Redefining State Government Leadership and Management Development:

A Process for Competency-Based Development

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This article describes a massive redesign, reconceptualization, and restructuring of Louisiana's management development programs and processes. Through a lengthy sequence of developmental efforts, the authors conceptualized, developed, and fully implemented an integrated system of supervisory and managerial training designed to promote best practices throughout the state. The resulting training system is a competency- or skill-based model. This article documents all steps of the process so other states or organizational entities seeking to update their management development programs and adopt a validated competency framework might be able to learn from the experiences in Louisiana state government.

The State of Louisiana is one of the five original states that formed the National Certified Public Manager Consortium in 1980 (along with Georgia, Florida, Arizona, and North Carolina). The Certified Public Manager (CPM) designation is modeled after the Certified Public Accountant designation. In Louisiana, the Comprehensive Public Training Program (CPTP) administers the management development program leading to the CPM designation. Policy is established by the CPTP Policy Board, which is legislatively charged with oversight of the CPTP programs. The administrator of the CPTP program, which is housed in the State's Division of Administration, is the contract administrator and the point person assigned to represent the state's interests in this project.

Like most states, Louisiana used an educational model to build its management development curriculum. By 1997 the state realized that its programs were becoming disconnected from the needs of managers and a partnership was created with the university to change it. However, most state agencies have limited financial resources, which sometimes can be a barrier to providing the innovative types of training offered in private-sector organizations. Such was the case in Louisiana. State resources were

limited, so a more efficient but theoretically sound approach was needed. The outcome has been the creation of the Louisiana Managerial/Supervisory Survey (LMSS), the Louisiana Managerial/ Supervisory Survey Competency Model, and a training program designed to provide a better-skilled supervisory and managerial level workforce.

For the last five years, the State of Louisiana, in partnership with the Louisiana State University School of Human Resource Education and Workforce Development, has undertaken a massive redesign, reconceptualization, and restructuring of their management development programs and processes. Through a lengthy sequence of developmental efforts, the authors conceptualized, developed, and fully implemented an integrated system of supervisory and managerial training designed to promote best practices throughout the state. This newly developed training program seeks to transform learning experiences into performance-based outcomes. The resulting training system is a competency- or skill-based model. The framework focuses on competencies and skills — not just course topics or a core body of knowledge. This is a shift from a content-based curriculum to one that emphasizes functional competencies necessary to perform the job.

The focus and purpose of this paper is to document all steps of the *process* so other states or organizational entities seeking to update their management development programs and adopt a validated competency framework might be able to learn from the experiences in Louisiana state government. The dynamic process was a four-phase procedure consisting of competency model development; needs assessment; curriculum development; and course design and pilot delivery.

Rationale

As a consequence of the focus on results in today's corporate business settings, a substantial amount of time and resources must be devoted to harvesting the intellectual capital of an organization's workforce. It is the skills and training of the employees that lead to the effectiveness and efficiency of an organization. Unfortunately, massive capital outlays, investments in technology, restructuring, and reengineering have led to disappointing results for many private sector businesses engaged in the search for the most successful method of training.[1]

One emerging solution to that problem involves learning organizations, which are based on the principle of continuous learning or a systematic method designed to increase learning within an organization, thereby enabling a more effective response to organizational change.[2] The recent utilization of learning organizations is a result of the failure of more traditional training programs at meeting the needs of the reengineered business entity.[3] Learning organizations emphasize the importance of learning at the individual, team, and organizational levels, thereby increasing the likelihood of further developing a competent and competitive workforce. This same strategy can be employed in public sector entities.

Competency-based programs have emerged as an important component of the learning organizations necessary in today's knowledge-based economy. Prior to the 1960s, organizational success was often contingent on specific managerial techniques

or the traditional Tayloristic techniques. The internal and external pressures that accompanied subsequent years, however, created a need for new leadership/managerial competence. Thus, organizations began to appreciate the value of such competencies.[4] According to Hamel and Prahalad, competence represents the synthesis of a variety of skills, technologies, and knowledge streams.[5] A competency-based approach to employee development ensures that all training programs are integrated to produce the desired results. One of the primary reasons for the increased level of competency-based programs is that they can more easily assimilate learning activities or initiatives into the daily business processes, rather than traditional training which is often totally isolated from daily business operations. Green summarized their value: "Robust competencies help you define what was done, what is being done, and what needs to be done."[6]

Competency-Based Training and Development

Competency-based training, also referred to as skill-based or performance-based training, is built around the fundamental principle of demonstrating capability. Competency-based training systems usually require employees to first demonstrate their ability to perform specific tasks. If the employee is successful in performing the task or demonstrating the competency, no additional training is required. However, in the event that he or she is unsuccessful, training is targeted at the specific areas requiring attention.[7]

Other characteristics of competency-based training programs include the following:[8-11]

- Employees' knowledge and skills are certified through competency testing rather than credits [courses] taken.
- Competency-based training is centered on behaviorally-stated and measurable objectives.
- Trainee assessment or evaluation of learning is criterion-referenced rather than norm-referenced.
- Assessments can take the form of written exams, oral exams, or skill practice demonstrations.
- In the event of failure, trainees have an opportunity to retake competency-based tests.
- Trainees receive immediate feedback on assessments.
- Various forms of media are used in the instructional process to meet trainees' individual learning needs.

