All have degrees/demonstrated learning skills.	
Attitude towards training	Continuing education required for all nurses –most have prior experience with self- learning and instructor led Cont. Ed. learning. Generally favorable towards training if content relevant and delivery method effective and stimulating.	Interviews
Learning style Preferences	Typically prefer hands on "active experimentation" as opposed to theoretical. Enjoy learning individually or in small groups. Prefer learning options available through Multimedia.	Interviews / Research
Technology	Have basic computer operation and web browsing skills.	Interviews

D.2 Context Analysis Summary:

Context analysis sources included several trips to office, observation of current instruction and observation of actual performance

Training takes place in a relatively small office conference room with located at company office where learners frequently come for various purposes. The conference room currently lacks a PC but The Division Mgr. has agreed to install a PC with high speed internet in the conference room along with all necessary software to support new learning computer based modules.

Competency reviews are conducted on an individual basis during office hours at a pre-scheduled time in accordance with learners schedule. Learners are not paid for this time but understand required for continued employment. During these reviews conference room door is open and learner subject to some minor distractions.

In terms of support, each competency test will be initiated with a training person explaining procedure and pulling up web site with module starting point. Module will include a brief tutorial on web page navigation. Post learning assessment will be done by Ms Malik (or her designated training person) in the conference room immediately upon learner's completion of self-learning module. In the event of technical computer issues, company staff with understanding of network configuration and basic PC operation is readily available to provide assistance.

D-3 Need Analysis Summary:

Two key issues emerge:
1. In order to expand this review instruction and assessment to include all nurses at orientation the current system of in office text manual review followed by demonstrations and assessment with live patients becomes impractical as most new hires not involved with tracheotomy patients.
2. Both supervisors and Nurses feel the current text based manual method of delivering instruction is ineffective, not motivational, and doesn't meet different styles of learning.

Criteria	Is	Should be
Instructional Setting	Office conference room table.	Conference room with isolated PC workstation
Instructional Tools/ Delivery system	Text based linear procedural manual	Non-linear, learner choice, Multiple learning style computer based instructional module Combined with actual equipment and doll for ability to be hands on. Personal Learning aids
Assessment	Written true/false test	Simulated demonstrations

		evaluated by staff utilizing rubric checklist
Current learners	**Approx 20 nurses currently servicing tracheotomy patients**	**All nurses**
When	**Upon patient assignment**	**At initial hire orientation**
Content	**All aspects of tracheotomy care**	**Individual learning modules focused on specific key functions or procedures.**

III Performance Objectives and Assessment

The ultimate learning objective is to demonstrate competency in performing a specific procedure, which involves both pure cognitive and psychomotor skills. This competency is based on a trainer using a checklist to evaluate the performance in detail, which involves both specific verbal questions while performing physical tasks.

Performance objectives have been grouped into 3 distinct terminal objectives in order to provide some grouping for self-assessment and distinction of learning tasks.
1.Assessing need for tracheostomy suctioning
2. Preparing for the procedure
3. Performing the procedure

Performance objectives in the module in several cases require a procedural sequencing and have been presented accordingly.

The post-test and (ultimate competency evaluation) is based on learner being presented with a simulated situation and environment in which they are asked to demonstrate the various competencies related to terminal objective of:

Given a setting with equipment and medical doll, Learners will demonstrate safe and effective method for suctioning of tracheostomy including diagnosis, preparation, and procedural methods properly and in correct sequence according to a procedural checklist.

The module is designed to present content grouped into the 3 terminal objectives with an entry point aimed at gaining attention with presenting NC board of nursing rules as to nurses responsibilities and liabilities as well as multi media presentations. Upon completion of each section self-assessment tools are provided which closely mirror the ultimate post –test.

