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## Telemedicine and Advanced Technology Research Center: Quarterly Report, July 18, 2009 to October 17, 2009

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## Quarterly Report

1. **Contract No:** W81XWH-08-1-0451
2. **Report Date:** October 28, 2009
3. **Reporting Period:** July 18, 2009 to October 17, 2009
4. **PI:** Dr. Bea Babbitt
5. **Telephone No:** (702) 895-1506
6. **Institution:** University of Nevada, Las Vegas –Division of Educational Outreach (UNLVEO).
7. **Project Title:** Development of a P.O.I. and a Blended Learning Ecology for use in Combat Lifesaver Skills Training for the Army.
8. **Current Staff with Percent of Effort:**

The following personnel were hired on to the project:

- 2 Graduate Students
  - o Gordon Louie: Hired to create a universal POI (complete with learning objectives for each lesson) by combining the currently used lesson manuals together.
  - o Amanda Torquino: Hired to modify and integrate the currently used PowerPoint Slides with the new POI and PRS material.
- Research Specialist
  - o Dr. Angelina Hill: Hired to assist the Principal Investigator with the project’s research design throughout the development, pilot testing, implementation, and analysis phases of the project.
- Assistant to the Director of Operations
  - o Brett Bolton: Hired to assist the Director of Operations with document creation and operational tasks. This includes (but is not limited to) quarterly reports, annual reports, meeting minutes, budget revisions, and organizational charts.

The percent of effort of the currently known project personnel will be as follows:

Name	% of Effort Development Stage	% of Effort Implementation Stage
Principal Investigator (Dr. Bea Babbitt)	50%	50%
Research Specialist (Dr. Angelina Hill)	50%	50%
Director of Operations (Jerry Bussell)	50%	50%
Graduate Student (Gordon Louie)	80%	20%
Graduate Student (Amanda Torquino)	80%	20%
Dist. Ed. E-Module Design Team	80%	20%
Asst. to the Director of Ops. (Brett Bolton)	50%	50%

Dr. Bea Babbitt, in collaboration with the project's Director of Operations, Jerry Bussell, and the TATRC Contracting Officer's Representative (COR), Gene Wiehagen, will continue to search for and recommend the additional personnel necessary to successfully implement this project.

**9. Contractual Expenditures by Quarter:**

To date, we have spent a total of **\$ 160,087.16** as follows:

	This Qtr*			Project Cumulative		
	Development	Implementation	Total	Development	Implementation	Total
Personnel	26,875.23	15,000.00	41,875.23	56,875.25	44,999.98	101,875.23
Fringe Benefits	3,069.15	2,873.61	5,942.76	4,927.20	4,731.72	9,658.92
Travel	-	3,201.27	3,201.27	-	6,289.23	6,289.23
Operations	-	598.00	598.00	-	777.64	777.64
Indirect Cost	13,025.81	5,469.38	18,495.19	26,884.07	14,602.07	41,486.14
<b>Total</b>	<b>\$ 42,970.19</b>	<b>\$ 27,142.26</b>	<b>\$ 70,112.45</b>	<b>\$ 88,686.52</b>	<b>\$ 71,400.64</b>	<b>\$ 160,087.16</b>

