State Fire Training

Mission Alignment After-Action Review Meeting

March 23, 2016

Submitted to:

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TABLE OF CONTENTS

Section One

Participants

PARTICIPANTS

	PARTICIPANT		ORGANIZATION
1	Tim	Adams	Anaheim Fire & Rescue, STEAC - So Cal Training Officers
2	Bradley	Arganbright	Alameda County Fire Department, STEAC- Nor Cal Training Officers
3	John	Binaski	Clovis Fire Department, STEAC - League of California Cities
4	Taral	Brideau	STEAC- California Fire Fighter Joint Apprenticeship Program
5	Ron	Coleman	STEAC - Chair
6	Randy	Collins	Santa Rosa Jr. College, STEAC - California Fire Technology Directors Assoc. North
7	Kevin	Conant	State Fire Training
8	Kevin	Dickson	State Fire Training
9	Jim	Eastman	State Fire Training
10	Tom	Forster	Graphic Note Taker, Retired
11	Laura	Garwood	CSUS
12	Susan	Gonzalez	CSUS
13	Michela	Jones	CSUS
14	Bo	Lee	CAL FIRE
15	Josh	Marone	City of Roseville
16	Dennis	Mathisen	State Fire Training Division Chief
17	Gaudenz	Panholzer	Monterey Fire Department, STEAC - California Fire Chiefs Association
18	Jake	Pelk	San Mateo Coutny Fire Department
19	Keirsten	Quest	CSUS
20	Mike	Richwine	OSFM Assistant State Fire Marshal
21	Mark	Romer	State Fire Training
22	Kris	Rose	State Fire Training Manager
23	Stephanie	Salcedo	CSUS
24	Allison	Shaw	CSUS
25	Dan	Stefano	Costa Mesa Fire Department, STEAC - California State Firefighters Association
26	Rich	Thomas	STEAC - California Professional Firefighters
27	Grace	Tuazon	CSUS
28	Bill	Vandevort	State Fire Training
29	Ken	Wagner	State Fire Training

Section Two

Agenda

AGENDA

Mission Alignment After-Action Review Meeting

SpringHill Suites by Marriott, Atascadero
Wednesday, March 23, 2016

9:00 – 9:30 a.m.	**Welcome and Introductions** Dr. Keirsten Quest, Sacramento State University
9:30 – 10:00 a.m.	**Why? System Was Broken: Setting the Picture to Appreciate Transformation** Mike Richwine, Chief, State Fire Training
10:00 – 10:15 a.m.	**STEAC Perspective** Ron Coleman, Chief, State Fire Training
10:15 – 10:30 a.m.	**Break**
10:30 – 11:45 a.m.	**Strategic Directions and Accomplishments** Mike Richwine, Chief, State Fire Training Ken Wagner and Bill Vandervort, State Fire Training Dr. Keirsten Quest and Allison Shaw, Sacramento State University
11:45 – 12:15 p.m.	**Lessons Learned** Dr. Keirsten Quest, Sacramento State University
12:15 – 12:30 p.m.	**The Future is Not the Past; Futuristic Fire Educators** Ron Coleman, Chief, State Fire Training
12:30 – 1:30 p.m.	**Hosted Lunch**
1:30 – 2:00 p.m.	**Transition and Future Vision** Mike Richwine, Chief, and Dennis Mathisen, Chief, State Fire Training
2:00 – 3:15 p.m.	**Small Group Discussion/Activity – Gap Analysis** Dr. Keirsten Quest, Sacramento State University
3:15 – 3:30 p.m.	**Break**
3:30 – 4:00 p.m.	**Wrap-Up and Next Steps**

Section Three

Handouts/Posters

90-Day Implementation Steps

Strategic Direction: Achieving National Recognition	**Accomplishment title (what)** National Recognition	
Intent (Why) Accredit certification system to validate program excellence.	**Start Date:** January 1, 2012 **End Date:** December 31, 2012	

Implementation Steps (How)	Who	When	Where
• Task force prepares staff report with recommendation and budget/costs and funding alternatives (January) • Final approval by STEAC for recommendation of one or both national recognition models/bodies to state board of fire services (SBFS)/CSFM (January at regular meeting) • Approval of STEAC received by SBFS. If SBFS does not meet, authorization by CSFM to proceed (February at regular meeting). • Task force and staff begin funding source search (March)			

Coordinator Team Members	Collaborators or Partners	Evaluation Measures	Budget	Next Meeting Date
Ken Soltis Ken Wagner	Task Force CSFM / CFSTES Victory Valley College Pro Board IFSAC	STEAC application SBFS application CSFM application Funding identified		To be determined.

90-Day Implementation Steps

Strategic Direction: Evaluate and Reconfigure State Fire Training	**Accomplishment title (what)** New Model and New Process		
Intent (Why) Achieve efficiencies and alleviate redundancies.		**Start Date:** January 1, 2012 **End Date:** December 31, 2012	
Implementation Steps (How) • Task force reviews needs analysis/process (January, at next meeting) • Mary and John identify courses for equivalencies (February, via media or voice) • Mary and John identify stakeholders (January via email). • Mary and John develop template for equivalencies (evaluation) (February via email) • Confirmation of collaborators	**Who**	**When**	**Where**

Coordinator Team Members	**Collaborators or Partners**	**Evaluation Measures**	**Budget**	**Next Meeting Date**
John Cermack Mary Wilshire SD #2 liaison SD #3 liaison	CSULA CSUS CSULB CSTI NFA NIMS NWCG Cogswell University CalFire Tech Directors IFCA CPSE CalFire Academy FESHE	1-4 Complete		To be determined.

90-Day Implementation Steps

Strategic Direction: Cross Generational Marketing		**Accomplishment title (what)** Input/Investment = marketing	
Intent (Why) Greater input and buy-in.		**Start Date:** January 1, 2012 **End Date:** December 31, 2012	
Implementation Steps (How) • All contacts invite stakeholders across generations (October, for scheduled events) • Rodney seeks funding for survey tool ($5,000) for a marketing firm (December) • Give strategy to the marketing firm for assessment • Randy inputs survey questions from other strategic directions (Nov) • Contractor administers survey • Report of results and analysis to strategic groups	**Who**	**When**	**Where**

Coordinator Team Members	**Collaborators or Partners**	**Evaluation Measures**	**Budget**	**Next Meeting Date**
Kevin Dickson Randy Collins Mary Jennings Rodney Slaughter	Marketing contractor, usual partners	Contract in place in 45 days, survey in place for 75 days	**$4,999**	Conference call December 5, 2011

90-Day Implementation Steps

Strategic Direction: Curriculum Process		**Accomplishment title (what)** Downsize / simplify / streamline	
Intent (Why) Expand number of people / organizations to search for solutions		**Start Date:** January 1, 2012 **End Date:** March 31, 2012	
Implementation Steps (How) • Engage in publications process (January, via email/phone) – Need pool of potential writers/reviewers – Get national publications' editorial calendars – Monitor national standards (TIAS) • 1–2 people from each track reconfigure the certification tracks (January, via email/phone) – NFPA review – Modify track (first draft) • Allison equips curriculum update teams (now, via Sac State digital meetings) – Finalize documents (CTS, syllabi, task book) – Develop training – Deliver training in quarters 1 and 2	**Who**	**When**	**Where**

Coordinator Team Members	**Collaborators or Partners**	**Evaluation Measures**	**Budget**	**Next Meeting Date**
Derrick Parker Allison Shaw Bill Vandevort	Alicia Hamilton Mike Richwine Mark Romer Bill Vandevort	1.1 – database 1.2 – multi-year editorial calendars 2.1 – proposed track 3.1 – materials done 3.2 – training schedule	**$4,999**	Conference call December 5, 2011

First-Year Accomplishments

Strategic Direction: Achieving National Recognition

Current Reality	First-Year Accomplishments	Success Indicators
• National validation of our testing process. • Put on agenda by STEAC. • It has been researched. • Presentations by 2 accrediting agencies. • Accrediting agency is interested in this effort. • Missing money – funding is not committed. • No business process exists.	• Marketing campaign completed. • Funding secured. • Approved by state board of fire services. • Fire Marshal authorized. • Necessary business procedure graph created. • Consensus obtained by stakeholders. • Success metrics created. • Flow chart of consequences completed (i.e. local practices). • Matrix developed for quality assurance.	• Accepted by Fire Chiefs. • Increase in number of people who participate. • 2 certificates indicating certification. • California trained fire fighters throughout the country. • Less letter writing. • It works. • Inter and intrastate reciprocity. • Sets the roadmap for the others. • Successful at Fire Fighter 1 • Business need is met. • Funding has been acquired. • STEAC and/or State Board of Fire Services and State Marshal has been approved.

First-Year Accomplishments

Strategic Direction: **Evolving, Evaluating, and Reconfiguring Curriculum Development and Delivery**

Current Reality	First-Year Accomplishments	Success Indicators
• Unwieldy current system. • New way could be less expensive. • Training more cost effective. • Knowledge and desire to change the current system. • Preliminary success on new models. • Partnership with CSUS works well. • Private entities are willing to partner with us for free. • On a national level, other states look a lot more alike. • Have technology with hardware. • Other state systems are available to emulate. • Organizational support is there. • Regulated. • Textbook convergence. • Money. • Resources concerns. • Academy system that is undervalued. • Delivery system that works. • Partnerships with community colleges.	• Trained and developed 3-5 curriculum development teams. • Created at least on online training program. • Established a media format. • Created course syllabi in lieu of lesson plans. • 1 or more programs relying on publishers. • Increase in subject matter experts from California participating in national publications. • Establish an interactive electronic testing process with security – if necessary. • Matrix development for quality improvement.	• SFT bookstore closes. • No longer working with state printing. • Turning around curriculum much faster. • Curriculum follows review process. • Customer satisfaction scores increase. • Curriculum is current. • Increased online delivery. • Transition to electronic medium. • More compelling courses. • Adequate funding and adequate staffing. • California influences national publishers and standards.

First-Year Accomplishments

Strategic Direction: Pursuing Strategic Partnerships

Current Reality	First-Year Accomplishments	Success Indicators
• Partnered with other government agencies (waste management, OTS, NGO-utilities, NFA classes). • Partnerships that we have that are unknown by others. • Successfully done grants. • Have done training development / delivery (i.e. JAC) • Already partnered with Sac State for administration, records, and etcetera. • Communications about the consequences of the other organizations and what they do for us (telephone directory). • Single document with partnerships and mutual benefits. • List of things we want to get or directions to go with partnerships.	• Technology focus group formed. • Tablets provided through partners. • Grant opportunities identified and applied for at least one curriculum development program. • Directory created. • Privately funded curriculum development funding accessed. • Met with other workgroups to identify needs and opportunities. • Partnered with national fire association, executive fire officer, and master's programs for research.	• List of partners has grown. • We are proactive, not reactive. • Active partnership working toward deliverables of directives. • Leveraged resources, increased efficiency. • Clearly documented and easily accessible. • No single point of failure. • Technology focus group looking at best practices. • Partnerships providing resources.

