Summative Evaluation Plan: EIB Pro Project

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Introduction

The purpose of this report is to elaborate upon summative evaluation techniques, procedures, methodologies, and outcomes focused on the implementation of the EIB Pro mobile application. Further, this report seeks to evaluate the efficacy of the EIB Pro application as an intervention focused on improving the performance of U.S. Army Expert Infantry Badge (EIB) candidates during training for, and execution of, EIB testing procedures. Lastly, this report will utilize data collection methods to ascertain the overall outcomes of EIB Pro use to assist clients in the decision-making process regarding the future utilization of EIB Pro as an instructional intervention.

Background

EIB Pro was designed to serve as a supplemental tool for U.S. Army Infantry Soldiers seeking to earn the EIB through the U.S. Army's established EIB testing process. EIB Pro provides EIB candidates with guided instruction focused on the components of EIB testing including all individual EIB testing stations. Further, EIB Pro provides the user with tracked progress during EIB training to provide them with data informing on progress and areas of deficiency. EIB Pro also includes video tutorials, systematic instructional guides, and event timers to augment the training capabilities of the application. A previous formative evaluation of the EIB Pro application titled *Formative Evaluation: EIB Pro Application* (2021) was conducted by this writer and Andrew DeUnger, and along with data derived from the project's implementation, will serve as the basis for this summative evaluation.

Context

Prior to implementation of the EIB Pro application as an instructional intervention, rates of EIB testing success for EIB candidates were around 24% during initial assessment. The U.S. Army's desired success rate during EIB testing is established at 65%, resulting in a 41% disparity between desired and actual success during EIB testing. EIB testing procedures are designed to be physically and mentally demanding, result in the awarding of the EIB for successful candidates, and serve to provide distinction amongst the best Infantry Soldiers in the U.S. Army. To ensure the continued success and sustainment of an effective and efficient Infantry, the U.S. Army sought to enhance EIB training support through the development, identification, and implementation of various instructional interventions, of which, EIB Pro is one.

Purpose and Goals

The purpose of this summative evaluation is to ascertain the efficacy of EIB Pro regarding the success rates of EIB candidates in the post-implementation period of the EIB Pro intervention. Further, this evaluation seeks to gain perspectives of EIB candidates and associated stakeholders regarding the EIB Pro application while also identifying the perceived value of EIB Pro across the U.S. Army Infantry. The goals of this evaluation are as follows:

- Gain understanding of the EIB Pro project's effect on the EIB success rate performance problem.
- Ascertain perspectives of individual EIB Pro users and stakeholders regarding the value of EIB Pro to the U.S. Army Infantry.

- Provide a summative evaluation of the project including its impacts on the individual EIB candidate, infantry units, the Infantry Branch, and the U.S. Army.

Learning Objectives
> The learning objectives of the EIB Pro project include that EIB candidates will:

- Understand EIB tasks and be able to replicate their proper execution under testing conditions.
- Describe the EIB testing environment and the associated training scenarios to exhibit familiarity and comfort with testing procedures.
- Demonstrate successful application of EIB proficiencies during training and testing.

Audience

The intended audience for this summative evaluation is the client, the U.S. Army's Infantry Branch and its associated subordinate infantry organizations. Further, the audience for this report also includes EIB candidates, EIB Pro application administrators and designers, infantry organizational leadership, and EIB testing developers. Ultimately, the audience for this report includes learners and stakeholders existing within the U.S. Army Infantry Branch and proponents of the EIB Pro application.

Learners

This project's learners are the end users of the EIB Pro application and primarily consist of EIB testing candidates. These candidates are U.S. Army Infantry Soldiers in the ranks of Private through Sergeant who range in Army experience from 1-7 years of service. The learners for this project are all Infantry School trained and possess various levels of civilian education with General Education Development (GED) certification serving as the minimum requirement for Army enlistment.

Stakeholders

The primary stakeholder for this summative evaluation is, as previously stated, the U.S. Army Infantry Branch, or client. Other stakeholders for this evaluation include the following.

- The U.S. Department of the Army
- All infantry organizations subordinate to the Infantry Branch
- Infantry organizational leadership
- EIB Pro application developers, administrators, and designers

Summative Evaluation Use

The results of this summative evaluation will allow all members of the aforementioned audience to gain insight and understanding of the EIB Pro project's effect on the U.S. Army's Infantry. Further, this evaluation will serve to provide perspective to the audience regarding the impact of EIB Pro on users, EIB test administrators, EIB training developers, and infantry organizational leadership. Lastly, and most importantly, this evaluation will be used to by the client to make decisions regarding the future of this project including potential modifications,

expansion or reduction of use, and the continuance or termination of the EIB Pro project as a program of record.