Job analysis is typically the first component or step in the process of developing competency-based training. Job analysis identifies the specific tasks that are required. The second step requires identification of the skills necessary to perform each task

identified. The criteria for the competency evaluation are based upon these skills. The evaluation criteria clarifies what should be measured or the level at which an employee should demonstrate a competency. Assessment instruments (most often written or performance tests) are developed using this evaluation criterion. This assessment can be used to identify both individual and group level skill gaps. Specific training initiatives can be developed and implemented to target these skills gaps. Employees begin the process of training and testing until they reach the desired level of competency.

Studies show that in both public and private sectors, organizations led by individuals who demonstrate effective leadership competencies are able to maintain competitive advantage. A competency-based model of sustainable competitive advantage designed by Lado, Boyd and Wright strongly emphasizes managerial competencies and their impact on the focus and success of the organization.[12] Thus, it is understandable that managerial and supervisory training initiatives have become commonplace in business and industry. Trend setting organizations go to great expense to identify their strategic goals and instill the required leadership/managerial competencies.[13]

Outline Of The Management Development Overhaul Process

Phase 1: Competency Model Development

The development and integration of competencies in an organization is a process that requires systems thinking and strategic planning. True competency-based systems are cyclical, built around a series of well-defined tasks. It is therefore understandable that this phase, competency model development, involves a multi-step process. The goals of Phase 1 included finding a managerial competency model that fit the basic criteria, adapting that model to fit the Louisiana work environment, field testing the model, further refining the model for more specialized uses, adding additional competencies, and finally developing additional administration formats. The outcome of Phase 1, the LMSS instrument, has been recognized nationally for its innovativeness.

The process began with an extensive search of managerial competency models that met two basic criteria. The first was that the model had to be well-validated using accepted competency-model validation techniques. Second, the competency model had to be validated for use in the public sector. After an extensive search, it was determined that the model best suited for Louisiana was the Leadership Effectiveness Framework developed by the U.S. Office of Personnel Management (OPM) Personnel Management Center, available free of charge.

In 1991, OPM developed the Leadership Effectiveness Survey (LES), "an empirically based continuum of individual and organizational competencies that are important for effective performance by supervisors, managers and executives."[14] Information obtained from the survey enabled the identification of competency requirements across the three employment levels — supervisory, managerial, and

executive — which ultimately led to the development of the OPM competency model, the Leadership Effectiveness Framework (LEF).[15,16]

The next step was to adapt the language of the task statements used to construct the U.S. competency model to better reflect the Louisiana state work environment. The team of experts from the university and the state analyzed the language (i.e., stakeholders, work groups, etc.) making changes where necessary while not violating the integrity of the original model. The outcome of this process step was the initial version of the Louisiana Managerial/Supervisory Survey (LMSS) instrument.

The resulting competency statements were field tested in focus groups with nine different departments in Louisiana state government. Each focus group included 15 to 25 members, representing a cross-section of managerial levels. Participants were selected by departmental level, mid- and upper-level management in conjunction with the project team members.

Employees selected had to be considered high performers within their work groups, had to be able to clearly distinguish between the technical competencies (the what) and the performance competencies (the how) of their jobs, and had to be able to articulate the necessary KSAs for managerial and supervisory positions.

These supervisors and managers were given an opportunity to critique the writing as well as the content of the competencies in these meetings. After carefully reviewing the wording and content of each statement, focus group participants also were asked for feedback.

Their suggestions and comments were compiled, sorted and reviewed by the project team members. The approved revisions were integrated into a revised version of the LMSS instrument, composed of 24 competencies, each with series of three to 11 task statements or sub-competencies that described an element of managerial behavior from basic to strategic levels.

Once the core LMSS model had been developed, its value was leveraged by developing specialized versions of the instrument. The existence of the basic competency model made it relatively easy to develop versions that were more focused on special situations in state government, further enhancing the value of this project. For example, versions were developed for first-line supervisors in the Department of Transportation, the Department of Health and Hospitals, and the Department of Corrections. Using job analysis data from the needs assessments, departments have the option of developing their own customized version of the LMSS instrument.

Through the test period it became apparent that some additional competencies were needed. In particular, the state had initiatives in areas such as strategic management, customer service, and reengineering. For example, in the general LMSS competencies related to process management, improvement and redesign were added. In addition, the first line supervisor version needed competencies related to safety and "caretaker" roles. Focus groups and survey methodology were used to collect data for this task.

The model and assessment tool have been adapted for a variety of administration formats (i.e., self-rating, dual rating, 360 degree rating). This enhances supervi-

sors' and employees' abilities to set performance improvement goals. Employee participation increases buy-in and enhances commitment to achieving performance goals. Dual rating (employee and his/her supervisor) and 360-degree feedback (employee, supervisor, peers, and subordinates) versions allow for more complete assessment, particularly for individual development and coaching. The 360-degree and dual rating versions enable the employee to actively participate in seeking supervisor feedback and assessing past performance. Self-scoring versions have been developed so that departments and agencies can use it without the university's assistance. The competencies are also being adapted for pre- and post-training assessments and for Internet administration.

Phase 2: Training needs assessment in nine state agencies

The initial competency model was field tested in needs assessments conducted in nine Louisiana state government agencies. Training needs assessments were conducted in 11 departments within Louisiana government. They encompassed a wide variety of training needs and job types. However, most departments identified managerial and supervisory training as a key need. As a result, resources could be pooled and the work described in this article undertaken. Although this phase is not discussed in detail it has been partially documented elsewhere.[17]

More than 5,000 managers completed the revised survey instrument that asked their individual perceptions of both skill level and job importance of the 24 competencies. The later scale gave the state the most complete job analysis data on government managers it had ever had. In addition, six of the agencies elected to conduct multi-rater needs assessment in which each individual manager and his or her boss completed the instrument.