**10. Comments on Administrative and Logistical Matters:**

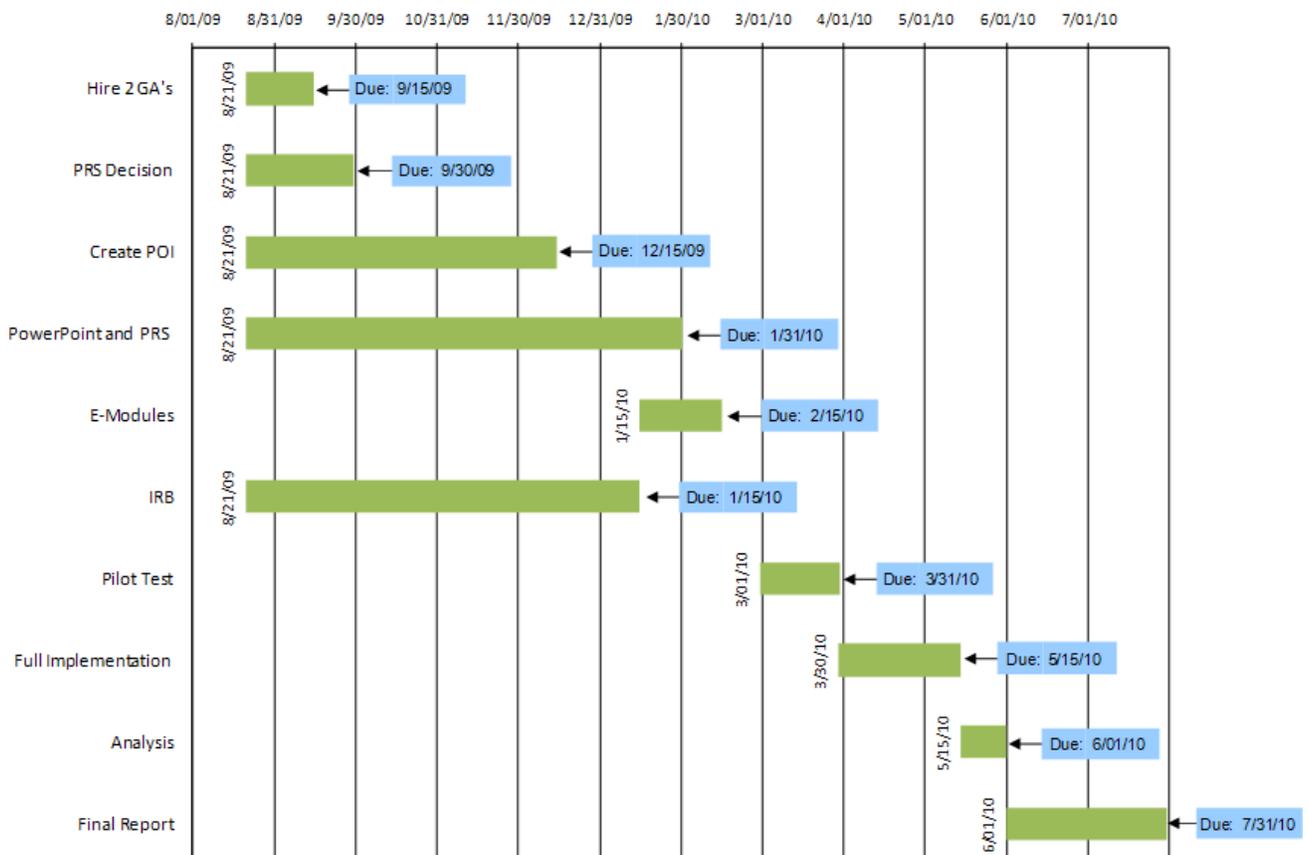
- Advanced Technology Applications for Combat Casualty Care (ATACCC) Conference  
From August 10 to August 14, 2009, Jerry Bussell and Bea Babbitt attended the Advanced Technology Applications for Combat Casualty Care (ATACCC) Conference held in St. Pete Beach, Florida. During the conference, Bea Babbitt and Jerry Bussell observed and examined the recent advances in trauma surgery and medicine, planning ultimately to apply the best of these new technologies and research to our project.
- 8/20/2009 TATRC Planning Meeting  
On August 20, 2009, the members of the UNLV TATRC grant team met to outline the future tasks required to ensure the project's timely completion. With direction from the Principal Investigator and Director of Operations, the team listed and defined the following tasks along with their respective task leaders, start dates, and tentative due dates:

Task Name	Definition	Task Leader	Start Date	End Date
Hire 2 Graduate Students	Hire 2 Graduate Students to help develop the POI and supporting PowerPoint slides.	Bea Babbitt	8/21/09	9/15/09
PRS Decision	Decide which Personal Response System (PRS) best matches the needs of our project and then purchase/test the unit.	Angelina Hill	8/21/09	9/30/09
Create POI	Create a universal POI by combining the thick yellow lesson manuals together and then constructing learning objectives for each lesson.	Graduate Student 1	8/21/09	12/15/09

PowerPoint	Modify the current PowerPoint Slides to integrate the new POI and PRS material (There are currently 500+ PowerPoint Slides in existence already).	Graduate Student 2	8/21/09	1/31/10
E-Modules	Develop e-learning modules to act as support material to the POI.	Distance Education	1/15/10	2/15/10
IRB	Obtain the necessary UNLV and Federal IRB exemptions to proceed with our research.	Angelina Hill	8/21/09	1/15/10
Pilot Test	Conduct a pilot test of the new POI, E-Modules, and PRS on actual students over the course of a 40-hour training period (about one week).	Angelina Hill and Jerry Bussell	3/01/10	3/31/10
Full Implementation	Implement the full POI (including any revisions deemed necessary from the Pilot Test phase) at Fort Indiantown Gap.	Jerry Bussell, Bea Babbitt, & Angelina Hill	3/30/10	5/15/10
Analysis	Determine the effectiveness of our POI in terms of our research question and design.	Bea Babbitt & Angelina Hill	5/15/10	6/01/10
Final Report	Write the final report summarizing our efforts and findings.	Bea Babbitt & Angelina Hill	6/01/10	7/31/10

Based on the tasks listed above, the UNLV TATRC team then created the following projected timeline for the start and completion of each project task:

### TATRC Project Timeline



- Budget Revision  
Given the project's substantial changes in scope, Brett Bolton, under the guidance of Jerry Bussell and Bea Babbitt, has begun revising the budget to meet the changed needs of the project. Brett will present his revised budget at the October 19, 2009 UNLV TATRC Team planning meeting for further revisions from Bea Babbitt and Jerry Bussell. After making all necessary changes, a final revised budget, along with supporting documentation, will be approved by the project's Principal Investigator and then sent to the project's COR, Gene Wiehagen, for final approval and submission.
- Visit to Fort Indiantown Gap, Pennsylvania  
From October 12 to October 16, 2009, Bea Babbitt and Jerry Bussell visited the Fort Indiantown Gap, Pennsylvania, National Guard Training Site (FIG). During their stay, they were given a tour of the facility, briefed on multiple aspects of the training accomplished at FIG, and allowed to observe and study the teaching techniques and equipment currently used by FIG instructors for lecture-based instruction.

#### 11. Scientific Progress for the Quarter:

A complete description of the procedures of the study in the sequence they will occur is included below. The protocol of the study has been developed to send to the Office for the Protection of Research Subjects at UNLV. A Claim of Exemption Form was sent to the USAMRMC Office of Research Protection for review.

- Dependent measures  
Dependent measures were identified and will consist of (1) Exam scores from soldiers taking the modified course, (2) Exam scores from soldiers who have taken previous versions of the course in 2008, and (3) questionnaire responses from trainees and instructors about their perceptions of the course as compared with previous versions.
- Hypotheses  
Hypotheses to be tested were developed as follows: (1) The new POI will result in an increased average passing score on the written examination compared to test scores from prior courses, (2) Soldiers who are repeating the training will give higher ratings for the new course (in terms of overall experience and effectiveness than for their prior course(s)).
- Data Analysis  
Data analysis to test these hypotheses will consist of (1) a one sample t-test comparing scores on the written examination with scores for soldiers who have taken the course in the past, and (2) a t- test comparing soldiers' preference ratings with what would be expected if they had no preference. Descriptive summaries of open-ended questions asked to trainees and instructors will also be provided.

- Complete Procedures

Complete description of the procedures of the study in the sequence they will occur: The soldiers will be enrolled in the standard Combat Lifesaver Course that is part of their initial basic training, or is a refresher course for those who are getting ready to deploy and haven't taken the training in over a year. Soldiers will be given a series of lectures on topics related to providing emergency care to members of a squad or crew as their mission permits. Instructional materials already exist for this course and include an instructor and student guide, and examinations. The training consists of approximately 40 hours in a classroom and lab setting, over the course of five days. As part of the course, soldiers are required to perform (either actively or in writing) what they learned during the lectures. Lectures will follow the existing sequence and last approximately the same amount of time as outlined in the already existing course materials, except that lectures will consist of the new POI that contains a blended learning curriculum and uses personal response systems. Questions that are part of the existing curriculum will be asked using the personal response systems. The responses of the class will be projected on a monitor for the instructor and students to view and use to identify content that requires further attention.

After all lessons have been completed and the final exam administered, trainees will be given a set of questions. Those taking the course for the first time will be asked questions related to the effectiveness of the course. Soldiers repeating the course will be asked questions requiring them to compare the course with prior versions they have taken. Instructors will also be asked to provide their perceptions of how the modified course compares to past courses in terms of improvements for students and for the instructor.

## 12. Plans or Milestones for the Next Quarter:

Future objectives for this project include the following items:

- Hire the additional personnel necessary to complete the project's outlined tasks.
- Finalize and submit a revised budget to reflect the project's current scope of work.
- Begin a series of extensive interactions with US Army medical personnel centered around the building of the POI, including several visits to Fort Indiantown Gap.
- Begin writing a first draft of the POI for feedback and revision from all stakeholders in the process.
- Begin the process of constructing a learning design for the virtual modules which will be offered as part of the blended learning strategy.
- Determine the most appropriate qualitative research design (which will feature quantitative elements) to evaluate and validate the POI and the blended learning modules.

## Future Meetings

- The UNLV TATRC Team will meet on October 19, 2009 to:
  - o Introduce and brief the Graduate Students who will be working on the POI
  - o Review findings made during Jerry Bussell and Bea Babbitt's October 12 to October 16, 2009 visit to Fort Indiantown Gap
  - o Review computer purchase recommendations
  - o Review and edit the first draft of the revised budget
  
- All members of the TATRC Project (including the UNLV Team and key representatives from TATRC and Fort Indiantown Gap) will meet in Las Vegas, Nevada from December 15 to December 16, 2009 to:
  - o Introduce the new additions to our team
  - o Provide a briefing on the project's progress
  - o Present a prototype of a completed module
  - o Provide an overview of our next phase of project development including performance milestones
  - o Present a finalized equipment list, with delivery dates
  - o Review our budget and expenditure rates