First-Year Accomplishments

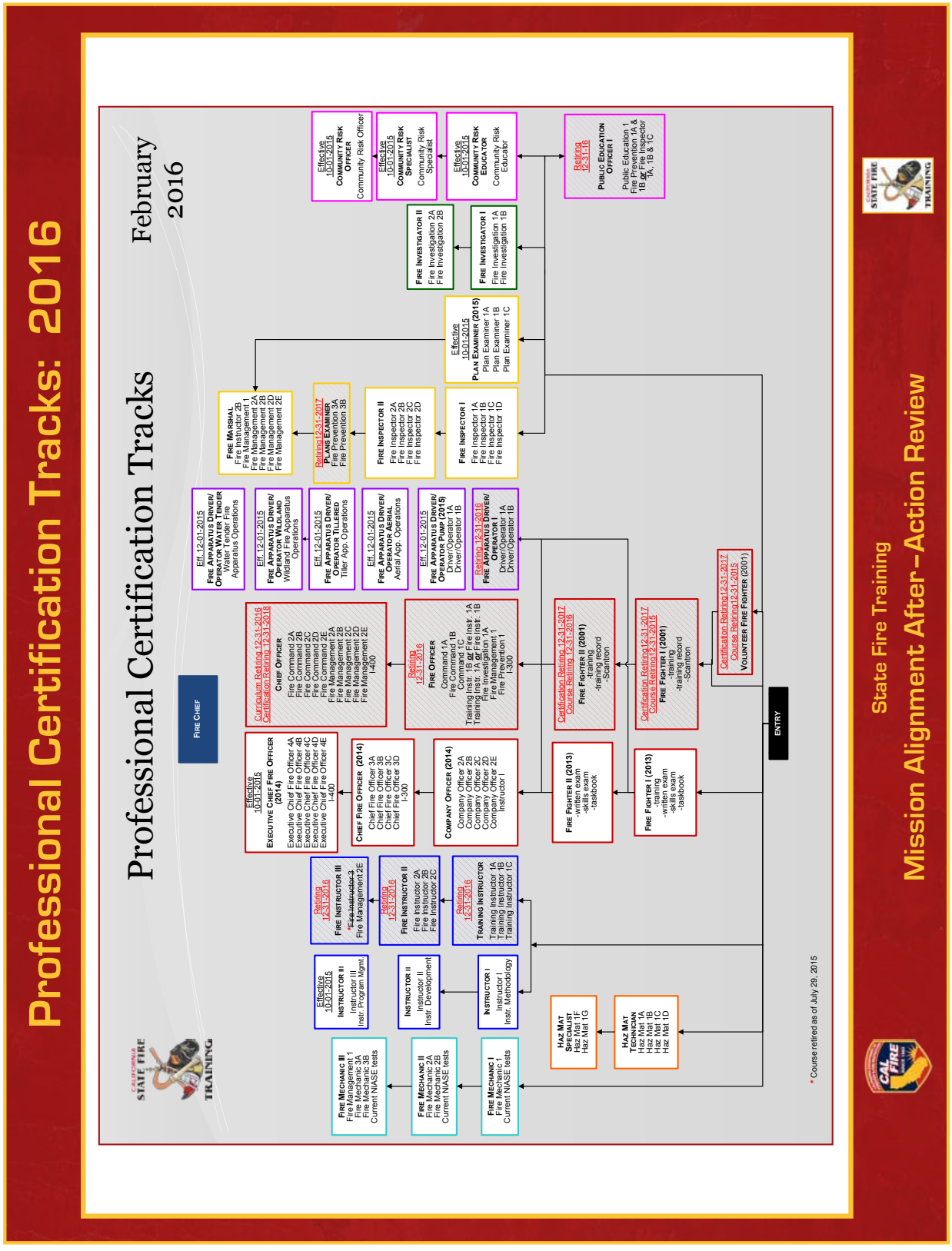
Strategic Direction: Evaluating and Reconfiguring State Fire Training

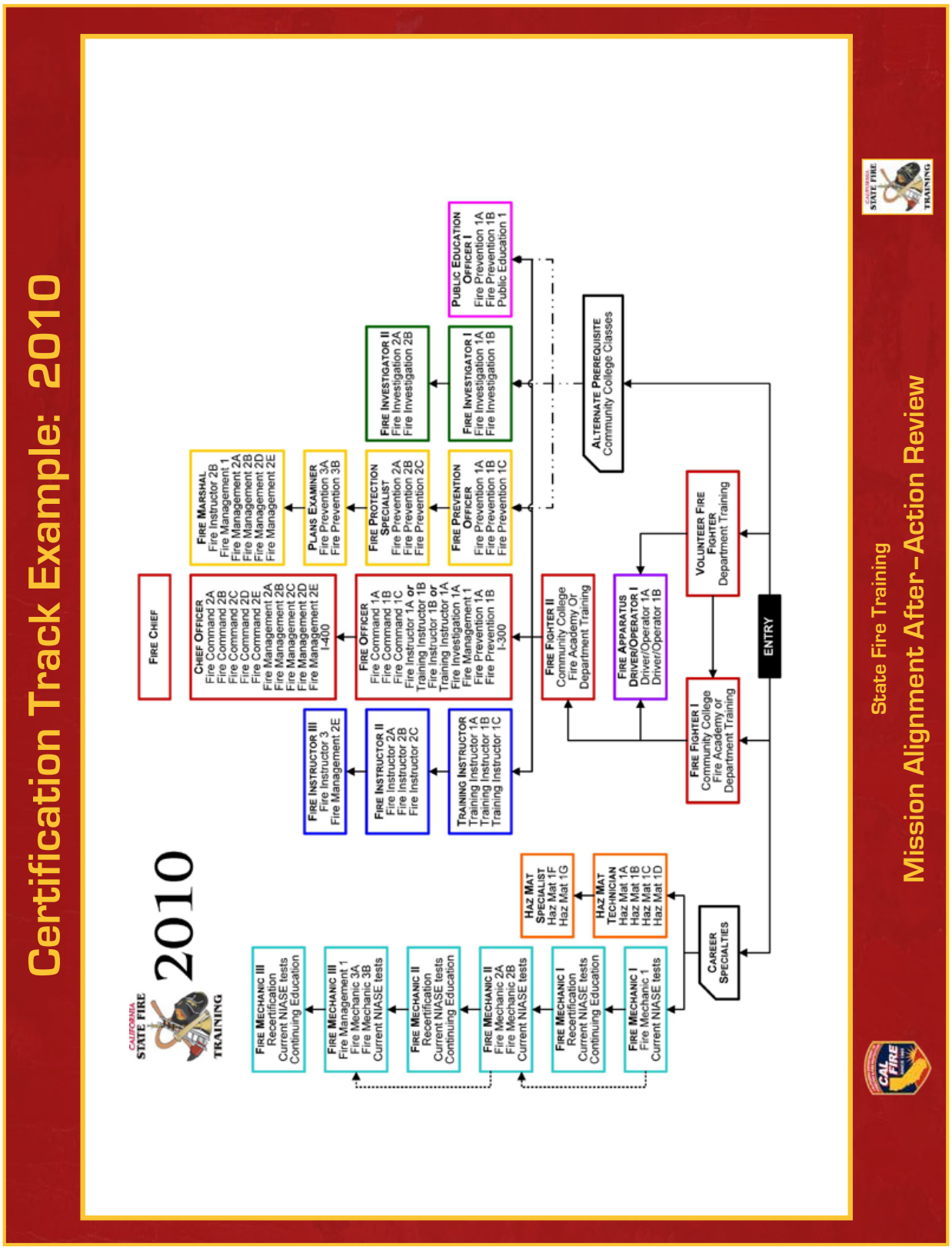
Current Reality	First-Year Accomplishments	Success Indicators
• No process to prioritize demand. • Other state systems are out there. • Blueprint 2020 – mission alignment. • General consensus we need it. • Overlapping courses / redundancy. • Training and certification is not mandatory. • Certification tracks are unwieldy. • Certification tracks are unwieldy. • Needs analysis being performed on business procedures.	• White paper on implementation of a continuing education model (gets EFO people to do this; see STEAC for minutes). • New certification model completed. • Needs analysis completed. • Created a plan for partnership with appropriate entity to push for mandatory certification. • Begin transition to eliminating instructor registration and plan for certification created. • Recruited generation X, Y, and Millennials. • Matrix developed for quality improvement.	• Feasibility study completed. • Streamlined certification track. • Significant decrease in number of courses required for certification. • High customer satisfaction. • Implemented a continuing education model.

First-Year Accomplishments

Strategic Direction: **Changing Stakeholder Perceptions and Engaging All Generations in the Planning Process**

Current Reality	First-Year Accomplishments	Success Indicators
• STEAC and State Board of Fire Service. • Relationships through CalFire. • Presentations at various constituent meetings. • A web page / SFM newsletter. • IT is a weakness (policies may limit use of technology). • Not penetrating right message to the user. • Limitations to state IT (color, font, etc.) • People care enough to complain. • Lack of resources. • No one controls the story. • Multiple messages currently being sent. • Boomers well represented. • Younger generation stands ready to participate in the planning process. • Younger generation has diverse experience. • Multimedia communication desirable. • Appropriate methods to make the connection (YouTube). • Late adopters not maximizing use of technology. • Grants may support technology. • Not considering needs and lifestyles of all generations.	• SFT social networking established. • Completed a marketing plan. • Identify stakeholder groups and perceptions / needs. • Web page redesigned. • STEAC/State Board orientation developed and implemented. • SFT marketing message developed. • Appropriate generation X, Y, and Millennials recruited. • Benchmark established for customer and stakeholder perceptions. • Each person today has introduced a younger participant to the group. • Effectively networked downward and across. • System reflects the needs of all generations. • Survey completed to provide feedback. • Sustainable strategy created. • Clear marketing plan developed. • We all have actively invited younger generation to STEAC and other key meetings.	• STEAC and State Board are being oriented – are now advocates. • Succession modeling is happening. • Shared idea of what state fire service is and does. • Clear, well-defined message exists. • Budgeted funding for marketing implementation. • Internship recruitment. • Effective technology for pushing information (social networking). • Two-way communication with stakeholders. • More flexible ways of communication and participation. • New faces at the table. • Greater engagement and excitement. • Institutional knowledge is passed on and captured effectively.


Professional Certification Tracks: 2016
Professional Certification Tracks
February 2016
State Fire Training
Mission Alignment After-Action Review
FIRE CHIEF
EXECUTIVE CHIEF FIRE OFFICER (2014)
CHIEF FIRE OFFICER (2014)
COMPANY OFFICER (2014)
CHIEF OFFICER
FIRE OFFICER
FIRE INSTRUCTOR III
FIRE INSTRUCTOR II
TRAINING INSTRUCTOR
INSTRUCTOR III
INSTRUCTOR II
INSTRUCTOR I
FIRE MECHANIC III
FIRE MECHANIC II
FIRE MECHANIC I
HAZ MAT SPECIALIST
HAZ MAT TECHNICIAN
FIRE APPARATUS DRIVER/ OPERATOR WATER TENDER
FIRE APPARATUS DRIVER/ OPERATOR WILDLAND
FIRE APPARATUS DRIVER/ OPERATOR TILLERED
FIRE APPARATUS DRIVER/ OPERATOR AERIAL
FIRE APPARATUS DRIVER/ OPERATOR PUMP (2015)
FIRE APPARATUS DRIVER/ OPERATOR I
FIRE MARSHAL
FIRE EXAMINER
FIRE INSPECTOR II
FIRE INSPECTOR I
PLAN EXAMINER (2015)
FIRE INVESTIGATOR II
FIRE INVESTIGATOR I
COMMUNITY RISK OFFICER
COMMUNITY RISK SPECIALIST
COMMUNITY RISK EDUCATOR
PUBLIC EDUCATION OFFICER I
FIRE FIGHTER II (2013)
FIRE FIGHTER I (2013)
FIRE FIGHTER II (2001)
FIRE FIGHTER I (2001)
VOLUNTEER FIRE FIGHTER (2001)
ENTRY
* Course retired as of July 29, 2015


Certification Track Example: 2010
2010
CALIFORNIA STATE FIRE TRAINING
FIRE CHIEF
CHIEF OFFICER
Fire Command 2A
Fire Command 2B
Fire Command 2C
Fire Command 2D
Fire Command 2E
Fire Management 2A
Fire Management 2B
Fire Management 2C
Fire Management 2D
Fire Management 2E
I-400
FIRE OFFICER
Fire Command 1A
Fire Command 1B
Fire Command 1C
Fire Instructor 1A or
Training Instructor 1B
Fire Instructor 1B or
Training Instructor 1A
Fire Investigation 1A
Fire Management 1
Fire Prevention 1A
Fire Prevention 1B
I-300
FIRE MARSHAL
Fire Instructor 2B
Fire Management 1
Fire Management 2A
Fire Management 2B
Fire Management 2D
Fire Management 2E
PLANS EXAMINER
Fire Prevention 3A
Fire Prevention 3B
FIRE PROTECTION SPECIALIST
Fire Prevention 2A
Fire Prevention 2B
Fire Prevention 2C
FIRE PREVENTION OFFICER
Fire Prevention 1A
Fire Prevention 1B
Fire Prevention 1C
FIRE INVESTIGATOR II
Fire Investigation 2A
Fire Investigation 2B
FIRE INVESTIGATOR I
Fire Investigation 1A
Fire Investigation 1B
PUBLIC EDUCATION OFFICER I
Fire Prevention 1A
Fire Prevention 1B
Public Education 1
ALTERNATE PREREQUISITE
Community College Classes
FIRE INSTRUCTOR III
Fire Instructor 3
Fire Management 2E
FIRE INSTRUCTOR II
Fire Instructor 2A
Fire Instructor 2B
Fire Instructor 2C
TRAINING INSTRUCTOR
Training Instructor 1A
Training Instructor 1B
Training Instructor 1C
FIRE FIGHTER II
Community College
Fire Academy Or
Department Training
FIRE APPARATUS DRIVER/OPERATOR I
Driver/Operator 1A
Driver/Operator 1B
VOLUNTEER FIRE FIGHTER
Department Training
FIRE FIGHTER I
Community College
Fire Academy or
Department Training
ENTRY
CAREER SPECIALTIES
HAZ MAT SPECIALIST
Haz Mat 1F
Haz Mat 1G
HAZ MAT TECHNICIAN
Haz Mat 1A
Haz Mat 1B
Haz Mat 1C
Haz Mat 1D
FIRE MECHANIC III
Recertification
Current NIASE tests
Continuing Education
FIRE MECHANIC III
Fire Management 1
Fire Mechanic 3A
Fire Mechanic 3B
Current NIASE tests
FIRE MECHANIC II
Recertification
Current NIASE tests
Continuing Education
FIRE MECHANIC II
Fire Mechanic 2A
Fire Mechanic 2B
Current NIASE tests
FIRE MECHANIC I
Recertification
Current NIASE tests
Continuing Education
FIRE MECHANIC I
Fire Mechanic 1
Current NIASE tests
State Fire Training
Mission Alignment After-Action Review