Below are details of performance objectives for each task, which will be assessed in the module:

Task	Performance	Condition
Main Terminal Objective: Demonstrate performance of safe and effective tracheostomy suctioning	Perform tracheostomy suctioning according to checklist (post test). Includes diagnosis of need, preparation, and actual procedure	Given simulated patient, physician orders, O2 readings, paper and pencil, and inventory of supplies and equipment in an isolated environment with working area or table. Client trainer asks verbal questions and reviews actual performance using rubric checklist
I Demonstrate applying conditions requiring suction	State 2 primary sources of patient need for suctioning; -Breathing difficulties -Physician orders	Given open ended verbal or written questions prior to performing procedure
1 Identify symptoms of breathing difficulties	State; -Visual conditions -Low O2 levels	
1-1 Identify visual conditions	State: -Patient complaints -Restlessness -Mucus present -Unusual breathing rate -Unusual breathing sounds	
1-2 Identify low O2 saturation	Identify O2 levels that exceed saturation parameters	Given example of physician orders prior to performing procedure which includes O2 parameters and hypothetical O2 readings
1-2-a Identify low O2 saturation Parameters	Identify specific O2 parameters on Dr orders	
1-2-a-1Identify pulse oximeter O2 saturation readings	Identify specific O2 reading	
2 Identify orders to suction	Identifies specific orders relative to suctioning	
2-1 States suction frequency	Quantifies suction frequency	
2-2 State catheter size	Quantifies catheter size	
2-3 States suction depth	Quantifies suction depth	

II Demonstrate Procedure Preparation	Demonstrate: -Patient preparation -Identification and positioning of supplies -Connect and test suction machine -Preparing catheter	Given simulated patient, supplies and equipment, with working area or table.
1 Demonstrate positioning of supplies and equipment	Arranges correct supplies and equipment ready for procedure	
1-1 Identifies supplies and equipment	Verbally identifies needed supplies and equipment	Given open ended verbal questions prior to performing procedure
Identifies supplies	Identifies by name each supply needed; -Catheter kit -Saline -Sterile water -Ambo bag -Gloves	
1-2. Identifies proper positioning	Positions in clean flat area	Given simulated patient, supplies and equipment, with working area or table.
2 Demonstrates connection and testing of suction machine	Suction machine tested and working properly	
2-1. Demonstrates checking connections	Identifies and checks bottle and pump connections and tubes	
2-2 Demonstrates canister check	Checks canister, empties as needed and repositions	
2-3 Demonstrates suction hose connection	Identifies suction hose and connects to proper connector	
2-4 Demonstrates checking power	Connects to power outlet and checks battery	
2-5 Demonstrates testing procedure	Suctions water through machine	
3 Demonstrates preparing catheter	Catheter is connected correctly and positioned for proper depth while maintaining sterile technique	
3-1 Demonstrate determine depth-physician orders	Identifies depth on physician orders	
3-2.Demonstrate determine depth-other options	Identifies 3 optional suction depth if not on Dr orders	Given open ended verbal questions during demonstration of procedure preparation

3-3. Demonstrates preparing sterile rinse	Identifies sterile water and cup and pours while maintaining sterile technique	
3-4 Demonstrates connecting catheter	Connects catheter to suction hose maintaining sterile technique	
3-5 Demonstrates positioning catheter	Positions catheter in hand according to desired depth markers	
3-5-a identifies desired depth	Catheter Depth markers identified correctly	
4 Demonstrates patient prep	Patient communicated to and positioned for suctioning	
4-1 identifies patient communication	Indicates what procedure and why	Given open ended verbal question during demonstration of procedure preparation
4-2 identifies patient positioning	Simulated patient positioned correctly for comfort and easy trach access	

III Demonstrate Proper suctioning method	Demonstrates insertion, removal, and assessment along with potential complications and documentation	Given simulated patient, supplies and equipment, with working area or table.
1 Demonstrate suctioning	Demonstrates suction insertion and removal	
1-1 demonstrates catheter insertion	Inserts to proper depth with suction vent open	
1-2 demonstrates catheter removal	Withdraws catheter in slow twisting motion while closing vent to apply suction- total time less than 15 secs.	
2. Demonstrates Assessing for re-suction	State: -Patient complaints -Restlessness -Mucus present -Unusual breathing rate -Unusual breathing sounds	Given open ended verbal question during demonstration of procedure preparation
3. Demonstrates observing for potential complications	Identifies 5 potential complications;	
4. Demonstrates terminating suction	Disposes puts away supplies and documents procedure	

4-1 Identifies supplies dispose	Cleans up and disposes all non –re-usable supplies	
4-2 Documents procedure	Documents; -Reason -Patient reaction -Secretions description -Patient response	Completes hypothetical nursing notes

IV Evaluation of Module

During development and upon completion of module formative and summative evaluations were conducted the purpose being to assess effectiveness towards learning goals.
During development, drafts of the module were reviewed with the subject matter expert and maxim healthcare trainers for feedback and changes. This feed back helped guide development of both content and delivery sequencing.