Survey data was summarized on both state and agency levels. Each participating agency received summary reports documenting their training needs. The agency-level data was retained for development of customized versions of the instrument and curriculum. Most importantly, the state-level data was used to refine and validate the LMSS instrument.

Phase 3: Curriculum development

According to Bloom, there are four main points to consider in developing curriculum:[18]

1. The objectives that you are seeking to obtain.
2. The type of learning experiences that are likely to bring about the attainment of the desired objectives.
3. The effective sequence or organization of learning experiences that will enable the learner to integrate the content/experiences.
4. The evaluation of the learning experience.

Bloom's taxonomy of cognitive knowledge was also adopted as the structure for the learning objectives included in this competency model.[19] According to this taxonomy, learning objectives can be written at one of six levels. Level 1, the knowledge level, pertains to knowledge of specifics, knowledge of ways and means to deal with these specifics, or knowledge of universal or abstract principles in a field. The comprehension level, level 2, pertains to grasping the meaning of material, whereas level 3, the application level, pertains to using the information in concrete or specific situations. Level 4, the analysis level of cognitive knowledge, requires the ability to break the material into its parts; and Level 5, the synthesis level, involves putting parts together into a whole. The final level in Bloom's taxonomy, evaluation, involves judging the value of something for a given purpose using predefined criteria.

At the core of all curriculum development efforts is the ability to identify core competencies that all employees are expected to maintain. With that process complete, the project team was able to progress to the curriculum development phase of the project.

The ultimate goal of curriculum development is the ability to provide participants with theoretically sound, yet cutting-edge information or best practices. Achieving this balance can seem paradoxical. However, it can be done by integrating — and balancing — the way training is designed and delivered. Achieving that integration and balance and improving the learning transfer was the goal of the project team for this phase and the final phase (Curriculum Design and Pilot Delivery) of the project.

The project team and key state representatives discussed these issues to determine the most effective methodology to employ to operationalize the competencies. Operationalizing a competency involves describing the steps required or the actions associated with the competency.[20] Ultimately, the project team implemented a multistep procedure recommended for developing management development curriculum.[21] That procedure included employing standard curriculum development techniques, designing an alternate method, determining characteristics of curricula, and creating structure for the training program.

Standard curriculum development methods call for some form of task or work analysis as the initial step to drive curriculum and course development. Because of time constraints, the project team had some doubt as to whether standard techniques could be employed. Nonetheless, it was decided to test these methods on a single competency, technology management.

Approximately 20 to 25 subject matter experts were chosen for an identified competency (i.e., technology management). Subject matter experts generally represented a cross section of managers who performed at the level typical of what is desired as an outcome of the program, and content experts who contributed expertise in the subject area of discussion.

This group was assembled for three specific purposes:

1. To identify tasks associated with each competency required for supervisory/managerial jobs.

2. To identify the necessary knowledge, skills, and abilities required to perform the tasks associated with managerial and supervisory competencies.
3. To increase buy-in by providing additional opportunities for input of as many individuals as possible.

The purpose of the initial analysis meeting was to take each *sub-competency* within the technology management competency and break it down into lower-level task statements.

The project team assembled the SME team and divided the SMEs into small groups. The number of small groups corresponded to the number of sub-competencies to be analyzed and each group was assigned to one sub-competency. With one of the project team members serving as facilitator, the individual groups were instructed to define what a successful manager would **do** if he or she were performing the sub-competency at a desired level. In training jargon, the group members were defining the performance objectives for training. A performance objective is "a precise statement of a capability that, if possessed by the learner, can be observed as a performance."[22] These objectives are required in order to plan and develop the instructional materials and delivery system.[23]

The group members then brainstormed responses and reached consensus on the list. Next, the facilitator reassembled the small groups into one large group. A single representative from each group reported the group's list to the larger group. The large group contributed additional tasks or comments on the tasks generated by each small group. This process continued until all groups had reported their results and the comments were recorded. As a final check, the facilitator asked the members of the larger group if they were confident that a training program enabling participants to perform the tasks they had outlined would result in the development of a successful manager within the competency on which they were focusing.

A naturalistic technique (e.g., clustering like information) was used to sort and analyze the data. The project team analyzed the list of tasks for common themes and grouped the tasks according to these themes. The results were compiled into a report that was distributed to the same group of SMEs for review and validation.

Using the same group of SMEs assembled for the task analysis meeting, the project team set out to identify KSAs. The objective of this second meeting was to define what it is that a successful manager should know in order to perform each of the tasks that emerged from the analysis meeting, basically defining the learning objectives.

Once again, the SMEs were divided into small groups, with each group assigned to a sub-competency and the tasks previously identified. The group members brainstormed responses and reached consensus on a list.

The small groups were reassembled into one larger group and a single member of each of the smaller groups reported the group's list to the large group. The larger group was allowed sufficient time to contribute additional tasks or comments on the tasks generated by each small group. This process continued until all groups had reported their results and comments were recorded. As a final check, the facilitator

asked the large group whether they were confident that a training program enabling participants to learn what they have outlined would result in a the development of a successful manager within the competencies and tasks on which they were focusing.

The analysis of the KSA data was almost identical to that of the activity data. The project team analyzed the list of KSAs for common themes, grouped them according to those themes, and reduced the list through some selective clustering. The group members were asked, "If managers know these KSAs at the end of the training program, would they be able to perform the activities defined earlier for this competency?"