State Fire Training
Mission Alignment After–Action Review
CAL FIRE
FSTEP
ARTP/ALA
SFM
SBFS
CSUS
NATIONAL ACCREDITATION
STEAC
SFT
JAC
CALIFORNIA FIRE SERVICE
STANDARD ORG' S
ARTP/ALA – Accredited Regional Training Program/Accredited Local Academy
CSUS – California State University, Sacramento
FSTEP – Fire Service Training Education Program
JAC – Joint Apprenticeship Committee
SBFS – State Board of Fire Services
SFM – State Fire Marshal
SFT – State Fire Training
STEAC – Statewide Training and Education Advisory Committee

Blueprint 2020

Not withstanding the current funding provided to the California Fire Fighters Apprenticeship Training Program, community colleges, OSFM certification program, etc., any new certification program will become mandatory for career and volunteer fire fighters in California only when mandated by the State legislature and funding is provided for in the state budget and subsequently appropriated to cover all costs incurred by the state and local governments for training.

To actualize this vision, five goals have been identified: 1) quality improvement, 2) adopting a national professional development model, 3) capstone testing, 4) automated business processes and training delivery systems, and 5) the integration of public safety training and education. **Blueprint 2020** identifies these goals in detail and includes action items associated with the success for each goal.

Goals and Action Items

1 Quality Improvement

Ensure the highest levels of service and quality by implementing an oversight program that ensures the qualifications, currency, and accountability of all instructors and curriculum.

2 National Professional Development Model

Participate in the Fire and Emergency Services Higher Education (FESHE) National Model of fire service training and education that includes an integrated, competency-based system of fire and emergency services professional development and an integrated system of higher education from a two-year Associate degree to Doctoral degrees.

3 Capstone Testing

Administer a comprehensive evaluation tool after a candidate completes all the requirements and applies for a position certificate. Capstone testing would replace the current system of administering a written certification exam at the end of each course in the certification track.

4 State Fire Training Business Processes And Training Delivery

Utilize a computer-aided training and education delivery system that includes appropriate distance learning and educational material, and the ability for participants to track and access completed training and certification records.

5 California Public Safety Institute

Create a unified system that integrates all public safety training and education toward a common mission. The crown jewel of this initiative is the envisioned all-risk California Public Safety Institute (a California equivalent of the federal National Emergency Training Center).

Within each goal are identified action items. The **Immediate Action Items** cover the period from adoption of the strategic plan through the first three years. The **Midrange Action Items** cover the next four to nine years. The **Long-range Action Items** cover year ten and beyond, and include all the initiatives and the ongoing review process. The intent is to implement these goals, using these action items, concurrently.

State Fire Training
Mission Alignment After–Action Review

THE "NINTENDO FIREFIGHTER"

By

Ronny J. Coleman

The State Fire Marshal's Office is currently conducting a series of activities to try and overcome the technological inertia that is present in the California State Fire Training and Education System (CFSTES). There is wide spread recognition that the current system is extremely complex and difficult to sustain and not aligned well with technological advances in the field of fire training and education. The system appears to be suffering from severe difficulties in updating the curriculum and is somewhat irrelevant because the technology being utilized is archaic and in some cases virtually impossible to sustain.

There is also a belief that there is a change occurring in the way that firefighters learn and gain competency in the field. It is claimed that the old ways of teaching are not resonating with younger individuals. This has been manifested in the observation that an entire generation of firefighters has grown up within the "Game-Boy" environment. One of the observations is that young people who have grown up learning using these devices will not be as response to traditional means of delivering information. A phrase that has been adopted for these phenomena is the **NINTENDO** Generation. Currently, there is the perception that there is a disconnect between the way we have been presenting materials in the past with the way that younger individuals deal with acquiring new knowledge and skills and if it is not resolved there will be serious consequences.

On the other hand, there is a point of view that teachers and technology may be at odds. Matt Richtel, reporting for the New York Times, noted that "Teachers are resisting, saying that they prefer to employ technology a sit suits their own teaching methods and styles". [1] Quoting Sabrina Laine, Vice President of the American Institutes for Research, Richtel notes that this resistance is based upon an objection "of being given a resource with strings attached and without the needed support to use it effectively."

The World Future Society (WFS) recently made its Number 1 Forecast for 2012 and Beyond that also addresses this the significance of this concern. They stated:

> *"Learning will become more social and game-based, and online social gaming may soon replace textbooks in schools. The idea that students learn more when they are engaged—as they are when playing games—is helping educators embrace new technologies in the classroom. In addition to encouraging collaborations, games also allow students to learn from their mistakes with less fear of failing."*[2]

In short, we need to be addressing a paradigm shift in how we develop and deliver fire service training and education materials to meet both the needs of our student and our instructors. .

Why are These Changes Needed?

We need to change our delivery system and incorporate contemporary technology in order to both speed up the process of curriculum development and to simultaneously keep the emerging generation of firefighters

[1] Richtel, Matt, Teachers, Technology at Odds, New York Times, January 43, 2012
[2] Top Ten Forecasts for 2012, The Futurist Magazine, December 5, 2011

interested and engaged in the learning process. CFSTES has to incorporate a "big picture" approach instead of the incremental improvement approach.

During one of the meetings conducted on Mission Alignment some time was spent to address this subject. Admittedly, this meeting was attended by many of the *senior* advisors that have helped in creating our current system. They could be potentially opposed to any changes, but they aren't. There was recognition by this group that something has to give in the area of technological advances or the system is going to falter. A brainstorming or "mindmapping" session was held to see if we could provide some clarity to the reasons why the current system is becoming technologically obsolete.

The purpose of this exercise was to accomplish several things:

1. Focus upon fire service need to become technologically more adept
2. Deliver to the CFSTES some recommendations on how to utilize technology to help solve some of these problems of getting curriculum revised faster
3. Understand how the next few generations are going to respond to training and educational materials and make changes accordingly to the delivery system

One of the many factors that are driving this need is a change that has occurred in society in general. Over the last few decades the average person has obtained access to a wide variety of technological tools. These tools have become part of their life style. It is hard to imagine that there is anyone in society that does not have a cellular phone. Even the homeless have them. The concept of the iPod went from ideation to mainstream application in record time. A new generation of technology is just a few months away from being introduced. That statement could be repeated almost every year into the immediate future.

But, more importantly as children have been born into this world they have been introduced to technology at earlier and earlier ages. They have grown up over the last 20 years with the computer. First it was as a toy. But, more recently it has been seen as a tool. They have been introduced to a virtual world of gaming and social interaction that is totally different than the world their parents had grown up in. It is possible today to hire a firefighter that was born into a world of education and experience that simply does not understand the old fashioned ways of doing things. They have never seen a black and white television set. They wouldn't recognize an analog dial phone. And this environment started when they were an infant. In many cases before they were in kindergarten. It has continued on up though their life experiences including their expectations as they enter the workplace and higher education opportunities.

There is a need for more interaction between the student and course materials than any other time in the past. Many of the senior generation in the fire service were first indoctrinated with standup lecturers, overhead transparencies, 16mm movies, 35mm slides and a face to face contact with almost every instructor on almost every subject. Many of these techniques have virtually become technically obsolete. They have been replaced by technologies that have emerged from the use of computers and digital information. Today it is DVDs and Power Point.

A generation ago, firefighters kept informed by reading newspapers and magazines. Perhaps they would glance at a bulletin board from time to time. Today, entry level firefighters are involved in everything from Facebook, Twitter, Sharepoint, Skype and Cloud technology to keep themselves informed.

The World Future Society has also commented on this in their annual predictions issues. For example,

> * Forecast #7: "Professional knowledge will become obsolete almost as quickly as it's acquired. An individual's professional knowledge is becoming outdated at a much faster rate than ever before. Most professions will require continuous instruction and retraining. Rapid changes in the job market and work-related technologies will necessitate job education for almost every worker. At any given moment, a substantial portion of the labor force will be in job retraining programs. [3]"

This has resulted in an impact in the classroom. Contemporary means of communicating training material is increasingly under scrutiny for being boring, uninformative and in some cases obsolete almost before the person completes the class. It does not provide for much interaction.

Of course, the fire service is also a tactile profession. You cannot teach hose lays, ground ladders and fire attack methods by showing pictures and having clever artwork. This creates an interesting dilemma. However, if we go back to early instructional methodology there has always been recognition to the fact that there are didactic classes in any given course and there are manipulative classes in our courses. This distinction was recognized a long time ago in creating two types of lesson plans for use in the classroom. Now it may well spell out the difference in where the teaching actually occurs; on a computer or on the drill ground

The challenge today is how to update our curriculum in a comprehensive and timely fashion using technology and simultaneously finding a way to use technology to distribute the information and to improve upon our ability to evaluate a student's grasp of that information.

We need to adapt training materials to students instead of vice a versa. Lifestyle changes in the younger generation are creating different behaviors with respect to the learning process. There is a concern about the "cubical mentality" causing a type of isolation and restricting of interpersonal skills. The concept of interactive demand means that younger people are always looking for new content at all levels. In effect, users, sometimes as students, provide the fuel to systems development. One only has to look at gaming activity to witness the impact of attitude towards technology driving the system.

Economies of scale need to be addressed if we are going to take fire service training materials into this environment. No one fire department is likely to be able to develop tools and technology to respond to this need.

The impact in the classroom may be more profound than many acknowledge today. With the increase in the use of technology, younger personnel tend to believe that the information should be available to them on a 24/7/365 calendar. As a result of this phenomenon, we are likely to see a widely dispersed audience that needs to rely on a single source to provide basic training and educational basics.

Is California Alone in this Issue?

Absolutely not. The trend and pattern of potential changes is not limited to our state. Nor is it even limited to this profession. But for purposes of this discussion, we are restricting this observation to the fire community. A recent document produced by the National Fire Academy, addresses this issue.[4] That document identifies 14 separate issues which include the following concerns:

[3] Marvin J. Cetron and Owen Davies, "Trends Shaping Tomorrow's World, Part Two," THE FUTURIST May-June 2008.

[4] A Vision for NFA in 2030, Version 2.1, Unpublished

1. Taking learning to the student instead of vice a versa
2. Private sector competition
3. Class content (updates)
4. Means of evaluation
5. Time allocations
6. Qualified Instructors
7. Outreach and marketing
8. Ability to be responsive to changing needs
9. Finance and budgeting
10. Facilities
11. Accreditation needs
12. University relationships
13. State and Metro relationships
14. Continued change in the students themselves

Tools of the Technology Evolution
If the tools of the past classroom were simple, as in a blackboard, a slide projector, film projector and flip chart, a modern classroom is a cornucopia of technology. It consists of electronics, information and access in ways unprecedented in the past. The computer and all of its various extensions are an inherent part of information distribution.

Technology Inventory
Before making any drastic changes in the way our system operates, it is probably appropriate to take an inventory of technological solutions that are already being embedded in education and learning environments. This inventory should consist of the following:

- What do we have now?
- What is available in the near future?
- What is coming eventually?

