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CFNES: 4500-1 (MSE TDO)

26 July 2012

MSE Div Comd

CFNES MSE DIVISION REPORT ON “ADVISOR” SOFTWARE - PILOT PROJECT

References: A. Advisor Pilot Project – Training Contract, dated 14 Oct 2011
B. Advisor Enterprise Student Guide
C. E-mail – LCdr Melnychuk to Capt Rivalin, dated 6 Jun 2012

BACKGROUND

1. As per Ref A, a pilot project was authorized to evaluate the Advisor Enterprise Strategic Training Planning System. The RCN does not currently employ a tool with the capabilities of Advisor; therefore, the project included participants from CFNES management and training development fields to determine if the current operating procedures could be either enhanced or replaced by Advisor functions. Courses currently offered by CFNES CSE and MSE Divisions were selected to trial Advisor by following the instructional systems design process that is integral to the system and generate reports for analysis.

AIM

2. Advisor is a web-based decision support tool, intended to assist organizations in developing and implementing effective and efficient training strategies and assess their impact. The aim of this pilot project was to first, identify the needs of CFNES with regards to the inefficiencies of current practices or the absence of a process completely; and second, identify how Advisor can satisfy these needs if employed within CFNES.

DISCUSSION

3. As per Ref A, the pilot project began with the provision of licenses (2) to CFNES personnel to access Advisor online as well as a training session conducted 21 Oct 2011 to familiarize CFNES personnel with the application. The training session included the allocation of student guide binders (Ref B) to assist users navigating through the application.

4. CSE and MSE Divisions selected courses to demonstrate Advisor capabilities and evaluate the reports produced to determine if the application would satisfy CFNES needs. MSE Div courses included the LM 2500 Maintenance Course (Mar Eng) and the Helo-

Hauldown/JP-5 Maintainer Course (Mar Eng and E Tech). CSE Div used Advisor to align the recently developed training for the new W Eng Tech occupation with legacy NET and NWT training documentation to determine if all tasks that require training have been addresses in the new QSPs. The inputting of information for these courses was not an arduous task; however, the user interface is not at first intuitive. After spending time using Advisor, those involved in the project acknowledged that they were able to navigate through it with little difficulty.

5. Project members initially created a list of needs that a Training Authority (TA) requires to operate effectively and efficiently. Annexes A and B illustrate the needs of CFNES in a Mindmap, with corresponding major areas of concern for a TA detailed in Annex C:

- a. Current and accessible Job Based Specifications (JBSs), Job Descriptions (JDs) and Primary Documentation;
- b. Accurate Qualification Standard and Plan – Management System (QSP-MS);
- c. Standardized QSP Template;
- d. Trained Quality Assurance (QA) and Standards personnel;
- e. Effective and efficient QSP Writing Board (QSPWB) process;
- f. Task/Skill/Knowledge relationship within documentation to ensure all training is performance oriented; and
- g. A substantiated method to select instructional strategies when designing training.

6. Annex B is an expansion of the larger need for an effective and efficient QSPWB process. QSPWBs are fundamentally similar in how they are convened across the RCN; however, they require an enormous amount of resources to deliver an accurate QSP and TAs rely on TDO experience to ensure alignment within the document is correct and that the decisions of the board are the right ones.

7. Each of these needs generates challenges for a training establishment when resources and staff continuity are very limited; such is the case for CFNES. CSE Div Cdr, CFNES QAO, and two CFNES TDOs collaborated to determine the areas of concern that correspond to each of these needs, as detailed in Annex C.

8. Mr. Jay Bahlis is the POC for the Advisor pilot project; as the CEO for BNH Expert Software, he is intimately familiar with the structure and capabilities of the application. Mr. Bahlis facilitated the training session for CFNES personnel on site and coordinated the pilot project to ensure CFNES was exposed to all potential benefits from using Advisor within the TA. The results of the pilot project are provided as Annexes and are also listed as Advisor Solutions to the areas of concern in Annex C; included within the solutions listed are actual reports that can be automatically generated from the Advisor application.