Normally, the process used to accomplish the curriculum development task would involve using the steps above for each of the 27 competencies (i.e., assembling a team of subject matter experts to conduct a task analysis for each competency).[24] Because there were 26 other competencies for which courses needed to be developed within a one-year period, the project team found it necessary to design an alternate process that would expedite the work and still maintain the integrity of the design process project. To achieve that goal, project team members adapted and integrated aspects of various competency development processes found in an extensive literature review. The result was the development of a theoretically sound and efficient process (shown in the steps that follow) that would meet the goals and barriers particular to this project.

Keeping Bloom's key issues in mind, the project team first determined that the curriculum should:[25]

1. Contain learning objectives both at the terminal and supporting level.
3. Contain learning objectives that are written in behavioral terms.
4. Incorporate adult learning principles and strategies.
5. Contain experiential learning or application level exercises to reinforce cognitive level material presented.
6. Be geared toward practical application of course content.
7. Be supported with job aids.
8. Contain learning assessments that test the participants at the appropriate level (i.e., material presented at the application level is tested through application type questions).
9. Be designed so that various presentation formats (i.e., traditional, in-class instruction, compressed video, internet, etc.) are incorporated.
10. Be evaluated on two criteria:
    a. The material presented will be useful on the job.
    c. The course will adequately prepare participants to apply the material to their jobs.

Beginning in 1999, the training staff mapped all of the existing learning objectives to competencies and sub-competency statements in the LMSS. It was quickly determined that the old curriculum did not provide adequate coverage when examined from multiple facets. To meet this newly identified need, the project team developed the management development curriculum by assembling the curriculum development team, conducting literature review and consulting with recognized content experts, creating a draft of terminal learning objectives, validating terminal learning objectives with key state agency

representatives, drafting a proposed content plan, and finally validating terminal learning objectives through a design conference.

A small team of content experts and curriculum designers was needed to create appropriate curriculum structure for each learning objective. The curriculum development team was composed of two project team members, the instructional staff, and two representatives from the key state agency whose job was to use their subject matter expertise to identify all of the content to be taught and use their curriculum design expertise to design an effective training program.

Members of the curriculum development team spent several months consulting with representatives from top management development programs and researching best practices in management development efforts. After that extensive effort, they contacted leading content experts and conducted an extensive literature review to identify appropriate curriculum content. Only cutting-edge material representing best practices with practical appeal was considered for this program.

From these efforts, the curriculum development team members created lists of potential terminal and supporting learning objectives for each of the sub-competencies.

The curriculum development team, in conjunction with the project team, determined that terminal-learning objectives would be written at a Bloom level of 3 (application) or higher, and supporting learning objectives would be written at the knowledge or comprehension levels.

The terminal objectives developed by the curriculum development team were validated in two separate processes. First, the curriculum development team and representatives from the key state agency convened and participated in a series of all-day sessions to review these objectives. These meetings resulted in the addition and deletion of some terminal learning objectives. In other instances, terminal learning objectives were refined and/or reduced to the supporting learning objective level.

Subsequent to this series of meetings, the curriculum development team drafted a proposed content plan (which defined the supporting learning objectives). The goal was to match the terminal learning objectives with appropriate content material. The result of this process was a report that included the competency name, the sub-competencies associated with the competency, the terminal learning objectives proposed to meet the sub-competencies, and the supporting objectives proposed to meet the terminal learning objectives.

The next step in the validation process consisted of a two-day design conference, facilitated by the project team. During this conference 55 state employees rated the usefulness/appropriateness of each terminal learning objective and helped narrow the terminal learning objectives to yield a validated list of terminal learning objectives. These employees consisted of managers, supervisors, human resource representatives, CPTP policy board representatives, Certified Public Manager Society representatives, and CPTP staff members. Approximately 15 state agencies were represented at the design conference.

The members of the curriculum content team made formal presentations of the proposed content to solicit comments and reactions from the conference participants. The participants rated the appropriateness of the proposed content material in terms of usefulness on the job using a 4-point Likert-like scale.

In addition to individual ratings, the participants were divided into several focus groups — each assigned to a particular competency. The focus group facilitators led a discussion with the participants about further refinement of the material. The participants had the opportunity to critique the proposed content draft and offer suggestions for additions or deletions. Incorporating focus group meetings into the design conference allowed opportunities for additional input by stakeholders and it enabled the project team to gain a better understanding of specific issues that state managers and supervisors wanted the new curriculum to either address or to exclude.

The data were analyzed and summarized using descriptive statistics. The team held lengthy meetings to examine the data and make decisions on terminal objectives. Some terminal objectives were eliminated from the content plan or significantly modified to meet participant criticisms. The focus group data was analyzed using qualitative techniques and incorporated in the summary findings report.

Based on the summary material obtained from the validation design conference, the curriculum development team drafted revisions to the curriculum structure. The synthesized data from the conference were incorporated into draft form of course descriptions, terminal objectives and performance outcomes for submission to the curriculum committee.

The next step was to ask the CPTP Policy Board to assemble a curriculum committee that would review and approve the draft management development curriculum structure. This committee was composed of the university project team members, four voting members of the Policy Board and representatives from five state agencies who were appointed by the chairman of the board as voting members of the committee. Also serving on the curriculum committee was a representative from the State Certified Public Training Program staff, the Department of State Civil Service, and the Certified Public Manager Society.