The following is an overview of some of these concepts:

There is an "APP" Syndrome
With the proliferation of "pad" devices, as the new personal technology, there has been a significant increase in the number of specific applications that have been developed. These applications, while they are not considered part of the training system, offer a variety of information transfer opportunities. When considering the number of applications that are now available on personal cell phones and those that are available with pad systems, the virtual world is almost at the fingertips of even the most remote person in society.

iPads/Tablets
The **iPad 2** is the second generation of the iPad, a tablet computer designed, developed and marketed by Apple. It serves primarily as a platform for audio-visual media including books, periodicals, movies, music, games, presentations and web content.

Blackboard
The **Blackboard Learning System** is a virtual learning environment and course management system developed by Blackboard Inc. Its features include course management software, a customizable open architecture, and a scalable design that allows for integration with student information systems and

authentication protocols. Blackboard may be installed on local servers or hosted by Blackboard ASP Solutions. Its main purposes are to add online elements to courses traditionally delivered face-to-face and to develop completely online courses with few or no face-to-face meetings.

Moodle
Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It has become very popular among educators around the world as a tool for creating online dynamic web sites for their students. To work, it needs to be installed on a web server somewhere, either on one of your own computers or one at a web hosting company.

The focus of the Moodle project is always on giving educators the best tools to manage and promote learning, but there are many ways to use Moodle:

- Moodle has features that allow it to scale to very large deployments and hundreds of thousands of students, yet it can also be used for a primary school or an education hobbyist.
- Many institutions use it as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses (known as blended learning).
- Many of our users love to use the activity modules (such as forums, databases and wikis) to build richly collaborative communities of learning around their subject matter (in the social constructionist tradition), while others prefer to use Moodle as a way to deliver content to students (such as standard SCORM packages) and assess learning using assignments or quizzes.

Cellular Phones
A **mobile phone** (also known as a **cellular phone**, **cell phone** and a **hand phone**) is a device which can make and receive telephone calls over a radio link whilst moving around a wide geographic area. It does so by connecting to a cellular network provided by a mobile network operator. The calls are to and from the public telephone network which includes other mobiles and fixed-line phones across the world. By contrast, a cordless telephone is used only within the short range of a single, private base station.

In addition to telephony, modern mobile phones also support a wide variety of other services such as text messaging, MMS, email, Internet access, short-range wireless communications (infrared, Bluetooth), business applications, gaming and photography. Mobile phones that offer these and more general computing capabilities are referred to as **smartphones**.

Data Storage
A **data storage device** is a device for recording (storing) information (data). Recording can be done using virtually any form of energy, spanning from manual muscle power in handwriting, to acoustic vibrations in phonographic recording, to electromagnetic energy modulating magnetic tape and optical discs.

A storage device may hold information, process information, or both. A device that only holds information is a recording medium. Devices that process information (data storage equipment) may either access a separate portable (removable) recording medium or a permanent component to store or retrieve information.

Electronic data storage is storage which requires electrical power to store and retrieve that data. Most storage devices that do not require vision and a brain to read data fall into this category. Electromagnetic data may be stored in either an analog or digital format on a variety of media. This type of data is considered to be

electronically encoded data, whether or not it is electronically stored in a semiconductor device, for it is certain that a semiconductor device was used to record it on its medium. Most electronically processed data storage media (including some forms of computer data storage) are considered permanent (non-volatile) storage, that is, the data will remain stored when power is removed from the device. In contrast, most *electronically stored* information within most types of semiconductor (computer chips) microcircuits is volatile memory, for it vanishes if power is removed.

With the exception of barcodes and OCR data, electronic data storage is easier to revise and may be more cost effective than alternative methods due to smaller physical space requirements and the ease of replacing (rewriting) data on the same medium. However, the durability of methods such as printed data is still superior to that of most electronic storage media. The durability limitations may be overcome with the ease of duplicating (backing-up) electronic data.

Skype
Skype is a software application that allows users to make voice and video calls and chats over the Internet. Calls to other users within the Skype service are free, while calls to both traditional landline telephones and mobile phones can be made for a fee using a debit-based user account system. Skype has also become popular for its additional features which include instant messaging, file transfer, and video conferencing

Development of a useful technology adaptation model is missing right now in the fire service context!

But changes are occurring in society anyway**.** As suggested by Edward Stohr**,** adapting workflow technologies to support process automation in business organizations is now on the top of the agenda in many organizations.[5]

> *"This text proposes a conceptual model for technology adaptation in this area that stresses both technology-organization fit and technology-process fit. The goal of this study was to develop a systematic approach to business process automation that is adaptive to changes in organizational needs and is consistent with ideas of worker empowerment. In this paper they suggest a set of fundamental design variables for organizational (organic) and for process (mechanistic) considerations. The technology adaptation model they have developed is useful for technology providers in the workflow management area and for business managers who wish to take advantage of the new work-related technologies. The paper concludes with a number of suggestions for future research and development."*

Where is this all leading?
On-Line
College using now have procedures to use in the development of course that can be taught on line. According to the World Future Society within the next ten years 50% of college degrees will be delivered on-line. Unfortunately there is mistrust by traditional instructors in the fire service about the on-line delivery system. That anxiety does not seem to exist in other professions including law, medical and even engineering programs.

Curriculum Review
We need to use contemporary technology to improve the speed of the process at all levels. This means we need to go from the pad and pencil approach to the use of technologies that convert the thought processes to finished products as quickly as possible.

[5] Edward A Stohr, A Technology Adaptation Model for Business Process Automation, Proceedings of the Thirtieth Annual Hawaii International Conference on System Sciences, 1997, IEEE.

Dragon Naturally Speaking Professional v11

Dragon is a speech recognition software lets users interact with a PC by voice —three times faster than typing — to drive productivity and cost savings. It can be used to create documents, send email, search the Web, and more. Customize vocabulary and commands can be developed to expedite formatting. This technology is used to automate business processes. Individuals can even use a digital voice recorder and Dragon will transcribe the audio files.

Use of Major Content Libraries

The Content Library is a central repository for all the information you need to understand how a specific products can work to secure your most valuable data and transactions. We do not have one for the fire service. To use a Content Library, It is usually provided through some type of portal.

When provided you can view all types of documents, or choose to view only certain types of documents. The level of detail that is already available is mind boggling, yet the training and education system does not seem to access any of the major libraries on a regular basis. The private sector is doing it for the reason they need information to compete.
The public sector is not participating because the leadership places no value on the information.

Actually, supporting the "Transformation" of libraries is a priority of the American Library Association's *2015 Strategic Plan.* A rapid shift from print to digital content is one of the more dramatic developments that are now transforming libraries of all types. Is the fire service paying any attention to this phenomenon? I doubt it!

New digital forms of information offer opportunities for libraries to expand community access to information and to revolutionize in positive ways the relationship between libraries and users. At the same time, these new forms of digital content pose new challenges.

Cycle Time

Author Martin Ford in his book, Lights in the Tunnel, takes an in depth look at current trends in information technology and globalization and examines what the likely economic impact will be in the coming years and decades. There is a cycle to this process.

Here are just a few of the questions explored in his book:

- How will job automation impact the economy in the future?
- How will the offshore outsourcing trend evolve in the coming years?
- What impact will technologies such as robotics and artificial intelligence have on the job market?
- Did technology play a significant role in the 2007 subprime meltdown and the subsequent global financial crisis and recession?

- Globalization. Collaboration. Telecommuting. Are these the forces that will shape the workplaces of the future? Or is there something bigger lurking?
- How fast can we expect technological change to occur in the coming years and decades?
- Which jobs and industries are likely to be most vulnerable to automation and outsourcing?
- Machine and computer automation will primarily impact low skilled and low paid workers. True or false?
- Will advancing technology always make society as a whole more wealthy? Or could it someday cause a severe economic depression?
- What are the implications of advancing automation technology for developing nations such as China and India?
- Will a college education continue to be a good bet in the future?
- Recent economic data suggests that, in United States, we are seeing increasing income inequality and a dwindling middle class. How will this trend play out in the future?
- What will be the economic impact of truly advanced future technologies, such as nanotechnology?
- Retail positions at Wal-Mart and other chain stores have become the jobs of last resort for many workers. Will robots and other forms of machine automation someday threaten these jobs? If so, what alternatives will the economy create for these workers?

In the fire service context we have several issues to face that relate to the cycle time of acquiring technology.

Revenue stream issues
The fire service tends to look at acquisition cycles from the perspective of the yearly budget instead of having along range approach.

Cost factor of acquisition
The fire service tends to regard acquisition of information technology as a "nice to have" consideration rather than a need to have.

Time delays in specifying and obtaining funds from government
Even if the fire service is supportive of engaging in the world of information technology the ramp up periods for budget justification and the actual acquisition cycles often result in them buying last years' solution for next years' problems

www.whatever – Living in a Virtual World
In the final analysis people must be willing to use technology or reject it. If a person rejects the idea of a technological solution, they may suffer from a form of technological obsolescence. If an entire industry makes that kind of choice, the outcome may be to render the profession obsolete. We will need to address this issue with an open mind and a sense of visionary focus that has not been demanded of the fire service in the past.

In the world of information technology, there is a concept called "The Singularity". Essentially this concept is based on an idea that as computers become smarter and smarter, it will become increasingly difficult for the human being to keep pace with technological advances. While the fire service has long prided itself on its retention of traditional ways of doing things, the specter of The Singularity means that we will become less and less influential over the outcomes that society places value on with regard to fire protection. Our manual firefighting forces may face a form of technological obsceneness unprecedented in the past. For more information on The Singularity concept, go to http://en.wikipedia.org/wiki/Technological_singularity.

Issues
There are a number of significant obstacles to a rapid and successful transfer from the old way of doing anything in the new way of doing everything. For example:

- Technology is not always readily available to everyone right now - For example, Remember rural California

- Obsolescence factor – cost acquisition effort, maintenance and replacement of technology is a time consuming and expensive process.

- We need to identity alternatives to the delivery system that are credible and consistent with good management practices.

- There is a need to address the "economics of scale", and get various organizations to work together cooperatively to purchase the resources to keep pace with change. It is unfortunate that more administrators are territorial and cannot see the advantage of regional solutions.

Summary
To ignore the impact of technology of both curriculum and delivery will continue to make the fire service less and less effective in educating and training its own workforce. There needs to be a recognition that this expansion of the paradigm for training and education not only impacts the fire service but almost every other occupation and profession that is responsible for the skill set of its practitioners.

We need to develop a plan to overcome traditional fears by adopting technologies that are not necessarily out of reach financially nor are they overly complex technologically. But we cannot just continue to debate the merits of the idea. We need to act upon it.

Change is going to be a part of our succession planning processes. The earlier we recognize the need to make these changes, the better off we are going to be. This is what state fire training staff looked like in the 1950's. That was a half a century ago. If these guys were around today what would they be thinking? Would they be in the forefront of change or in the backwater of status quo? Having known many of them I can rest assured that they would be seeking solutions as fast as they could.

Is the following statement True?

We are a "team" in leading the group into the future

If so-

What actions should we be taking right now to have the system be technically viable in 5 years?

FUTURE PERFECT

By

Ronny J. Coleman

Teachers are in a unique position and have a direct impact on their students. Teachers can see their work in action by observing the performance of their students. In doing so, they have a great opportunity to influence change or not! One of the greatest challenges facing the fire service training and education system is whether we are going to continue teaching about the past or whether or not we will be teaching the future.

The world of instruction and teaching is undergoing transformation as we speak. The Nintendo Firefighter may be a retiree within the next 3-5 years. The question remains as to whether or not teaching and technology and learning and technology are going to keep pace.

In seeking to understand the future, it is critical that we begin to focus on understanding the future. Many people who are teaching today are passionate about what they do because they experienced it. On the other hand, many of the things that we are teaching may be obsolete within the next decade. Our current delivery system of the talking head and classroom presentation is going to be challenged severely. We are likely to see significant changes in concepts that we believe are leading edge today. While we spend time today discussing computer based training, society is moving at a more rapid rate to adopt it than we are. The word of warning here is that we must be better prepared to cope with change, and not just in subject matter, but in the ways that affect learners. The most ambiguous of teachers are the ones who enter this process to affect change, not to preserve tradition.