9. During the final phase of this project in which reports were generated, Mr. Bahlis assured CFNES pers that the reports can be customized to meet the requirement of the

unit. The advisor reports attached (see Annexes) have not been customized and therefore do not currently conform to the QSP format but are representative of the separate Qualification Standard (QS) and Training Plan (TP) format used by the Army and Air Force.

10. To be effective, TAs need to ensure that training programmes are comprehensive and that they utilize the best possible instructional strategies. To be efficient, they need to leverage existing resources and provide training in a timely manner. Currently, CFNES does not employ a comprehensive system to capture interdependencies between training variables or facilitate decision making to determine the best possible instructional strategies. Part of the challenge for CFNES in this respect is that the authority for Course Control Documentation (CCD) such as QSPs is split between CFNES and CFFSE within occupations. General Specifications (GS), JBSs and JDs are managed by DPGR; as these are the primary documents for developing QSPs, it becomes a challenge to maintain an effective, comprehensive, current system because changes to these documents can be submitted at any time without notification. There is consensus among persons involved with this project that a system is required to ensure training documentation is managed more efficiently and effectively.

11. The development of the Integrated Systems Approach to Training (ISAT) software is a Canadian Defence Academy (CDA) initiative to amalgamate, or assist in the communication between the various databases/systems/processes and capture the interdependencies between training variables. IAW Ref C, CFNES will be part of the ISAT pilot project later this year to assess operability and determine if it meets the needs of TAs.

12. The creation of the Navy Learning Support Centre Atlantic [NLSC(A)] is intended to manage the selection and development of e-learning solutions for CFNOS, CFNES and FDU(A). Similar to the processes within Advisor, NLSC(A) will produce Training Needs Analysis (TNA) and Feasibility Reports, as well as a Statement of Work (SOW), for each project that is referred to that organization and selected for development. The support of NLSC(A) will ensure selection of instructional strategies considers the best methods and media for Naval instruction as well as the return on investment.

RECOMMENDATIONS

13. The results of the Advisor pilot project are encouraging given the current process of producing training documentation is very time intensive and does not have the amendment and reporting processes that Advisor can provide. The customization of reports is a key element in selecting Advisor as the solution to CFNES because the current format for Naval training documentation (QSP) is very effective and the reports must align to these documents to be effective.

14. With the conduct of the ISAT pilot project in the coming months, I recommend that the results of this project be compared with the report from the ISAT pilot project. With the continuing development of NLSC(A) processes in selecting and developing e-

learning for the Navy, I recommend that CFNES consult with NLSC personnel to evaluate Advisor e-learning selection tools to ensure they are accurate and align to the selection criteria the Navy wants to consider when determining the most effective instructional strategies.