Data Collection

Data collection efforts for this summative evaluation will include diverse methods of information collection in an attempt to gain many perspectives regarding program efficacy. Further, the methods used to gain this information will provide varying quantitative sets of data, enhancing the effect of this evaluation. Instrumentation used during data collection will provide factual data results, opinions, and recommendations, including an emphasis of stakeholder desire focused on the improvement of the project. Ultimately, this evaluation will utilize a pre-test and post-test design to indicate changes as a result of the implementation of the EIB Pro application. This design will require data collection to focus on the same data sources throughout the process.

Methods and Instrumentation

Data collection methods are as critical to the process of summative evaluation as the data itself and selection of these methods, in a strategic manner, will allow for the collection of proper data that will serve to objectively assess the project. The following list includes the methods identified for this summative evaluation.

Surveys

- **Reasoning**
The rationale for the use of surveys as a data collection method is that they will present the evaluation with the perspectives of individuals as they pertain to the use, efficacy, worth, and capability of the EIB Pro application. Surveys will allow for the collection of large quantities of data that can be easily interpreted to provide substantive feedback on the perceptions of the program.
- **Purpose**
The surveys designed for this evaluation will result in feedback regarding the perceptions of survey respondents. This feedback will allow analysts to ascertain a concentric view of the perceived usefulness and intended purpose of the EIB Pro application.
- **Data Sources**
The sources of survey data collection will include both EIB candidate users and organizational leadership of EIB candidates.
- **Procedure**
Surveys will be designed and developed by the evaluation team, with a focus on answering the questions listed below. Surveys will then be delivered to respondents identified as EIB Pro application project participants. Upon receipt of survey responses, the evaluation team will analyze the responses, compare and contrast them with surveys that predate EIB Pro implementation, and construct a consolidated report indicating both the positive and negative effects of EIB pro use within infantry organizations.

Focus Groups

- **Reasoning**
Focus groups will allow evaluators to gain information from the identified groups in an open forum that permits the sharing of ideas and thoughts. These focus groups will provide a

venue for the consolidation of ideas, lessons learned, and recommendations. Further, the conduction of focus groups pre and post-implementation will allow for a contrasting of participant engagement and response across time.

- **Purpose**

The focus group will allow interaction between evaluators, participants, and stakeholders to gauge the opinions of both the individual and the group. These opinions and collateral discussion will allow for a deep exploration of the impact the EIB Pro application has had on the individual, organization, and infantry.

- **Data Sources**

The sources of focus group data collection will include one group comprised of EIB candidate users and another comprised of EIB candidate organizational leadership.

- **Procedure**

Evaluators will design guiding questions to be asked during focus groups that will allow an organic expression of thoughts and ideas pertaining to the EIB Pro application. The results of these discussions will then be compared to those from focus groups that took place prior to EIB Pro implementation. This data will be compiled, compared, and contrasted to identify changes and new developments regarding group participant perspectives.

Interviews

- **Reasoning**

The reasoning behind the use of structured interviews is to gain first-hand data from interviewees pertaining to individual thoughts, opinions, and perspectives of the EIB Pro application. Further, interviews will allow evaluators to explore responses to designed questions, in real time, to gain a deeper understanding of interviewee responses.

- **Purpose**

Interviews are intended as a means of personal interaction between evaluators and project participants and stakeholders. The information derived from interviews provides valuable insight into the project and will serve to provide evaluators with a wealth of data.

- **Data Sources**

The sources of interview data collection will include select EIB candidate users and organizational leadership members.

- **Procedure**

Interviews will be structured and designed around the questions listed below. Further, interviews will align closely with pre-implementation interviews to allow for contrasting of responses. Upon completion of all interviews, results will be compiled and aligned, with the results from the other identified data collection methods, for client presentation.

Data Analysis

- **Reasoning**

A data analysis will provide evaluators with the results of EIB testing as defined, described, compiled, and presented by the Infantry Branch. Analysis of this data will provide evaluators with concrete statistics to allow for comparison with pre-implementation data.

- **Purpose**

Statistical analysis of success and failure rates during EIB testing is critical to the understanding of the effect that EIB Pro has had on EIB candidate success. This data will provide definitive correlations and comparisons of pre and post-implementation success rates.

- **Data Sources**

The source for data analysis will be the U.S. Army Infantry Branch, serving as the proponent for all EIB training and testing.

- **Procedure**

The evaluation team will request current EIB testing data from the Infantry Branch, compare this data to data acquired prior to EIB Pro implementation, and compile the results, including changes in comprehensive success rates and individual task success rates. This data will be combined with all previously gathered data and will culminate in a comprehensive summative evaluation.

Through the utilization of survey, focus group, interview, and data analysis methodologies, this summative evaluation will result in the correlation of diverse data sets. Further, this data will allow comparison and contrasting of gathered information while considering multiple perspectives, opinions, recommendations, and factual statistics. Each of the four identified methods will serve to support one another and enhance the validity of this evaluation's results, allowing the client to make informed decisions regarding the future of the EIB Pro project.