As outlined by the Policy Board by-laws, the specific duties of the curriculum committee included reviewing, and based on that review, making suggestions and recommendations to the Policy Board on matters pertaining to:

1. The philosophy of in-service training and education in state government.
2. The philosophy and meaning of CST and CPM designations.
3. Approach to and development of curricula content.
4. Test construction and assessment.
5. Assessment of curriculum needs and effectiveness.
6. Selection of instructional staff.
7. Certification requirements.

The project team and the curriculum committee, through a series of meetings that spanned a three-month period, accomplished the following:

1. Discussed whether the terminal objectives would, in fact, lead to the stated performance outcomes.
2. Reached consensus on how they envisioned this curriculum better enabling the target audience to perform their jobs.
3. Developed recommendations for new CPM certificates and functional certificate requirements.

With the approval of the curriculum committee, the project team then grouped the competencies into modules which fell into one of four meta-competencies or functional areas: 1. Building Effective Teams; 2. Managing People; 3. Managing Work; and 4. Advanced Managerial Skills. In some cases competencies were combined to form a single module, and in other cases competencies were divided across several modules. For instance, the HR competency was divided across modules for motivation, coaching, interviewing, and conducting performance reviews. Table 1 (next page) shows the courses included in each of the four certificates.

Table 1. Courses in the four certificate programs

Building Effective Teams Certificate

Developing Effective Teams, Part I
Developing Effective Teams, Part II
Developing Effective Teams, Part III
Developing a Motivated Workgroup
Effective Conflict Resolution Strategies
Encouraging Creativity in Teams
Individual Differences and Diversity in the Workplace

Managing People Certificate

Civil Service Rules and & Regulations (Civil Service)
Key Elements of Disciplinary Action (Civil Service)
Performance Planning and Review (Civil Service)
Building Better Performance Through Employee Skill Development
Conducting Productive Employee Performance Reviews
Improving Employee Performance Through Coaching
Promoting Learning in the Workplace

Managing Work Certificate

Accountability in Work Groups
Applying Decision-Making Strategies
Facilitating Change
Managing and Improving Work Processes
Managing Customer Service Systems
Managing Work Time Effectively
Workplace Negotiation Skills

Advanced Managerial Skills Certificate

Building Productive Working Relationships (Partnering)
Conducting an Effective Job Interview
Developing an Effective Planning Process
Ethical Behavior in the Workplace
Long-range Planning
Technical Writing
Technology Management

Table 2 maps the specific competencies to the courses and illustrates the combination of some competencies.

Table 2. Course and Competency Matrix

CPTP Course	Oral Communication	Interpersonal Skills	Workgroup Team Building	Conflict Management	Diversity Awareness	Innovation	Long-Range Thinking	Adaptability
Developing Effective Teams I	●							
Developing Effective Teams II		●			●			
Developing Effective Teams III			●					
Effective Conflict Resolution Strategies			●					
Individual Differences & Diversity					●			
Long-Range Thinking							●	
Encouraging Creativity in Teams				●		●		●
Managing Work Time Effectively								●
Facilitating Change								●

CPTP Course	Continual Learning	Human Resource Management	Problem Solving	Accountability	Motivation to Serve	Customer Service	Negotiating	Planning/ Goal Setting
Promoting Learning in the Workplace	●							
Conducting Effective Performance Reviews		●						
Improving Employee Performance Through Coaching		●						
Conducting an Effective Job Interview		●						
Building Better Performance		●						
Effective Problem Solving			●					
Accountability in work Groups				●				
Managing Customer Service Systems					●	●		
Workplace Negotiation Skills							●	
Developing an Effective Planning Process								●
Developing a Motivated Workgroup								●

Table 2. Course and Competency Matrix (continued)

CPTP Course	Oral Communication	Interpersonal Skills	Workgroup Team Building	Conflict Management	Diversity Awareness	Innovation	Long-Range Thinking	Adaptability
Managing and Improving Work	●	●	●					
Building Productive Working Relationships				●				
Ethical Behavior in the Workplace					●			
Technology Management						●		
Applying Decision-Making Strategies							●	
Technical Writing								●

Because certifications are a measure of both competency and potential, a certification program was designed for each of these functional areas. Successful completion of tests in each course and the preparation of an action learning or work-related project incorporating the course material are necessary for certification in each of the four areas.

The decision to test in every course was a big change as tests had not previously been given in these courses. When criterion-referenced testing is used, the tests become an important part of assuring job-related competency. Therefore, the decision was made to institute a test in each course.

This project requirement is an important component of the curriculum structure since the fundamental premise of the entire program is that it is built on job outcomes. Participants are expected to demonstrate in their projects that they are able to achieve the job outcomes. The project also provides a tangible means to enable the participant's agency to benefit both in terms of a more competent workforce and addressing a specific agency need. Fundamentally, the new requirements changed the project from an academic exercise to a real, job-related work project. Agencies that use them properly will be accomplishing important work while simultaneously developing their employees. Results will be clear and tangible for both the participant and the agency.

As part of the project requirement, learning contracts are executed between four parties: the participant, his/her department or agency, the instructional staff, and CPTP. A learning contract is "a written description of what an individual agrees to learn and how an organization agrees to support the learner."[26] These contracts are designed to help both the agency and the participants meet their respective learning needs by outlining the support (in terms of time and resources) required from the agency and the payoff to the agency. The contract is also designed to summarize the scope of a particular agency need or project that the participant will undertake to

demonstrate the relevance of the learning objectives to actual job outcomes. They also serve to help participants direct their learning and to outline the agency's plan to monitor and measure the learning. Projects are graded by the same parties who sign the contract (except for the participant) so that the outcome reflects a balanced perspective of the agency, CPTP, and the university.