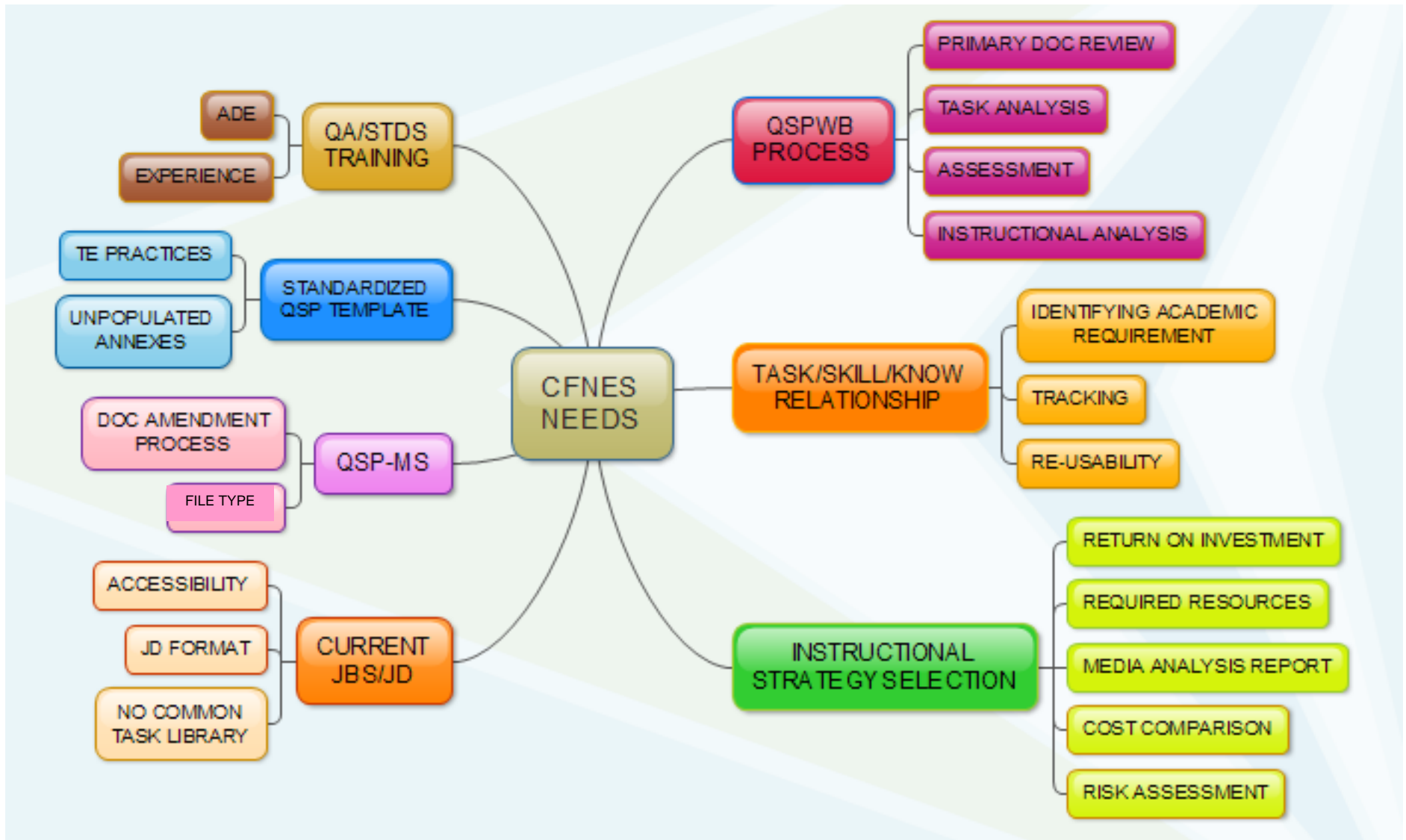
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