Once completed the module was evaluated by learners in one on one evaluations. My evaluation of module and needed changes was based on the learners performance in various components of the final assessment along with their written comments as to likes and dislikes. The performance was evaluated and quantified by maxim trainer using performance checklist. Performance on assessment of each objective was reviewed and interviews conducted to ascertain from nurses why they felt they had problems with specific learning objectives. This data was reviewed and incorporated into module changes in order to produce the final product. Most of the changes involved adding additional representations of content and access to terminology. Once changes were added module was give 12 more nurse chosen at random on a one on one basis under same conditions and circumstances. The maxim trainer conducted the assessment using performance checklist as prior and tabulated results. Thee results as indicated on following chart seem to demonstrate significant improvements in prior issues with module.
Upon completion of second round of evaluation the client was satisfied that acceptable learning was taking place in a design and delivery manner that met the issues outlined in the situation analysis. Data- Appendix 1

A. Module Overall Learning Effectiveness Evaluations

 One on one evaluation: 12 nurses were chosen who had limited recent experience with tracheostomy care, purpose being they would be worst-case learners. Learners were allowed 60 minutes for the module and then evaluated by a maxim trainer using performance checklist. Results were recorded and comments documented by the same trainer.
(Due to nature of individual design of module and limitations of learning aids (supplies/patient), group evaluation was not possible)

B. Module Effectiveness: Design and Delivery

Based on feedback from maxim trainer, learners were able to manipulate the computer based instruction without problem and found the computer based product much more stimulating and effective due to non-sequential format of content combined with different text and multi media representations. The ability to do self-assessment with hands on actual procedure practice was the single most positive comment.

V Activity Summary

Beginning in September, I met frequently with Ms. Malik, the client and subject matter expert. During this process, I was able to gain substantial subject content information while at the same time utilized task and performance objective analysis to help her understand break down and sequencing of performances and learning. This took several iterations and resulted in changes to specific tasks and sequences, which had been previously submitted. We met approximately 6 times totaling approximately 10 hrs with two of the meetings taking place at the front end to do situation analysis and gain content knowledge. Four of the meetings were devoted to task/performance object/assessment and one to arranging evaluation. The evaluations were conducted in late November once a module draft had been completed. The final product was presented, reviewed, and adopted for use in mid December
In terms of total activity, I would break down my time as follows

Client meetings 10 hrs
Dr. Moallem meetings 3 hrs
Planning and analysis 20 hrs
Generating report 20 hrs
Developing module multi-media 12 hrs
Generating module 30 hrs

Total personal time: 95 hrs

Appendix 1-Module Evaluation Data

Assessment Performance Objectives		E	S	NP	Post change results			
					Module changes / nurse comments	E	S	NP
States Physician orders and Patient Condition		10	1	1		9	3	
Interprets Physician orders and states specific suction orders	States 4 specific elements of suctioning on physician orders	9	3			10	2	
Identifies Visual conditions warranting suctioning	States 5 visual conditions	2	4	6	Changed text sequence and description	8	3	1
Explains O2 levels criteria warranting suctioning		7	4	1		8	2	2
List/State 9 items needed-physically identifies items.		2	3	7	Added photos of each item	11	1	
Positions in clean flat are with sufficient proximity to patient.		11	1		"Prior learning-standard procedure"	12		
Identify 2 elements of patient communications-what and why.		9	1	1	"Liked what and why simplicity"	9	3	
Identify 2 criteria for patient positioning; comfort and		8	4			9	3	