Part of the lesson to be learned here is that becoming a teacher is not good enough anymore. Being a teacher is more relevant. If you are not making a difference in the performance of individuals, then you are not being a teacher. What should be the goals of future teachers of fire science and its allied industries? I would suggest that there is a minimum of four.

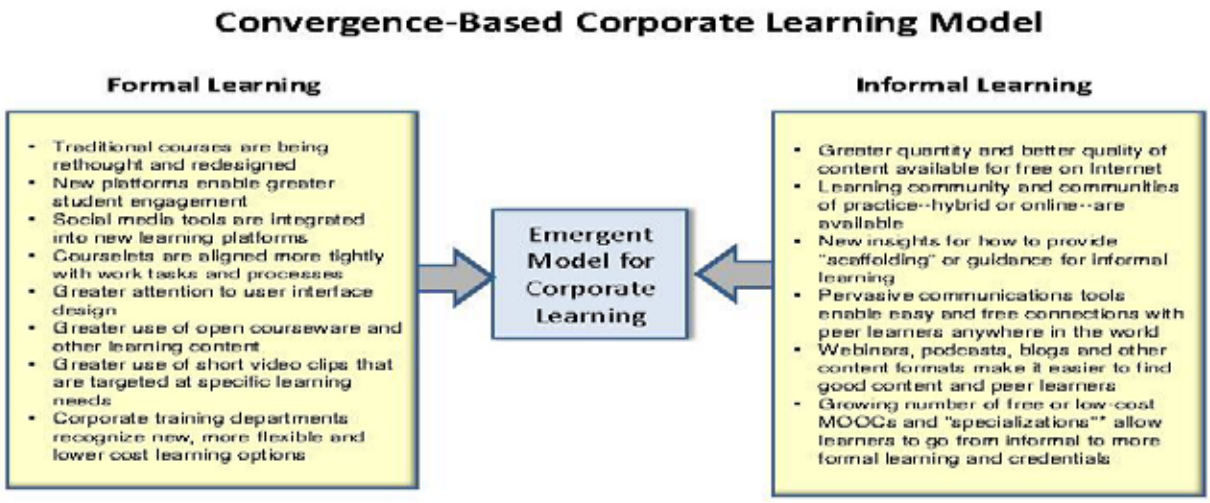
1. To create an environment that engages individual students and gets them excited about learning
2. To accommodate students according to their individual needs
3. To stay connected with the technology advances that are emerging
4. To teach the future rather than the past

In today's constantly changing world, the personnel entering the fire service are going to need a different set of skill sets rather than blind obedience. They are going to need to learn problem solving. As future teachers we need to motivate individuals to explore, to investigate, inquire and discover for themselves. As a teacher, you will need to be better organized than ever before. And, you must be creative in how to apply technology. Time is no longer a dimension to be ignored, and critical thinking is not a skill set that waits until you graduate from college.

As we prepare for the vision of the future of fire service training and education, we need to develop a sense of intense attention to quality instruction rather than seek time and certificate issuance. The vision of the future is blurred in some cases by the fact that change is occurring so rapidly. As architects of the system, some of our future goals need to include the idea of mandatory teacher updates, as well as, emphasizing the role of technology in delivering materials. Another of our challenges is to preserve the values of our profession at the same time that some of these values may be compromised by society in general. Everyone has room for growth and yet growth will not occur without commitment.

All learning in the future is going to be powered by technology. How long will it be before all firefighters will be required to have a laptop computer to sit in their classroom to capture and interact with information? Philosophers in the field of education refer to some people as extreme learners and that is where the exam score or certificate is irrelevant in comparison to the process. We are extreme learners in our profession. Our training and education is designed to assure that the student can learn almost anything, anytime, anywhere. I actually visualize that emerging technology will start making training and education available in micro bursts between the time that we have a fire and the time a firefighter is notified of an emergency and they arrive on scene. Think for example of how that information might have saved the lives of firefighters in Texas at the ammonium nitrate explosion. These extreme learners have to take charge of their own education. They have to learn how to learn and as the leaders of such a system, we have to be learning along with them. The future of fire training may look more like a kaleidoscope than a triangle. Time in the classroom may pale in comparison to the time in online courses or "just in time" training. Students may become their own teachers.

Some philosophers also refer to this as a learner driven model. The following chart illustrates what society believes is going to be the new corporate learning model. It shows the balance between formal learning and some of the changes that will occur there and informal learning which will continue as long as a person is part of the corporate world. There are a lot of challenges inherent in this chart.



Our vocabulary of training and education is going to undergo a change, and while we attempt to standardize performance our plan must embrace diversity. Educators at the societal level are recognizing that learning in the future is going to be more experiential than theoretical. Our training and education will be on a parallel track. The best that we can hope for is that we will be moving in the right direction along with society in general.

STATEWIDE TRAINING AND EDUCATION ADVISORY COMMITTEE (STEAC)

(A) COMMITTEE GOAL

To serve as a policy review committee for the State Fire Marshal and provide final review of all SFT course curricula.

(B) COMMITTEE MEMBERSHIP

(1) The committee chair shall be appointed by the State Fire Marshal.

(2) Committee members shall be appointed by the committee chair and the State Fire Marshal.

(3) Committee members shall serve staggered, two-year terms.

(4) The committee shall be comprised of the Chief of State Fire Training (ex-officio) and representatives from the following organizations:

(a) California Fire Chiefs Association (CFCA) (up to 2).

(b) California Department of Forestry and Fire Protection (CAL FIRE).

(c) CAL FIRE Academy.

(d) CFCA Training Officers Association (one North and one South).

(e) Governor's Office of Emergency Services (OES).

(f) California Fire Fighters Joint Apprenticeship Committee (CFFJAC).

(g) California Professional Firefighters (CPF).

(h) California State Firefighters' Association (CSFA).

(i) Fire District Associations of California (FDAC).

(j) California Fire Technology Directors (one North and one South).

(k) League of California Cities.

(l) Metro Chiefs.

(5) Committee participation is voluntary and there is no expectation of compensation.

(6) The committee chair will appoint one member as the vice-chair who will act in place of the chair when needed.

(7) Nonvoting technical advisors and work groups may be utilized by the committee chair and SFT based on a specific need.

(C) MEETINGS

(1) Location.

(a) Meetings shall be regularly scheduled in Sacramento.

(b) Meetings may be scheduled throughout the state on an as-needed basis.

(2) Schedule.

(a) The committee shall, at a minimum, meet quarterly.

(b) Additional meetings can be scheduled on an as-needed basis.

(3) Meetings will not be cancelled without cause.

(D) COMMITTEE PROTOCOL

(1) Comply with the Bagley-Keene Opening Meeting Act and Robert's Rules of Order.

(2) Only items listed on the published agenda may be acted upon.

(3) The committee chair has the authority to set time limits on any agenda item.

(E) PROCESS

(1) SFT staff will support the committee.

(2) Agenda items should be submitted to the Chief of State Fire Training four weeks before the scheduled meeting date.

(3) Minutes will be taken at each meeting that capture the essence and actions of the meeting.

(a) Draft minutes will be posted for review by the committee and other interested parties.

(b) After approval at the next meeting, final minutes will be posted.

(F) QUORUM

(1) A simple majority (50% plus 1) of the committee membership shall be a quorum.

(G) RESPONSIBILITY OF THE CHAIR

(1) Interpretation and decisions are the purview of the chair.

(2) The chair shall evaluate any issue that is sensitive or ambiguous and report such issues to the State Fire Marshal.

OFFICE OF THE STATE FIRE MARSHAL
STATEWIDE TRAINING AND EDUCATION ADVISORY COMMITTEE
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
PO Box 944246
Sacramento, CA 94244-2460
Phone: (916) 445-8200
Website: www.fire.ca.gov

Date: February 18, 2014 Attachment 3

To: Ronny J. Coleman, Chairman
Statewide Training and Education Advisory Committee
c/o State Fire Training

From: Bill Vandevort, Fire Service Training Specialist, State Fire Training

Subject/Agenda Action Item: Training and Education System Doctrine

Recommended Actions: Information Only

Background Information:

State Fire Training (SFT) has recently been in the process of reinventing itself and doing so on many fronts. This effort is in response to Blueprint 2020 and the simple fact that the "system" has become unwieldy to maintain in its current form. One area of focus is the Certification System. In 1974 the National Fire Protection Association (NFPA) unveiled the first of several forthcoming professional qualification standards when it published Fire Fighter I. Soon after, State Fire Training began an analysis of the standard and by 1976 Fire Fighter I certification became available, quickly followed by Fire Fighter II. Other NFPA professional qualification standards promptly followed and State Fire Training began to add more certification tracks and levels within those tracks to the system. At this point State Fire Training created the California Fire Service Training and Education System (CFSTES) to administer the certification program. By the mid 1980's the system grew to include Volunteer Fire Fighter, Fire Fighter I and II, Fire Apparatus Operator, Fire Officer, Fire Prevention, Fire Investigation and Fire Instructor, Hazardous Materials, and Public Fire Educator tracks.

Since the onset of the certification program a number of practices and beliefs, some correct and some not so correct, have crept into the system. As the system grew and new and/or additional information became available related to the various fire service ranks and corresponding certification tracks, it became common practice to place this information in courses used to satisfy the knowledge requirements for certification. This led to a lot of information being included in the courses that exceeded the knowledge requirements stated in the NFPA standard. The certification courses were also viewed as the training requirements for promotion to various positions within the fire service. For example, the courses used to meet the knowledge requirements for Fire Officer Certification were also considered to be the training necessary to become a company officer.

What happened over time was that the functions of certification, training, education, and professional development all got lumped together, when, in fact, these are separate elements each with a meaning and purpose of their own. This has led to confusion when discussing these elements and how they apply to the SFT Training and Education System. Separating and defining each of these will allow for a clearer understanding of the purpose for each element. It also allows for the review of these functions or elements to determine which are the responsibilities of State Fire Training and/or which parts of these elements can SFT effectively manage.

Analysis/Summary of Issue:

SFT Training Doctrine

By definition doctrine means a set of ideas or beliefs that are taught or advocated to establish a fundamental position, or policy. Doctrine seeks to provide a common conceptual framework for the organization for the purpose of determining:

- How it perceives itself to be ("Who are we?")
- What the mission is ("What do we do?")
- How the mission is to be carried out ("How do we do that?")

Doctrine provides a common frame of reference for all parties involved in fire service training and is a guide to action, rather than hard and fast rules. It is authoritative but requires judgment in application. A training doctrine for SFT is an initiative to provide clear, concise, and current policy that defines what SFT can and will do given the resources available to it.

What follows is an attempt to identify the training and education system components and to define the role State Fire Training has in managing them.

For the purpose of this paper the following functions have been identified as certification, training, education, and development.

Certification

Certification is the process through which an organization grants recognition to an individual that meets certain established criteria. These individuals usually have to meet eligibility requirements (such as education or years of experience), pass an examination, and pay a fee. There are also usually ongoing requirements that need to be met, such as retesting or participating in a minimum number of continuing education activities. Today, certification is widely recognized as basis of one's ability to do something.

Training

Training is defined as learning that is provided in order to improve performance on the present job (Nadler, 1984). Performance is improved by helping the learners to master a new or established technology. The technology may be a piece of heavy machinery, a computer, a procedure for creating a product, or a method of providing a service. Notice that the last part of the definition states that training is provided for the present job. This includes training new personnel to perform their job, introducing a new technology, or helping an employee to achieve standards.

Education

The act or process of acquiring general knowledge, developing the powers of reasoning and judgment, and generally of preparing oneself for the future through formal schooling. Education is helping people to do a different job. Unlike training, which can be fully evaluated immediately upon the learners returning to work, education can only be fully evaluated when the learners move on to their future jobs or tasks. We can test them on what they learned, but we cannot be fully satisfied with the evaluation until we see how well they perform their new jobs.

Development

Development is helping people to acquire new horizons, technologies, or viewpoints and it enables workers to create better products, faster services, and more competitive organizations. It is learning for growth of the individual, but not related to a specific present or future job. Unlike training and education, which can be fully evaluated, development cannot always be evaluated. Development is more long term and often needs other driving forces. These driving forces may come in the form of leaders who talk-the-walk AND walk-the-talk. While diversity classes provide the big picture and concepts, the role models provide living examples.