Although all of the competencies identified are necessary for success, each department or agency will need to weigh the competencies to fit their specific needs. However, high-performing employees must be able to integrate the skills from all functional areas.

Phase 4: Course Design and Delivery

Phase 4 consisted of determining design and delivery components, developing criterion-referenced tests, developing instructional material, reviewing and approving instructional material, piloting courses and tests, and conducting evaluations.

Recognizing that "behavior change and skills training [don't] work in a traditional classroom setting," the project team determined that the instructional design should include lesson plans incorporating verbal presentations, job aids, role playing, skill practice, simulations, etc. into the instructional delivery.[27] Fundamental components of this initiative include an appreciation of the realities of the work experience; an understanding of the basic adult learning principles; the integration of behaviorally based exercises, case studies, group discussions, and real-world work examples into the instructional design; evaluations and assessments; and a mentorship program where certified public managers work with trainees before they become certified themselves.

Before the team of instructional designers began developing the instructional material, criterion-referenced tests were developed for each competency module approved by the curriculum committee. Criterion-referenced tests were developed for each course and given at the end of the class sessions. Criterion-referenced testing is a fundamentally different approach to testing than norm-referenced testing. Norm-referenced testing is traditionally used in schools and in training when trainers do not have special training to learn how to write tests differently. Participants usually view criterion-referenced tests as more equitable because they are directly job relevant.

In competency-driven training everything starts with the end goal (job performance) and then works backward. Thus, once performance objectives are defined, learning objectives are defined to support them. Then, test items are developed so the outcomes are clearly defined before the course is developed. Finally, the courses are developed to enable students to pass the test. Having the test items written first provides important discipline to the design process so courses become much more streamlined and focused. When done correctly, the result is a tight alignment between performance outcomes, learning outcomes, test items, and content.

Items were developed for all performance outcomes at the appropriate Bloom level.[28] In addition, the instructional designers employed the general guidelines for achievement testing.[29-31] These included the following principles:

1. The learning assessments should measure clearly defined learning outcomes.
2. The learning assessments should measure **all** intended learning outcomes.
3. The learning assessments should include the most appropriate types of test items for measuring the intended learning outcomes.
4. The learning assessments should be based on plans for using the results.

To address these issues the instructional designers had to consider both the intended learning outcomes to be measured and the specific responses that would indicate that the learning outcomes have been achieved.

Learning, theory, knowledge, and application are required to effectively improve performance.[32-34] Because performance improvement often generally involves developing individual adults' expertise through learning, it is important to have a complete and current understanding of adult learning theory.[35] These theories indicate that participants typically learn best when they are able to develop skills and abilities through experiential or application type training. Thus, lectures, case studies, role-playing, and group discussion were all incorporated into the program. In addition, various modules were developed so that they could be presented both in traditional lecture and compressed video formats.

In developing the instructional materials, the instructional designer team consulted leading content experts to determine appropriate experiential exercises. In some cases, the designers contacted well-respected state managers for actual case studies or scenarios that could be incorporated in the course materials. The result of this process was a standardized module packet for each competency consisting of an instructional manual for participant use, a lesson plan, job aids, course exercises and the instructor's presentation packet.

As a check for validity, standardization, and completeness, the project team and a representative from the CPTP reviewed each component of the module packet. A major part of this review was determining whether the following conditions were met:

1. The validated content was used appropriately to address the job outcomes.
2. The learning objectives were addressed at the pre-determined Bloom level.
3. appropriate application and experiential exercises were incorporated to enhance learning transfer.
4. The criterion-referenced tests were designed to meet the intended job outcomes.

Validation of the curriculum through pilot testing was important to ensure that the curriculum would yield rapid transfer of learning. Courses were piloted during a six-month period. Typical pilot courses included 20 to 25 participants, although some

classes had as few as six participants. These pilot courses were designed to enable the instructors to test the material and the validity of the learning assessments.

A key part of the pilot process was further establishing the content validity of the test items. While the tests had been constructed using a content validity process, no test could be considered finished until it had undergone repeated pilots including item analysis. Item analysis is the process by which individual test questions and answer responses are closely examined. In criterion-referenced testing, the presumption is that everyone should be able to pass the test at the end of the course. If not, there is some breakdown, either in the test question/answer itself or in the instructional process.

There are no hard and fast rules for item analysis procedures but our process followed general conventions. Specifically, the following guidelines were used:

- If more than 50 percent of participants missed a test question, it was eliminated from scoring and revised for future tests.
- If 25 percent to 49 percent of participants missed a test question, the pattern of wrong answers was examined.
- If most of the wrong answers were similar, the question was eliminated from scoring and revised for future tests.

This is quite different than norm-referenced tests in which some questions must be specifically designed so that only a small percentage of participants can answer correctly. Conversely, in criterion-referenced testing, participants are expected to answer correctly.

Meaningful evaluation is necessary to determine the success of these initiatives. The project team agreed that the success of this training program required the development and implementation of a mechanism for capturing participant feedback. Analysis of this feedback, coupled with analysis of employee performance measures, allows us to continuously improve and refine our training program. Thus, the project team designed a three-level evaluation system to assess participants' perceptions and reactions, learning evaluation, and learning transfer or on-the-job results.