unobstructed access to tracheostomy								
Demonstrates canister check	Checks canister, empties, and repositions as needed	10	2		"Videos helped a lot on all procedures as did ability to do self assessment"	11	1	
Demonstrates hose connections	Identifies hoses and makes correct connections	9	3			9	3	
Demonstrates suction machine test	Properly tests machine suction	9	3			10	2	
Demonstrates connecting catheter	Connects catheter correctly maintaining sterile	11	1			10	2	
Demonstrate preparing sterile rinse	Sets up rinse bath maintaining sterile	10	2			11	1	
Demonstrate identifying suction length	Identifies correct depth based on Dr orders OR 3 optional methods. States 3 option methods for determining depth.	1	3	8	Added description of 3 optional methods	9	1	2
Demonstrate positioning catheter for suction	Positions sterile catheter correctly in hand for proper depth suctioning	3	8	1				
Demonstrate inserting catheter	Inserts catheter carefully up to desired depth	10	2		"Liked Ability to practice"	10	2	
Demonstrate catheter removal	Removes catheter with slow twisting motion	10	2			10	2	
	Total time less than 15 sec.	11	1			12		
	Maintain sterile technique	5	3	5	Added reminder of sterile technique mistakes	8	3	1
	Waits several minutes before resuscitating	9	3			10	2	

Identifies Visual conditions warranting suctioning	States 5 visual conditions (section 1)	10	2			10	1	1
States/lists 4 potential immediate complications		2	2	8	Added link to tracheostomy terminology	8	4	
Identifies and disposes all non re-usable supplies		10	1	1		10	2	
Lists 4 specific information needs for documentation		9	3			11	1	

Appendix 2: Post-test- Actual Competency Assessment Checklist

<u>**Tracheostomy Suctioning- Competency Assessment Checklist**</u>

E-Excellent   **S**-Satisfactory   **NP**-Needs Practice

Instructions: Learner should be provided simulated patient, physician orders, O2 readings, paper and pencil, and inventory of supplies and equipment in an isolated environment with working area or table. Client trainer asks verbal questions and reviews actual performance using checklist

	<u>Assessment Performance</u> Objectives		<u>E</u>	**S**	**NP**	**Comments**
Demonstrates Identifying Need for Suctioning						
Identifies two primary sources	States Physician orders and Patient Condition					
Identifies and interprets Physician orders	Interprets Physician orders and states specific suction orders	States 4 specific elements of suctioning on physician orders				
Identifies 2 methods of assessing patient condition	Identifies Visual conditions warranting suctioning	States 5 visual conditions				
	Explains O2 levels criteria warranting suctioning					
Demonstrates Preparation for Suctioning Procedure.						
Demonstrates identification and positioning of supplies and equipment.						
Identifies Supplies and equipment needed	List/State 9 items needed- physically identifies items.					

Demonstrates Positioning for Supplies and Equipment	Positions in clean flat are with sufficient proximity to patient.					
Demonstrate Proper Prepare Patient	Identify 2 elements of patient communications- what and why.					
	Identify 2 criteria for patient positioning; comfort and unobstructed access to tracheostomy					
Demonstrates Connect and Test Suction Machine	Demonstrates canister check	Checks canister, empties, and repositions as needed				
	Demonstrates hose connections	Identifies hoses and makes correct connections				
	Demonstrates suction machine test	Properly tests machine suction				
Demonstrate Preparing Catheter for Suction	Demonstrates connecting catheter	Connects catheter correctly maintaining sterile				
	Demonstrate preparing sterile rinse	Sets up rinse bath maintaining sterile				
	Demonstrate identifying suction length	Identifies correct depth based on Dr orders OR 3 optional methods. States 3 option				

		methods for determining depth.				
	Demonstrate positioning catheter for suction	Positions sterile catheter correctly in hand for proper depth suctioning				
Demonstrate Procedure						
Demonstrates suctioning	Demonstrate inserting catheter	Inserts catheter carefully up to desired depth				
	Demonstrate catheter removal	Removes catheter with slow twisting motion				
Identifies potential complications	States/lists 4 potential immediate complications					
		Total time less than 15 sec.				
		Maintain sterile technique				
		Waits several minutes before re-suctioning				
Demonstrates Assessing need for re-suction	Identifies Visual conditions warranting suctioning	States 5 visual conditions (section 1)				
Demonstrates terminating procedure and procedure documentation						
Disposes/puts away supplies	Identifies and disposes all non re-usable supplies					
Demonstrates Documentation	Lists 4 specific information needs for documentation					