Summary

Certification is a designation earned by a person to assure qualification to perform a job or task.
Training is learning for the present job. There should be immediate results when the performers return to their jobs while Education is learning for a future job. Results are obtained when the performers start their new jobs. Development is learning for the growth of the performer, rather than being related to a specific job. Results of information received during development may not be seen for some time.

Section Four

Meeting Notes

Mission Alignment After-Action Review Meeting
Springhill Suites by Marriott, Atascadero
Wednesday, March 23, 2016

9:00 Welcome and Introductions

Dr. Keirsten Quest had participants introduce themselves.

9:30 Why? System Was Broken: Setting the Picture to Appreciate Transformation

Chief Richwine stated that when he started, the curriculum development system was broken and the testing system had been compromised. State Fire Training (SFT) and stakeholders convened, brainstormed, and created the following goals:

- Quality improvement
- National professional development model
- Capstone testing
- State Fire Training business process and training delivery
- California Public Safety Institute

Staff was retiring, and the system was overly dependent on one person for the process. They wanted to eliminate redundancy and collaborate with other agencies. The process needed to be streamlined. There were too many classes and certification levels. They connected with Sac State.

He shared the 90-day implementation steps. The transition seemed challenging, moving from one certification process to another. (Handouts showed the old certification track and the new one.) Blueprint 2020 is still on the website, and it sheds a lot of light on the process and challenges.

The group came up with a new mission statement addressing all the desired outcomes.

Kevin Conant recognized Chief Richwine's innovation and leadership.

10:00 STEAC Perspective

Chief Ron Coleman recognized the visionaries of the past. Reciprocity and streamlining were not initially considered, but things have come a long way. A stakeholder is someone who cares and is invested. STEAC was originally created to form a channel of communication between the field organization and the stakeholders in the system. It's a policy review committee for the State Fire Marshal. STEAC disseminates information to the field, serving to reduce the gap in communication between the field and the stakeholders. This helps with buy-in. Sometimes tough calls must be made, but it helps to communicate the spirit and intent. The handout lays out the committee's composition and meeting rules.

10:30 Strategic Directions and Accomplishments

Dr. Quest talked about how it was important to acknowledge the roadblocks before moving forward. Then the group crafted a strategic direction for each team:

- Evaluating and reconfiguring State Fire Training
- Evolving, evaluating, and reconfiguring curriculum development and delivery
- Achieving national recognition
- Pursuing strategic partnerships
- Changing stakeholder perceptions and engaging all generations in the planning process

Curriculum Development

Bill Vandevort spoke. The standards needed to be aligned with NFPA and State Fire Marshal requirements. The curriculum needed to be scaled back and realigned to keep current. Continuing education needed to be included. The system also needed to be able to be manageable by State Fire Training. The quality of the training program needed to be improved. We have achieved all goals except continuing education, thanks to the team. We're putting more responsibility on the instructors to create their own lesson plans, which need to be individualized. We used to require specific texts for each course; now we use the publishers' materials, which are aligned with NFPA and are current and come with accompanying materials. The cadres identify potential texts for the instructors to choose. The certification tests are administered by independent third parties. He acknowledged the hard work of Allison Shaw. Now multiple cadres can run at the same time with one cadre editor each. The editors (Laura, Allison, Alicia, Jamie, Mallory, and Susan) have done good work. He acknowledged Alicia Hamilton, who had been doing all the documentation work by herself. She had to unlearn the old system and learn a new system, and she did so very well. The retired annuitants that Chief Richwine hired have also done great work. We made a conscious decision to conform the certifications with NFPA, with extra information going to FSTEP courses. A lot of extra stuff had been included. People felt insecure about this streamlining process. Now you need to better demonstrate job proficiency while taking fewer redundant courses. You cannot get certified until you are in the job, too. Labor contract language needs to be reworked.

Allison Shaw described participating in the old process. The template kept changing and she complained. This led to her being made the chair of the curriculum development task force. The Declaration of Independence model involved bringing a smaller group together to create the curriculum and then bringing it to a larger group to approve before passing it on for ratification. Having diverse participation helps hone the information. It also wouldn't make sense to leave State Fire Training out of the equation, so they were brought in too and given an implementation plan to provide them with answers. The tracking tables help with auditing and lawsuits—they show what students have been taught. They also make it easy to update the course when NFPA rolls out updates. The cadre participants have expressed appreciation for the editors and the process. She acknowledged the excellent leadership of Chief Richwine, who ensured that the changes happened and the projects moved forward. Nineteen Certification Training Standards (CTS) guides have been produced, five FSTEP courses are running, and thirty-eight CFESTES courses are running.

Jake Pelk voiced appreciation for Allison Shaw and her explanation of the process. He is only involved because of Sac State and the improvements in the process. Chief Coleman wondered if Allison could make that presentation in Fresno in front of the training instructors. Kevin Conant asked if this can be put into the Procedures Manual task order.

National Recognition

Ken Wagner described how formerly there was no interest in national recognition or reciprocity. They looked at Blueprint 2020 and the capstone testing process and national certification. They analyzed the programs of the International Fire Service Accreditation Congress (IFSAC) and ProBoard, and that of State Fire Training. They started to do extensive outreach and looked at existing accredited programs. It became apparent that this wouldn't be possible without Bill and Allison's work, because the tests needed to meet NFPA standards. They had to try to get everyone on board. They drafted ninety-two pages of new procedures to make this work. They got approval to move forward and implement the capstone testing model for Fire Fighter I. They developed a system that would work for all the certification tracks. Last July, they applied to IFSAC and ProBoard. IFSAC sent reviewers here to examine the documents and testing and programs. They did

mock testing for the reviewers. IFSAC was very satisfied and recommended full certification and no changes, and even took away some ideas as best practices. ProBoard came next. They had some different views, but they were extremely satisfied too. They also recommended full accreditation and no modifications, and also left with some best practices. They completed peer review for ProBoard and got the certification. They anticipate going to the IFSAC conference to get the accreditation. IFSAC and ProBoard were more interested in the testing process than the curriculum, but the curriculum is the basis for that. We couldn't be successful if it weren't for the curriculum development team. We can achieve accreditation from IFSAC and ProBoard if we don't change things and just adhere to the process. They are working to establish reciprocity and also have a process for grandfathered-in students to test for the certification with IFSAC and ProBoard seals. There was a discussion of communication with the academies.

Cross-Generational Marketing

Randy Collins said they decided to send out a survey, contacting the stakeholders. They asked about interest in various certification tracks. This survey was never sent out due to funding and fear of not receiving feedback. They switched tracks. They started developing a communications plan. About a year after they convened, they produced the plan. He shared the highlights. It was all about identifying mechanisms for communication, including emails, the website, word of mouth, social media, etc. Kris Rose took the plan and started implementation.

Kris Rose started in 2012. They sent out a postcard, and many were undeliverable. That was a lesson learned, that mailings don't work. She asked about starting a newsletter to send out information instead of requiring people to go to the website. They got a Twitter account, which has 438 followers. Then they started doing online course evaluations. Right now we're just above the 5 to 8% range, but the feedback is far more helpful. The instructors must request the feedback, but they are encouraging all instructors to also do a handwritten survey. The surveys ask students if they would like to be contacted. They reach out to students with concerns, and it works better than the pencil and paper version. They have about 2,800 CFSTES evaluations in and many FSTEP ones too; this feedback is helpful. SFT News is now up and running. They constantly tell people to sign up for the newsletter. It's full of important information. There are 1,067 subscribers. They started posting current curriculum on the web, so instructors and students can get what they need. This cuts costs and keeps things current. There's an SFT YouTube channel. There's a tutorial for certification testing up there. They're also working on a new database. There will be portals for instructors and students, and what those entail will depend on funding. They're doing away with scantrons. They're working on not just reaching a variety of generations but also trying to reach out in a variety of media. They also now have an SFT survey to assess how the program is working, and there's also a website survey to assess how well the website is working. Chief Richwine thanked Randy and Kris.

11:45 Lessons Learned

Dr. Quest captured the lessons learned:

- Outreach early and often (9 times!)
- Resistance to change (Allison: we are slowly seeing some success naturally, cadre by cadre—efforts are paying off)
- Continue to collaborate to achieve overall goals and reduce redundancy
- New competition
- Bridging and inviting relationships for collaboration and recognition
- Release of information and timelines
- Sticking to the timeframe, underpromise and overdeliver

- Just do it
  - Don't overcomplicate things
  - Quick plan/action/pilot
  - Get out there and interact
- Identify the benefit to local government and share the return on investment with locals to show benefits
- The old system failed and we need to be prepared to work in the new system
  - Consolidate the changes and institutionalize them
- Constantly monitor what we're doing and keep evaluating and assessing and modifying

Dr. Quest called for potential topics to be discussed in the afternoon:

- Funding
  - Resource-intensive process
  - New systems and processes are expensive
- Addressing regional issues
  - Regional academics across state
  - Addressing change and local engagement
- Legislative process to support the system/a mandate
- Memorialize Blueprint 2020 and create Blueprint 2040
- Continuing education and maintaining currency
- Care and feeding of registered instructors, including affirmation
  - Centers of excellence and best practices
- Development of bridge courses for reciprocity
- Collaboration of instructors
- Curriculum development revision
- FSTEP process needs to be memorialized

12:15 The Future Is Not the Past: Futuristic Fire Educators

Chief Ron Coleman said when you're painting the Golden Gate Bridge, you're engaging in an ongoing process based on how things used to be. Why is funding still a problem? Because we keep saying we'll make it work. We passed legislation to get General Fund funds for fire fighter training, and the governor vetoed it because someone told him the fire service didn't need it. We are on a path of constant improvement and constant change. We cannot wait another thirty years to start what we're doing today. The students are not the same students of yesteryear. Education needs to be more engaging. We have to create a different environment in the future. Students will need to use technology. We need to constantly be looking to the future. People are still teaching the old way. We are our own worst enemies in terms of consensus building and adopting change. The acceleration of change is happening more quickly in society than in the fire service.

1) Our system has to create an environment to excite students.
2) We have to take into consideration the need for our future training to be more focused on individual needs than collective needs. They don't have time for redundancy.
3) Stay connected with technological advances.
4) Teach the future rather than the past.

The speed of change is accelerating. Look at the outside world while we're evaluating the fire service. What got us here isn't going to take us the distance. Training is one thing, and education is another, and they need to be separated. They require different mechanisms. We need to look at what is happening in corporate America. He wishes he could start his career now and see where things will go.

1:30 Transition and Future Vision

Chief Richwine introduced the new chief of State Fire Training, Dennis Mathisen, and expressed appreciation for his experience and suitability for the job. Chief Mathisen recognized Rodney Slaughter, who could not attend this meeting, for his contributions. He said this train has been going for much longer than he's been around, and he's been picked up by the train. He thinks it's important to look to the future while respecting the past. He asked for patience with his learning curve. Teamwork is important to him. He is a huge believer in remembering who we work for—customer service. He wants to take advantage of funding opportunities and technology. He wants to ensure that the good work that has started is continued.

Dr. Quest reviewed strengths, opportunities, problems, and threats:

Strengths	**Opportunities**
• Outreach early and often • SFT E-newsletter • IFSAC/ProBoard completed • Fire Fighter I on track for 2017 testing • Cadres produced	• Curriculum test development and process monitoring • Instructor collaboration • Blueprint 2030/State Fire Training Strategic Plan • External collaborations, regional, local, academy • Funding/post • Change management/STEAC
Problems	**Threats**
• Old system failed • Stick to timeframes with changes • Need to underpromise and overdeliver • Resistance to change • Lack of understanding about impacts in field • Took 30 years to update	• Funding • Taking too much time to update • No CEs for instructors • Not taking care of instructors

2:00 Small Group Discussion/Activity – Gap Analysis

1. Instructor Collaboration

Ron Coleman, Jim Eastman, Tom Forster, and Susan Gonzalez (scribe)

Tools:

- YouTube mentality
- Skype does 25-person collaborations
- GoToMeeting
- Expand and filter components (instructors)
- E-Learning development
- Assessment tools on relevancy

Standards:

- NFPA 1041 (1.3.5)—how to get instructors involved
- ANSI requirement
- Designation programs

Training:

- Evolution from instructor to facilitator
- Best management practices
- Coaching and mentoring
- Interactive learning
- Instructor
- Mobile learning
- Eliott Masie Learning Conference
- How do I learn and teach new learners?
- Society of fire service instructors
- Standard format GoPro
- Updating
- Instructor collaboration

How to keep the instructor relevant? Instructor summit. Professional curiosity. In the future, we need to be open minded. We need to rely on our tools and each other.