Immediate and direct feedback is solicited upon course or module completion. However, the end of course feedback was quite different because research has shown that traditional affective reactions have no correlation with learning or performance.[36] Participants are provided with a written questionnaire that asks them to score the curriculum on two primary criteria: how *effective* was the "specific topic" (content material presented for each learning objective) at preparing the participants to use the material at their respective jobs, and how **useful** was the "specific topic" in preparing the participants to perform their respective jobs. This evaluation data is systematically analyzed immediately after the course. Data obtained through this process is used to refine and revise the material for subsequent training sessions.

The next phase of the project will include on-the-job evaluation to determine if participants are utilizing new skills acquired in training. On-the-job evaluation is always challenging and this training will be no exception. It will require participants'

supervisors to complete rating forms on improvement in job skills. The rating forms are currently being designed. At some point we anticipate using the LMSS as a follow-up instrument as well.

Final Products

The products that emerged from this four-year process include: a validated competency model; assessment tools; specialized/customized competency models; and four certification programs for state employees. Combined, these four certificates comprise a major portion of the requirements for the CPM designation. In addition to completing each of the modules contained within the certificates, participants seeking their CPM designation are required to pass a test for each module with a score of 70 percent or higher and to complete an action-learning/work-related project for each of the certificates. CPM designation is awarded upon successful completion of all that is required for each of the four functional certificates.

Strategic Application of the Curriculum

While the training program developed enables state employees to earn CPM status, the program extends beyond that goal. In addition to earning the CPM designation, the courses included in this program can be used in multiple ways:

1. Individuals can select the courses they need to meet their own job needs or career development goals.
2. Individuals may pursue any one or a combination of the functional certificates.
3. Departments and agencies can designate a specific sequence of courses.
4. Courses can be customized to assemble job outcomes in a certain way to meet agency or group needs.

Importance of This Research Project

This project represents a very important step in the re-creation of management development programs in state government. To achieve high-performance, private sector businesses and state governments must closely examine their management and leadership development processes. Doing so provides both individual and organizational level benefits. Both the project team and the state recognized the potential organizational and individual level benefits of this competency model. The organizational level benefits of the LMSS instrument included:

- It aligned work behaviors with organizational goals.
- It served as a means to allows departments to communicate desired work behaviors.
- It helped to create an awareness of performance expectations.

- It identified and emphasized work behaviors that contribute to organizational effectiveness.
- It identified training areas that are compatible with organizational strategies.
- It can be used to increase the competency level of the supervisory and managerial level workforce.
- It can be used to provide ongoing skill development and career enhancement opportunities.
- It enables customizing workforce development systems to ensure that departmental and agency employees have the necessary KSAs.
- It enables departments to create knowledgeable workers by developing skills in core competencies.
- It can be used to improve performance through structured performance discussions.
- It can be used to design succession-planning strategies.
- It can be use to design career development opportunities.

There are individual level benefits of the LMSS in addition to the organizational level benefits. These include:

- Ability to create an individual development plan for professional growth.
- Ability to receive feedback from superiors, peers, and subordinates if 360-degree version is used.
- Dual-rating version allows individual employees to gauge their performance against their superiors' ratings to determine gaps in perception.
- Ability to receive individualized assessment of management and supervisory competencies.
- Ability to assess potential for advancement.
- Increase level of understanding of the relationship between personal behaviors and organizational goals and strategies.
- Helps individuals identify the competencies they must develop to advance in state culture.
- Increase awareness of individual strengths and weaknesses.

There is also an important ancillary benefit of this project, which perhaps is the most important. That benefit is the *process* that was developed which any other state or business entity can use to re-create its management and leadership development programs.

We think this research effort is important for the following reasons:

1. **Comprehensive nature of the process developed.** The process began with the creation of a competency framework and continued all the way through the curriculum redesign as well as through many spin-off projects.

3. **The process is replicable.** We believe that the process used during the last five years would be an extremely valuable one for other states to access. While there are certainly unique aspects encountered in the culture of Louisiana state government, in general the process is easily replicable.

4. **Competency approaches represent current best practice.** Competency-based approaches to management and leadership development are considered to be the best practices today. However, many states have yet to adopt such an approach. We believe one reason is that many do not know how to do it or it looks too complicated to achieve. Thus, this paper can enable other states to move their management development programs to best practice level because it presents a practical but sound approach.

5. **Strong management and leadership are essential for government performance enhancement.** It is well-known that there is intense pressure for government at all levels to reform the way in which it conducts business. In particular, the pressure is for increased accountability and improved performance, particularly citizen services. In many states, including Louisiana, the pressure is to run government more like a business. For this change to occur, strong management and leadership are essential. For many states that means they must recreate their management and leadership development programs.

6. **There is no other source supplying this information.** Before we began this project several years ago we searched extensively for model processes such as the one to be developed in this research report. There were none. We would like for other states to have access to our experiences.

7. **The process worked.** While it is too early to cite any outcome information, we do know that this process has worked in terms of its ability to redirect and recreate the management and leadership development programs.

Conclusion

To understand that business results depend on workforce performance, two fundamental concepts must be recognized:

1. Excellence in management and leadership is essential to business success.

2. An individual's performance skills help to operationalize the organization's performance objectives.

These two concepts alone provide a logical justification for undertaking a massive effort such as developing and implementing a competency-based program. Granted, there are numerous challenges associated with undertaking such a project yet the enhanced program that emerged from this process includes a structure that will enable us to bring the required managerial and supervisory competencies within the reach of state employees.

Undoubtedly, developing and implementing competency-based programs is a very time consuming effort, and a true commitment to training is required. However, given that traditional content-focused training efforts have proven to be ineffective, competency-based training is the only viable solution to training problems within the context of the Louisiana state working environment.