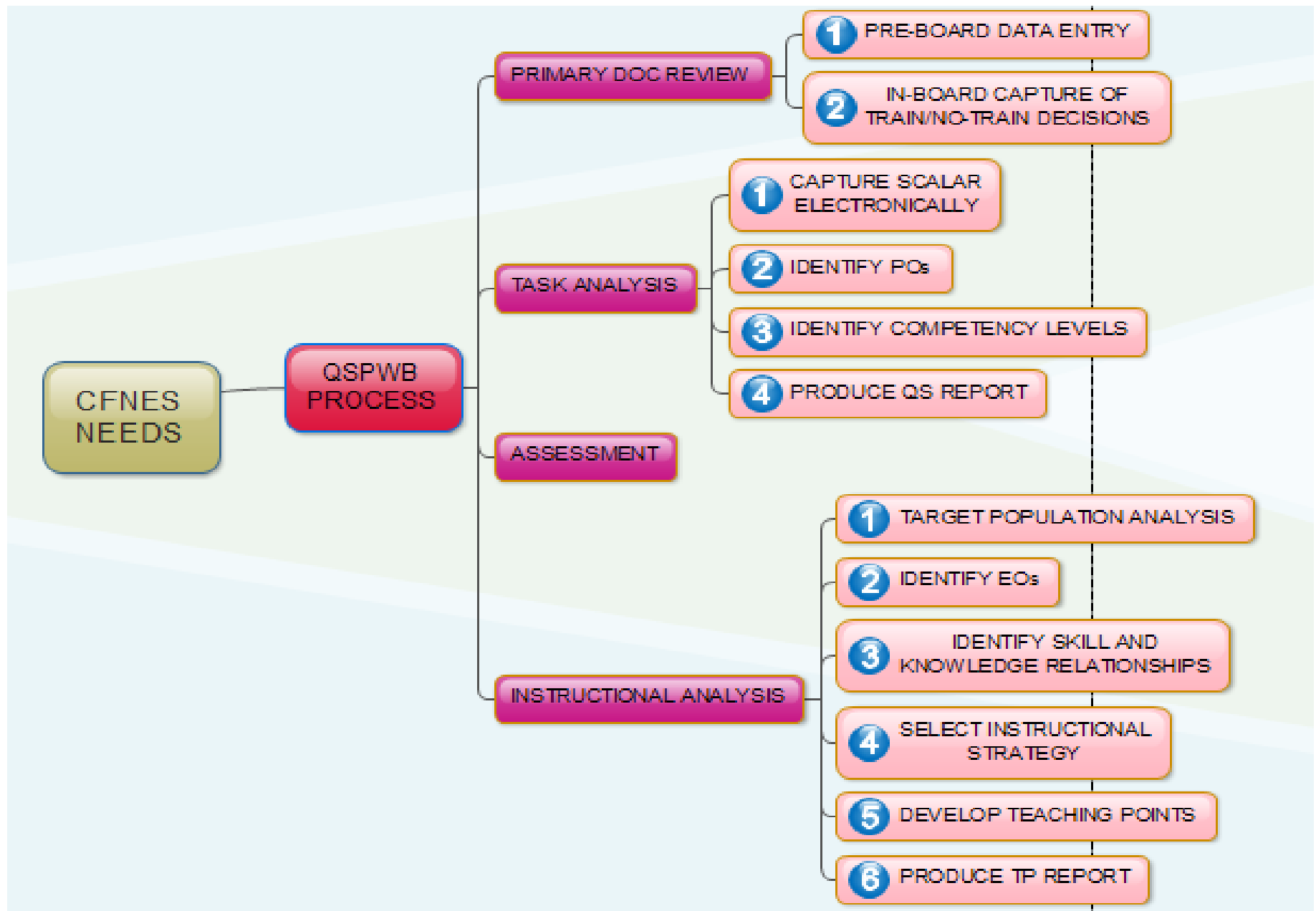
G.C. Rivalin
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Annexes:

Annex A – CFNES Training Needs Mindmap
Annex B – CFNES Training Needs QSPWB Mindmap
Annex C – CFNES Training Areas of Concern
Annex D – Advisor Job Task Report
Annex E – Advisor Master Reference List Report
Annex F – Advisor Qualification Standard Report
Annex G – Advisor Job Task Analysis Report
Annex H – Advisor Training Plan Report
Annex I – Advisor Align Tasks to KSAs Report
Annex J – Advisor Bottom Up Audit Report
Annex K – Advisor Top Down Audit Report
Annex L – Advisor Cost Analysis Report
Annex M – Advisor Feasibility Report
Annex N – Advisor Cost Effectiveness Report

CFNES Training Needs Mindmap
Annex A to Advisor Pilot Project Report





CFNES Training – Areas of Concern
Annex C to Advisor Pilot Project Report

Needs	Areas of Concern	Advisor Solutions
A. Current and accessible JBSs, JDs and Primary Docs	1. JDs are controlled by D MAR Pers and are not readily accessible for TA review	JD information and tasks can be entered into one on-line accessible, comprehensive repository
	2. JDs are in MS Word format and are therefore not linked for tracking of data	MS Word is not intended for analysis; Advisor can automatically track the location and analyze any training elements as needed
	3. JDs do not use task numbers for tracking throughout QSPs	Advisor automatically generates reference codes for tasks (see Annex D – Advisor Job Task Report)
	4. Common tasks across JDs or MOS IDs are not identified; analysis and design processes are duplicated by successive boards	Refer to <i>Needs, F, 2</i> below
B. Accurate QSP-MS	1. Amendment process involves mostly manual review and amendments, as well as a delay in the posting of documents for user access	Advisor automates the amendment process; through the links and relationships between tasks and the POs/EOs/TPs, an up to date QSP report can be generated at any time following an amendment
	2. File type (Word .doc or Adobe .pdf) cannot communicate with a document management system and therefore increases the time required to make changes and align documents	Advisor database allows for instantaneous changes to all related documentation
	3. Version control is sometimes an issue with multiple versions accessible on QSP-MS and/or previous versions unavailable when required	Advisor stores data in a central repository that allows users to extract the latest version as well as archived versions
C. Standardized QSP Template	1. TEs currently amend the QSP format to meet their needs; this complicates their use by multiple TEs and leads to gaps in training data	Advisor provides a means to capture all applicable data in line with Naval training requirements; moreover, the QSP report could be amended to meet the full range of TE needs

CFNES Training – Areas of Concern
Annex C to Advisor Pilot Project Report

Needs	Areas of Concern	Advisor Solutions
	<p>2. Some QSP annexes are unpopulated for lack of a processes to determine content</p>	<p>As detailed in the Annexes, Advisor has the potential to provide the required data to populate QSP annexes</p>
	<p>3. Personnel required to author or amend QSP may have limited IT skills</p>	<p>Advisor user privileges can be assigned to limit the scope of their work and therefore minimize the training required to become proficient in their roles</p>
<p>D. Trained QA and Standards personnel</p>	<p>1. Personnel posted to QA personnel rarely have experience in Standards or a TE; members do not possess fundamental knowledge of CFITES processes they will follow and enforce</p>	<p>Advisor eliminates the need for personnel to be highly proficient in the processes required to produce training documentation; the user can amend specific elements rather than amend the document as a whole</p>
	<p>2. It has become increasingly difficult to obtain TDC courses to train QA personnel in CFITES processes</p>	<p>Advisor requires a TA ISD specialist to manage users and provide assistance as required; this role would be satisfied by CFNES TDOs</p>
<p>E. Effective and efficient QSPWB process</p>	<p>1. Review of Primary Documentation (CFTOs, policy, text books) is often repeated across QSPWBs within the same MOS ID and there is no central point of access</p>	<p>Advisor has the capability to create a repository of references that are linked directly to tasks, POs and EOs (see Annex E – Master Reference List)</p>
	<p>2. Pre-board data entry is limited as there is no data base utilized, only Word docs</p>	<p>Advisor database can accommodate pre-board data entry to minimize the time spend in-board entering tasks and other required information into the QSP document; pre-board data entry can be used to verify common or duplicated tasks that will also result in time saved during the board</p>

CFNES Training – Areas of Concern
Annex C to Advisor Pilot Project Report

Needs	Areas of Concern	Advisor Solutions
	<p>3. Train/No-Train decisions are normally the result of “gut feel” rather than criterion based as there is no tool that automates decision making</p>	<p>Advisor has an integrated Difficulty / Importance / Frequency (DIF) analysis tool to eliminate “gut feel” decisions (see Annex D – Advisor Job Task Report)</p>
	<p>4. Task Analysis scalars are captured using Visio or Word which make them less fluid</p>	<p>Advisor generates a tree diagram that is updated automatically as changes are made to tasks hierarchies</p>
	<p>5. Identification of POs is completed manually</p>	<p>Advisor automatically generates POs that represent task hierarchies input by the user (see Annex F – Qualification Standard Report)</p>
	<p>6. Competency/proficiency levels are not captured; too much interpretation is left to the Standards or instructional staff and it is often perceived as “re-training” if a task is repeated between Rank Qualifications</p>	<p>Advisor allows the user to assign proficiency levels that represent the trainee’s progression toward a more highly skilled technician (see Annex G – Job Task Analysis Report)</p>
	<p>7. PO alignment to the scalar and primary docs can be lost if not properly tracked</p>	<p>Integration of primary doc information and JD tasks into a database ensures alignment throughout the QSP is maintained</p>
	<p>8. Instructional analysis phase does not spend the requisite time to carry out a meaningful target population analysis; selection of instructional strategy is not aligned</p>	<p>Target population analysis is very detailed in Advisor; the data is analyzed to determine the most appropriate instructional strategy as detailed in <i>Needs, item G</i> below</p>
	<p>9. EO alignment to the POs, scalar and primary docs can be lost if not properly tracked</p>	<p>Advisor database ensures alignment throughout the QSP is maintained (see Annex H – Training Plan Report)</p>