2. State Fire Training Strategic Plan (5-7 years)
Josh Marone, Bill Vandevort, and Ken Wagner

Things change too fast, so it's better to shorten the timelines. We can convene subject matter experts like a development cadre, and be taken to STEAC to get input as a validation cadre. Then it would go to participants in the field and other organizations. Once we get all that input, it goes back to the development cadre. Then it would go through the traditional approval process, going to STEAC and the state board. This would make for a more portable process. We would hope subject matter experts would bring in information.

3. Funding
John Binaski, Kevin Dickson, Laura Garwood, Bo Lee, Kris Rose, and Dan Stefano

It's an issue today and will continue to be an issue. Blueprint 2020 identified that this is a problem. It must be addressed.

Short-Term Challenges:
- Scaling back classes leads to less money
- Fee schedule must increase to support current operations and it takes 18 months to change
- New fees need to be added
- Expense costs are being cut, but staffing and other costs have increased

Long-Term Funding Challenges:
- A lack of mandate means student fees could dwindle (if costs get too expensive, they'll just stop taking them)
- Need a legislative solution
- Need to educate legislators and stakeholders
- Need to evaluate other states' and programs' financial plans
- Look at public-private partnerships
- Need a way to archive inactive participants so they don't cost us money
- Need to look for partners who have a vested interest who could collaborate or fund us

Recommendations:
- A task force needs to be formed to tackle the issue
- State Fire Training needs a five-year business plan
- We need a mandate
- Local/municipal buy-in
- State legislature and governor

We need to sell the need for more funding.

4. External Collaboration

Bradley Arganbright, Taral Brideau, Randy Collins, and Rich Thomas

- Current system: Only ARTPs can test. Only ALAs can test own staff.
- Potential problem: Some ARTPs reluctant to test others. ALAs cannot test outside agencies. Money issues with agencies sending staff to ARTPs.
- Considerations: ARTPs required to test outside agencies. ALAs be permitted to test outside agency staff. Establish JPAs between ARTPs/ALAs/Non-ALAs. Provide/create funding to support ARTPs/ALAs/JPAs/ regional test centers.
- We created this system. Now we must fund it to make it sustainable.

5. Curriculum

Laura Garwood, Mark Romer, and Allison Shaw

- Need to regroup cadre leads, editors, and SFT staff and find out what was working. Retraining and refocusing. This would take a year to accomplish these steps.
- We need to revise and update the handbook and ideally would go online as a searchable format.
- Certification testing process was not fully in place when we developed the model, so that's not captured in the cadre process, how it should be executed.
- We need to identify which certifications we'll move into next. We need to map out how to implement that across the other certifications.
- There's been blurring between what editors are managing and what documents the leads are managing. We may need to look at our expectations and see if they are realistic.
- We need to look ahead to digital course delivery formats. Right now some cadre leads are missing some of the pieces of the course plan. Text books should be identified first, how many hours it will take to teach the class.
- Perhaps not everyone is using the process. Small rogue operations might be afoot. Need full commitment.
- We still need the database.
- In the three years we've been implementing this model, we've run through all but one certification. It looked impossible, but we did it. Now it's time to look at renewals. We need a map of what is updating when.

6. Change Management

Tim Adams, Kevin Conant, Gaudenz Panholzer, and Jake Pelk

- Change is inevitable, but growth is optional.
- Our vested allies are:
  - TOs
  - Cal Chiefs
  - CFTDA
  - STEAC
  - JAC
  - CSFA
  - Labor
- There were gaps in the Fresno Symposium. There was a lack of synergy between vested allies. They don't understand the value of the changes. They don't recognize the inevitability of change.
- Educate:
  - Vested ally workshop annually
  - Roll out the next set of goals based on that workshop
  - Standardize/increase efficiency reduce efforts
- Policy-Training-Execute-Critique-Review-Policy (it's a cycle)
- Relationships are key. Training officers are starting to embrace what is happening. They're the worker bees.

3:30 Wrap-Up and Next Steps

Dr. Quest asked which teams feel it would be appropriate to set up a task force for funding (and who is the contact person).

- Strategic planning does: SFT
- Funding does: SFT
- Curriculum does: Allison and Mark
- External collaboration does not; they need ongoing monitoring and communication.
- Instructors does: Jim Eastman will present at Fresno and Tom Forster, president of northern and southern California boards.
- Change Management does: For now it's SFT. Members are stakeholders. Attendance at County TO meetings. An RA or deputy fire marshal. If people can come to STEAC, it helps. It needs to be a more grassroots effort.

With regards to funding, Chief Coleman pointed out we don't have a white paper pointing out our needs and capabilities. We're one of the few states that has no general fund contributions to state fire training. We have better data now to make our case. There are also a lot of facts that are not yet in evidence, too. Chief Mathisen says SFT already has this being examined. We can figure out where we stand and then gather a few key people to discuss where we were and formulate a plan of attack. Then we'll have the data.

Blueprint 2020 was formed in 2011

In Five Years:

- Nationally recognized
- Accredited
- Sustainable

- Repository of training materials
- Archive student and instructor data
- Maintain training standards—meet or exceed NFPA
- Provide oversight
- Meets statutory requirements
- Influence national standards

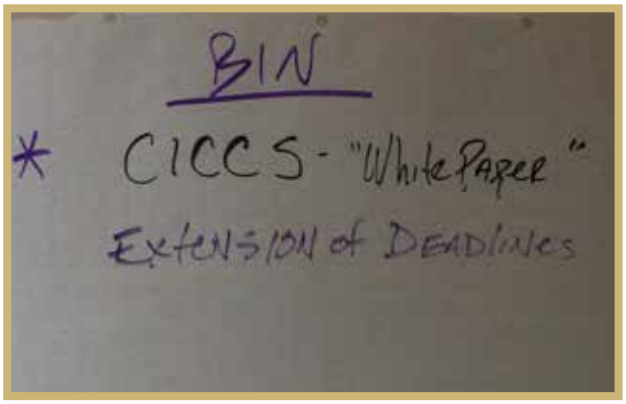
Section Five

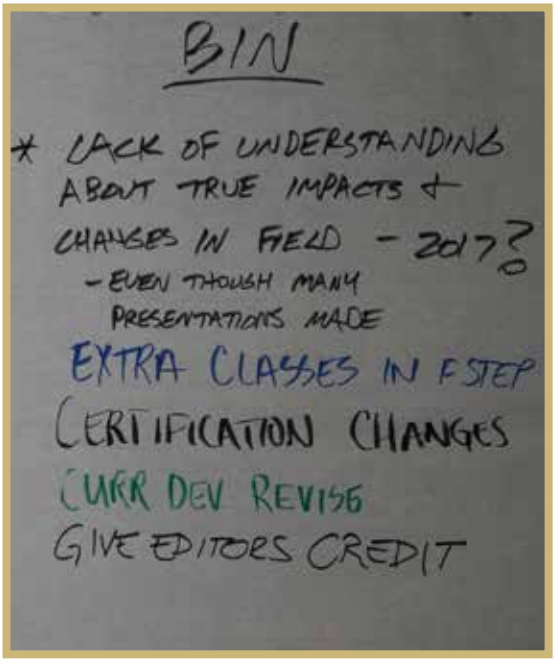
Photos

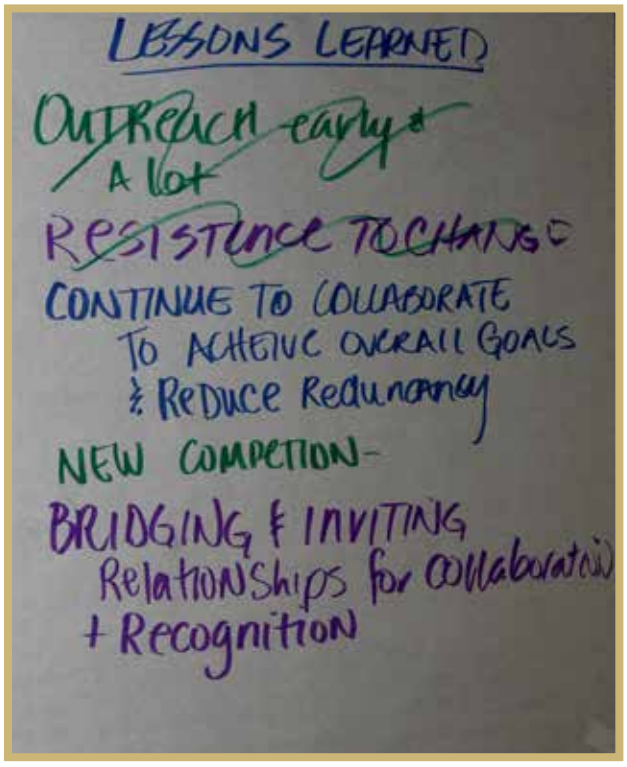
MISSION ALIGNMENT AFTER-ACTION REVIEW MEETING

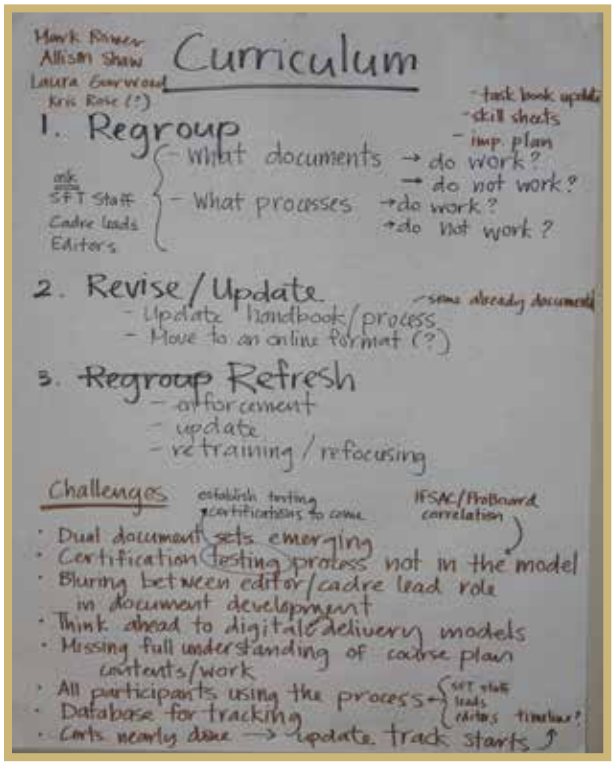
Top (L-R): Mark Romer, Gaudenz Panholzer, Kevin Dickson, Kris Rose, Laura Garwood, Bradley Arganbright, Tim Adams, Mike Richwine, Keirsten Quest, Grace Tuazon, Bo Lee, and Kevin Conant

Bottom (L-R): Tom Forster, Ron Coleman, Bill Vandervort, Jim Eastman, Ken Wagner, Rich Thomas, Allison Shaw, Taral Brideau, Michela Jones, Susan Gonzalez, Dennis Mathisen, Josh Marone, John Binaski, Randy Collins, Jake Pelk, and Dan Stefano