We are continuing to work toward expansion and improvement to ensure that the program continues to meet the needs of the state and to drive organizational effectiveness. We also know that to leverage the capabilities of a competency-based program these competencies should be integrated and incorporated into all organizational HR systems. Organizations must adopt a holistic view of HR processes to fully reap the rewards of a competency-based system. This includes selection, performance appraisal, **and** employee development efforts. The organization or the state (in this case) must recognize that training has an impact on the total organization. Thus, we hope to continue helping the state adopt a holistic view of the HR processes and systems to enable a leveraging of the capabilities of the competency-based system by their integration in all HR processes.

Notes

1. Robinson, D. G. & Robinson, J. C. (1995). *Performance consulting: Moving beyond training*. San Francisco, CA: Berrett-Koehler.

2. Watkins, K. E. & Marsick, V. J. (1993). *Sculpting the learning organization*. San Francisco, CA: Jossey-Bass.

3. Pepitone, J. S. (1995). *Future training. A roadmap for restructuring the training function*. Dallas, TX: AddVantage Learning Press.

4. Lado & Wilson (1994). Where is this reference?

5. Hamel, G. & Prahalad, C .K. (1994). *Competing for the future*. Boston, MA: Harvard Business School.

6. Green, P. C. (1999). *Building Robust Competencies*. San Francisco: Jossey-Bass.

7. Thompkins, J. A. & Daly, F. E. (1992). Relying on competency-based training for computer-based systems. *Industrial Engineering, 24*(5), 46-49.

8. Burger, L. (1975). Competency-based route to vertical curriculum articulation. Minneapolis, MN: Research Coordinating Unit for Vocational Education (ERIC Document Reproduction Service No. ed 137 515).

9. Dunn, J. & Mitchell, K. (1979). Sample competency-based modulardized instructional systems and systems components. *Instructional management systems. Components review*. Ithaca, NY: Cornell University, Institute for Occupational Education (ERIC Document Reproduction Service No ed. 204 624).

10. Leonard, L. D. & Utz, R. T. (1974). *Building skills for competency-based teaching*. New York, NY: Harper & Row Publishers, Inc.

11. Tromley, W. (1998). *Electronic education: On-line university hopes to make a wide array of learning opportunities available to students.* [Online]. Available: http://professionals.com/*chepc/ct_1096.html. [1998, November, 15.]

12. Lado, A. A., Boyd, N. G., & Wright, P. (1992). A competency-based model of sustainable competitive advantage: Toward a conceptual integration. *Journal of Management, 18*, 779-791.

13. National Academy of Public Administration. (1997, August). *Managing succession and developing leadership: Growing the next generation of public service leaders.* Washington, DC.

14. Eyde, L. D., Gregory, D. J., Muldrow, T. W., & Mergen, P. K. (1999). *High-performance leaders, A competency model.* Washington, DC: U.S. Office of Employment Management, Employment Service, Personnel Resources and Development Center.

15. Gregory, D. J. & Park, R. K. (1992, January). *Occupational study of federal executives, managers, & supervisors; An application of the Multipurpose Occupational Systems Analysis Inventory — Closed Ended* (Mosaic). PRD-92-21. Washington, DC: U.S. Office of Personnel Management, Employment Service, Personnel Resources and Development Center.

16. Eyde et al (1999).

17. Holton, E. F. III, Bates, R. A., & Naquin, S. S. (2000). Large-Scale Performance-Driven Training Needs Assessment: A Case Study. *Public Personnel Management, 29*, 249-268.

18. Bloom, B. S. (1956). *Taxonomy of Educational Objectives.* New York, NY: Longman.

19. ibid

20.

21. Green (1992).

22. Holton, E. F. III & Naquin, S. S. (2000).

23. Gagne, R. M., Briggs, L., & Wager, W. (1992). *Principles of instructional design. (4th ed.).* Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.

24. ibid

25. Holton, E. F. III & Naquin, S. S. (2000).

26. Bloom, B. S. (1956).

27. Green, P. C. (1999).

28. (Cauldron, 2000).

29. Bloom, B. S. (1956).

30. Gronlund, N. E. (1993). *How to make achievement tests and assessments.* Boston, MA: Allyn & Bacon.

31. Shrock, S. A. & Coscarelli, W. C. C. (1989). *Criterion-referenced test development: technical and legal guidelines for corporate training.* Reading, MA: Addison-Wesley.

32. Westgaard, O. (1999). *Tests that work: Designing and delivering fair and practical measurement tools in the workplace.* San Francisco, CA: Jossey-Bass Pfeiffer.

33.

34. Brethower, D. (1995). Specifying a human performance technology knowledge base. *Performance Improvement Quarterly, 8*(2), 17-39.

35. Gayeski, D. (1995). Changing roles and professional challenges for human performance technology. *Performance Improvement Quarterly, 8*(2), 6-16.

36. Stolovich, H., Keeps, E., & Rodrigue, D. (1995). Skills sets for the human performance technologist. *Performance Improvement Quarterly, 8*(2), 40-67.

37. Holton, E. F. III, Swanson, R. A., & Naquin, S. S. (2001). Andragogy in practice: Clarifying the model of adult learning. *Performance Improvement Quarterly, 14*(1), 118-143.

38. Alliger, G. M., Tannenbaum, S. I., Bennett, W., Trave, H., & Shotland, A. (1997). A meta-analysis of the relations among training criteria. *Personnel Psychology*, 50, 341-358.

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