Evaluation Matrix Design

The design of the summative evaluation matrix considers established questions focused on ascertaining the outcomes of project implementation in support of the project goals. By designing the data collection around these questions, this writer seeks to gain multiple perspectives of program effect. When coupled with the diverse listing of data collection methods above, a pattern-analysis of responses geared toward answering these questions will emerge and ultimately, provide the client with a concentric set of evaluation results. The evaluation matrix will allow for the alignment of designed evaluation questions with data collection methods, sources, and procedures to provide an outline to guide the client towards decision points with consideration to instrumentation responses.

Questions Answered

This evaluation, through the described data collection methods and instrumentation, will seek to answer the following questions pertaining to the efficacy of the EIB Pro application program implementation.

1. How well does EIB Pro content align with the expectations of EIB training and testing?
2. How effective is EIB Pro at supporting and advancing EIB proficiencies?
3. What portions of EIB Pro are most effective and useful in EIB testing preparation?
4. To what extent has EIB Pro improved individual performance during EIB testing?
5. In what ways has utilization of EIB Pro increased organizational training capability?
6. What changes in EIB testing success rates may be attributed to EIB Pro use?

Evaluation Matrix

Evaluation Questions	Data Collection Method	Data Source	Data Collection Procedures
How well does EIB Pro content align with the expectations of EIB training and testing?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding EIB Pro instruction when compared with EIB testing.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion regarding alignment of EIB Pro content with EIB testing environment.
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives regarding EIB Pro in contrast with EIB testing environment.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of changes in success and failure rates during EIB testing before, during, and after EIB Pro implementation.
How effective is EIB Pro at supporting and advancing EIB proficiencies?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding improvement of EIB proficiencies as a result of EIB Pro use.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion regarding efficacy of EIB Pro content in enhancing EIB proficiencies.
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives regarding EIB Pro's capability to enhance EIB proficiencies.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of Infantry Soldier proficiency improvement during EIB training and testing.
What portions of EIB Pro are most effective and useful in EIB testing preparation?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding efficacy of specific EIB Pro instructional modules.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion regarding usefulness of EIB Pro content within EIB testing environment.
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives regarding EIB Pro usefulness during EIB testing.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of areas of EIB testing advancement and regression before, during, and after EIB Pro use.
To what extent has EIB Pro improved individual performance during EIB testing?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding personal performance reflection before, during, and after EIB Pro use.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion regarding levels of perceived candidate performance improvement as a result of EIB Pro use.
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives of individual candidate performance improvement during EIB testing as a result of EIB Pro use.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of changes in success and failure rates during EIB testing before, during, and after EIB Pro implementation.
In what ways has utilization of EIB Pro increased organizational training capability?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding organizational training capability and capacity as a result of EIB Pro implementation.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion focused on benefits and drawbacks of EIB Pro use in an organizational training capacity
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives of organizational training environment before, during, and after EIB Pro implementation.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of total Infantry Branch training schematics and results before, during, and after institution of EIB Pro.
What changes in EIB testing success rates may be attributed to EIB Pro use?	Surveys	EIB Candidates/Users	Survey designed to gain levels of concurrence with statements regarding EIB pro responsibility in changes to success levels.
		Organizational Leadership	
	Focus Groups	EIB Candidates/Users	Open forum discussion regarding changes, good or bad, as result of EIB Pro implementation.
		Organizational Leadership	
	Interviews	EIB Candidates/Users	List of questions designed to gain perspectives of success increases or decreases due to EIB Pro use.
		Organizational Leadership	
	Data Analysis	Infantry Branch Statistics	Analysis of EIB testing task success rates before, during, and after EIB Pro introduction.

Other Tools and Techniques

Countless evaluation tools, techniques, methods and procedures exist that would serve this project in an advantageous way. The following are but two methods identified that would have served to provide additional data, providing more time for this evaluation was available.

SME Evaluation

Description

Subject matter expert evaluations utilize experts from applicable fields to assist evaluators with areas that may fall outside of the evaluator's area of expertise. SME evaluation allows consideration of specific aspects unique to the project or situation and results in valuable and pertinent data that may have otherwise been overlooked (Reeves & Hedberg, 2003).

Rationale

The rationale behind SME evaluations for the EIB Pro project would have been to allow for infantry focused analysis of the program by an objective party. Further, an infantry expert, familiar with all current aspects of EIB training and testing, would have conducted this objective analysis.

EIB Training Observation

Description

Training observation allows evaluators to witness, first-hand, the effects of the applied intervention. Evaluators observe learners, in the training and testing environment, prior to and after implementation of the suggested intervention. This observation allows evaluators to understand the impacts of the intervention on the intended audience.

Rationale

The use of training observation within the scope of the EIB Pro project would have provided evaluators with first-hand knowledge of EIB candidate performance prior to, and as a result of, EIB pro implementation. This data would have allowed evaluators to compose their own perspectives of the invention while also providing them with elaboration of the EIB training and testing processes.

References

DeUnger, A. & Petrie, D., 2021. Formative Evaluation: EIB Pro Application. Syracuse

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