CFNES Training – Areas of Concern
Annex C to Advisor Pilot Project Report

Needs	Areas of Concern	Advisor Solutions
	<p>10. Skill and knowledge statements no longer exist in JDs and are developed instead by the board; there are is no tracking mechanism to ensure alignment of the document and there are no proficiency levels identified</p>	<p>Refer to <i>Needs, item F</i> below</p>
	<p>11. CFNES does not currently employ a substantiated method to select instructional strategies when designing training</p>	<p>Refer to <i>Needs, item G</i> below</p>
<p>F. Task/Skill/Knowledge relationship within documentation to ensure all training is performance oriented</p>	<p>1. QSPWBs develop skill and knowledge statements as they are not provided within the JDs; they should be in support of or provide a theoretical understanding of a subject that enables performance of a task. It is very difficult to track the relationship/requirement of a skill or knowledge back to the task it is meant to support.</p>	<p>Similar to tasks, knowledge and skill statements and their relationships to tasks are captured in the database; KSA relationships may be applied in future boards to eliminate duplication of effort and minimize training redundancy (see Annex G – Advisor Job Task Analysis Report and Annex I – Advisor Align Tasks to KSAs Report)</p>
	<p>2. Once a relationship is developed from task to skill and knowledge there is no current method of establishing this link for use in other boards within or across multiple MOS IDs.</p>	<p>Advisor provides the user with the ability to search for comparable/equivalent tasks from other jobs and occupations; the resulting Advisor task library allows the user to identify common tasks while also eliminating duplication or “training creep” (see Annex J – Advisor Bottom Up Audit Report and Annex K – Advisor Top Down Audit Report)</p>
<p>G. A substantiated method to select instructional strategies when designing training</p>	<p>1. There currently is no method/tool to accurately calculate the required resources to implement instructional strategies</p>	<p>See Annex L – Advisor Cost Analysis Report</p>

CFNES Training – Areas of Concern
 Annex C to Advisor Pilot Project Report

Needs	Areas of Concern	Advisor Solutions
	<p>2. There currently is no method/tool to compare the cost difference between varying instructional strategies</p>	<p>See Annex L – Advisor Cost Analysis Report</p>
	<p>3. There currently is no method/tool to accurately calculate a TEs Return on Investment when selecting an instructional strategy</p>	<p>Advisor has the ability to generate a Return on Investment Report; however, there was a technical issue with generating this document for the purposes of this report</p>
	<p>4. There currently is no method/tool to measure the degree to which various types of media will satisfy the learning objectives identified in a QSP</p>	<p>See Annex M – Advisor Feasibility Report</p>
	<p>5. There currently no method/tool to accurately assess the risk of implementing a specific instructional strategy</p>	<p>See Annex N – Advisor Cost Effectiveness Report</p>

CFNES Training – Areas of Concern
Annexes D through N

Annex D – Advisor Job Task Report	 Annex D_Advisor Job Task Report
Annex E – Advisor Master Reference List Report	 Annex E_Advisor Master Reference Lis
Annex F – Advisor Qualification Standard Report	 Annex F_Advisor Qualification Standar
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