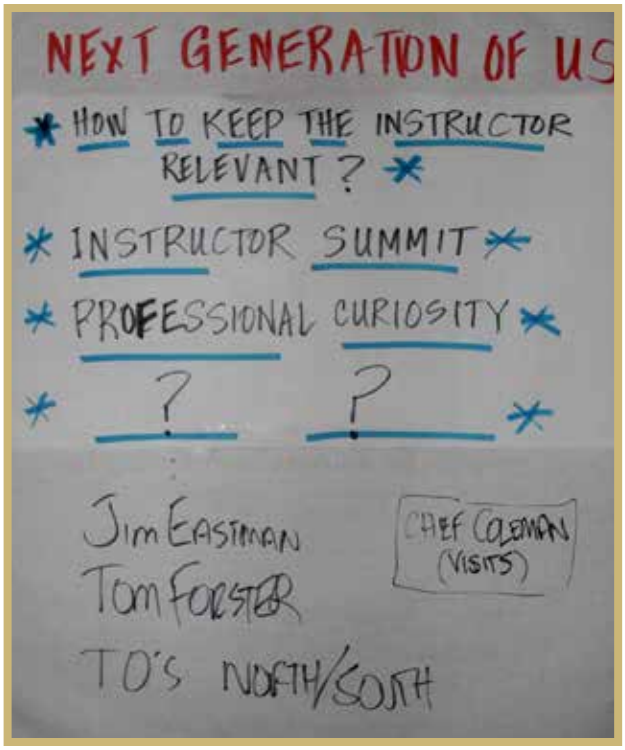

BIN
* CICCS - "White Paper"
Extension of Deadlines

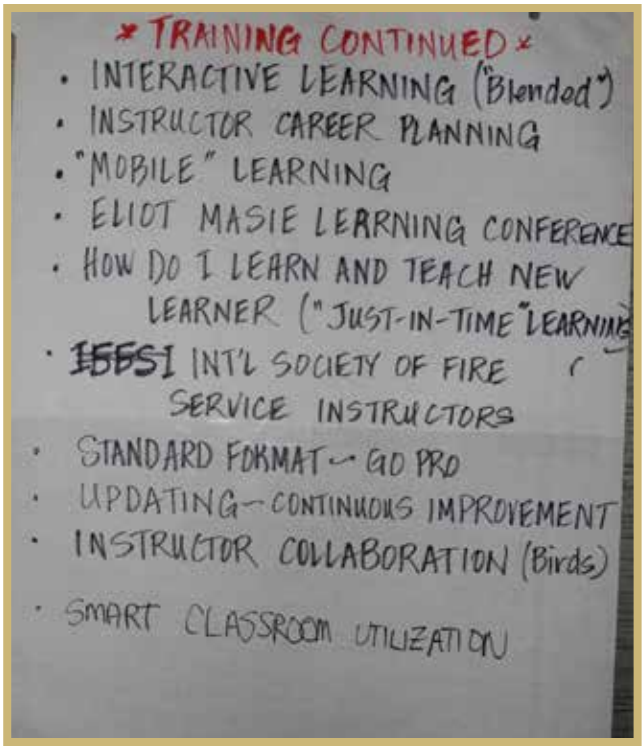

BIN
* LACK OF UNDERSTANDING ABOUT TRUE IMPACTS + CHANGES IN FIELD - 2017?
- EVEN THOUGH MANY PRESENTATIONS MADE
EXTRA CLASSES IN FSTEP
CERTIFICATION CHANGES
CURR DEV REVISE
GIVE EDITORS CREDIT

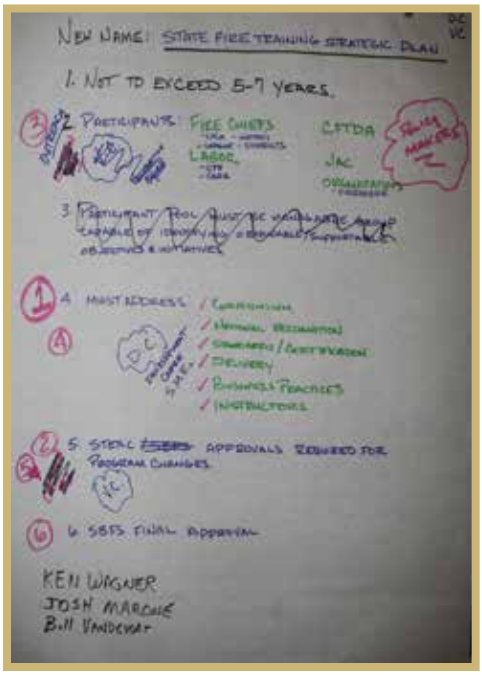

LESSONS LEARNED
OUTREACH early & A lot
RESISTENCE TO CHANGE
CONTINUE TO COLLABORATE TO ACHEIVE OVERALL GOALS & REDUCE REDUNDANCY
NEW COMPETION-
BRIDGING & INVITING Relationships for Collaboration + Recognition

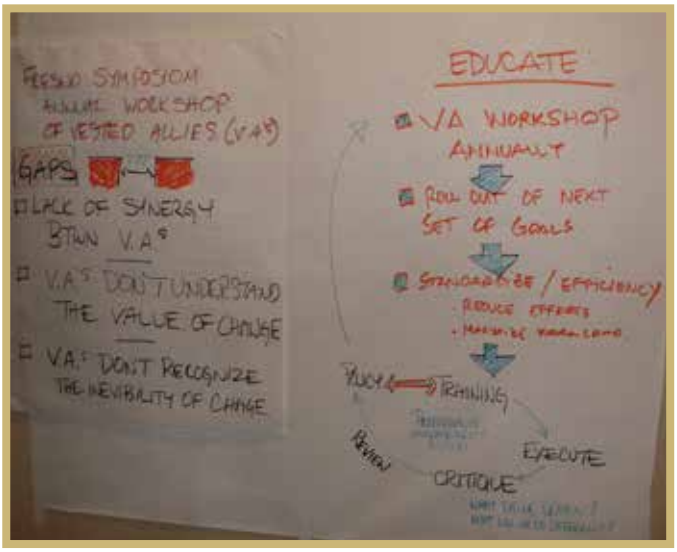

Curriculum
1. Regroup
- What documents → do work? → do not work?
- What processes → do work? → do not work?
SFT staff
Cadre leads
Editors
2. Revise / Update
- Update handbook/process
- Move to an online format (?)
3. Regroup Refresh
- reinforcement
- update
- retraining / refocusing
Challenges
· Dual document sets emerging
· Certification testing process not in the model
· Blurring between editor/cadre lead role in document development
· Think ahead to digital delivery models
· Missing full understanding of cadre plan contents/work
· All participants using the process
· Database for tracking
· Certs nearly done → update. track starts

MISSION ALIGNMENT AFTER-ACTION REVIEW MEETING

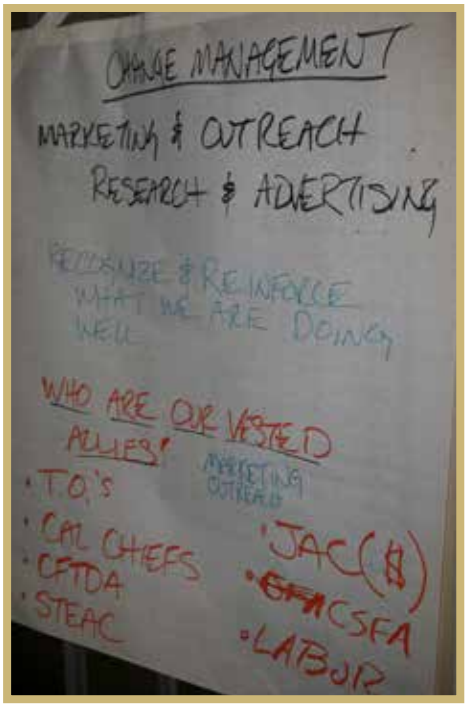


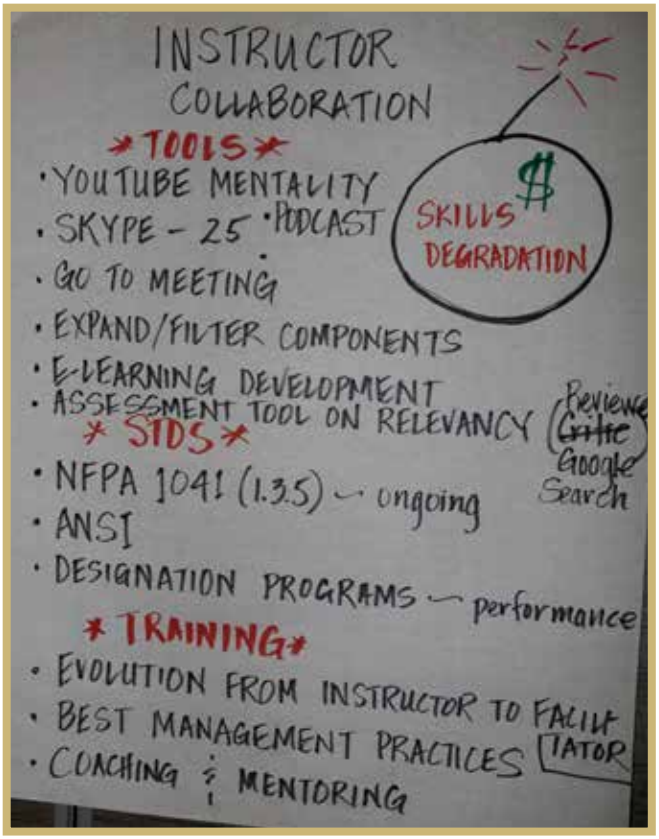


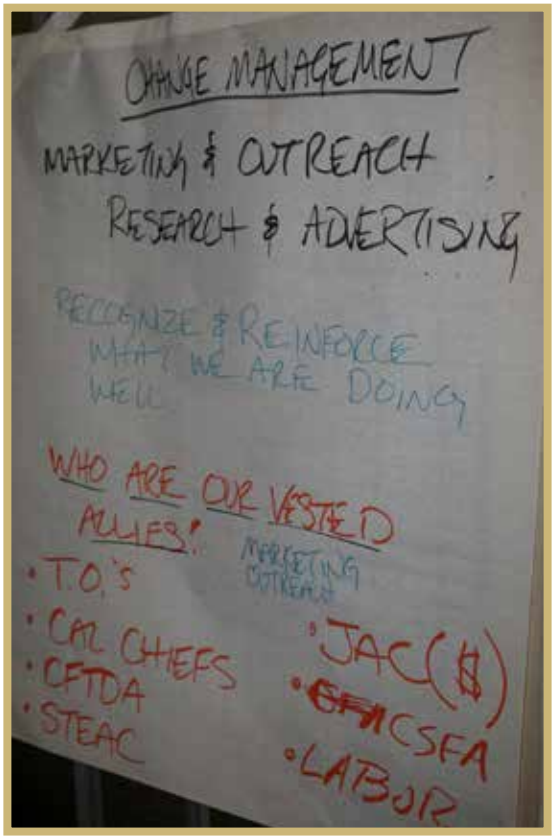





EDUCATE
GAPS
EXECUTE
CRITIQUE


CHANGE MANAGEMENT
MARKETING & OUTREACH
RESEARCH & ADVERTISING
WHO ARE OUR VESTED ALLIES!
• T.O.'s
• CAL CHIEFS
• CFTDA
• STEAC
• JAC
• CSFA
• LABOR


INSTRUCTOR COLLABORATION
* TOOLS *
• YOUTUBE MENTALITY
• SKYPE - 25 • PODCAST
• GO TO MEETING
• EXPAND/FILTER COMPONENTS
• E-LEARNING DEVELOPMENT
• ASSESSMENT TOOL ON RELEVANCY
SKILLS DEGRADATION
* SIDS *
• NFPA 1041 (1.3.5) — ongoing
• ANSI
• DESIGNATION PROGRAMS — performance
* TRAINING *
• EVOLUTION FROM INSTRUCTOR TO FACILITATOR
• BEST MANAGEMENT PRACTICES
• COACHING & MENTORING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Tom Forster

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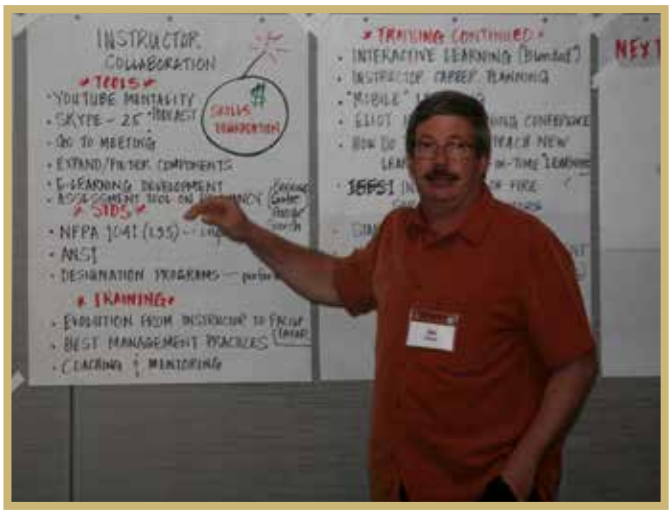
Kris Rose



Jim Eastman

Chief Mike Richwine

Allison Shaw

Laura Garwood

Keirsten Quest

Chief Mark Romer and Jim Eastman