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ABSTRACT

Process control is a way of training managers in business and industry to plan, monitor, and communicate the instructional development process of training projects. Two simple and useful tools that managers use in controlling the process of instructional development are the Process Control Planning Sheet and the Process Control Record. The Process Control Planning Sheet is used by the training manager to plan the construction of courses. The Process Control Record is a charting tool that is used in monitoring all training projects of a department. Process control is a method that training managers can use to increase the efficiency and effectiveness of the instructional development process. (Sample forms are included.) (Author/YLB)

TRAINING AND DEVELOPMENT RESEARCH CENTER

Project Number Fifteen

CONTROLLING THE INSTRUCTIONAL DEVELOPMENT PROCESS

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Abstract *

Process Control is a way for training managers in business and industry to plan, monitor, and communicate the instructional development process of training projects. This article describes two simple and useful tools that managers use in controlling the process of instructional development. The Process Control Planning Sheet is used by the training manager to plan the construction of courses. The Process Control Record is a charting tool that is used in monitoring all training projects of a department. Process Control is a method training managers can use to increase the efficiency and effectiveness of the instructional development process.

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Controlling the Instructional Development Process

Systematic instructional development is used in the construction of training projects in business and industry. Training managers typically monitor the construction of a number of projects at one time. Because training projects can be at different stages in the instructional development process and can involve different resources and personnel, managers often have difficulty keeping track of all the projects under development. Controlling the process of instructional development in the private sector is particularly important because of the heavy emphasis on timing and quality. Traditional methods of project control like Gantt Charts (Gantt, 1961) or the Program Evaluation and Review Technique (Moder & Phillips, 1964) focus on timing/efficiency.

Implicit in the systematic instructional design process is the quality issue with the confidence that by breaking down the instructional development process into logical steps and pursuing these steps, a high quality instructional program will result (Branson, 1981). Experience has shown that the implicit faith in systematic instructional development needs to be explicitly supported in the work place as there are many threats to quality. The quality control method described here can be applied to any instructional development process in the private sector.

The purpose of controlling the development process for training projects is to insure that all training projects are constructed in a timely manner and according to predetermined standards. Process control enables the courses to be monitored throughout all the steps of

instructional development. It also insures that work is periodically reviewed during the construction so errors can be identified and corrected before they adversely affect later steps of the project.

Process control can be used for any instructional development system. It begins with the identification of all the phases and steps which are part of course construction. The Training Technology System (TTS) (Swanson & Sisson, 1985) is an instructional development process that has been designed specifically for business and industry training and is used in this article to illustrate the process control tools. The phases and steps of the TTS are identified in Figure 1. The TTS has three standard approval points, two in the analysis phase and one in the control phase. It is recommended that all projects be reviewed at these points in the construction process.

In addition, as with most systematic instructional development processes, the TTS has quality self-checks at the conclusion of each phase or step. From a managerial perspective, there are quality decisions and appropriate personnel to make quality decisions that are unique to the organization. These decisions go beyond any standard instructional development process.

Insert Figure 1 about here

Two forms, the Process Control Planning Sheet and the Process Control Record, are used by training managers to plan and monitor the construction of training projects. The Process Control Planning Sheet is an organizing

tool that identifies the construction steps, personnel categories, and tasks. Figure 2 is a sample Process Control Planning Sheet for the TTS.

Insert Figure 2 about here

Training managers use the Process Control Planning Sheet to manage the construction of courses. Once filled in, the Process Control Planning Sheet is used to communicate the process by which courses are constructed. It is also the basis of the department's policy on how work is done and who does it. Personnel who are part of the development process can vary from organization to organization. For example, some organizations require that upper management approve the needs assessment. In other organizations, the training manager approves the needs assessment and communicates the results to upper management.

Another tool, the Process Control Record is used to monitor and report the construction process for all projects of a department. It is a charting tool for identifying training projects, training team members, and the phases and steps of the construction process. Figure 3 is a sample Process Control Record for a Manufacturing Training Department that has six projects under construction using the TTS.

Insert Figure 3 about here

The first information to be entered in the Process Control Record is the names of the training projects and the names of the training staff who are leading and reviewing each project. Training team leaders use the

phases portion of the record to "X" in the TTS phases that have been completed for their projects. By reviewing this part of the record, the manager overviews the training department's progress. The remainder of the chart is used to record the specific (TTS) steps that have been completed for each training project.

The training manager uses the Process Control Record to monitor the progress of a specific project by looking at the steps completed for that project. The manager also uses the Process Control Record to get a picture of the performance of the entire department. The "X'd" phases blocks provide a histogram of the department's courses in their various stages of development. By reviewing this graphic illustration, the manager determines where in the construction process most of the courses are. The Manufacturing Training Department example (Figure 3) shows that several courses are in the design stage and none are completed.

The Process Control Record can also be used for planning. Knowing the status of current projects allows the manager to easily plan for future projects. Also, projected completion dates can be recorded for each step of current projects. The projected dates act as time goals and guide the work flow. For example, a project with projected completion dates in the near future would need to be constructed at a different place than the same course with projected completion dates in the more distant future.

Summary

Instructional development process control provides an efficient means of monitoring, planning, and communicating the construction of training projects. It is important that the control of the instructional development process not get out of hand. Process control should not become a bureaucratic, paper-generating end unto itself. Rather, it should be a means for more efficiently producing quality projects. To be a useful tool, the process control system must be efficient and effective. It should include only the communiques and approvals needed to assure the identification and development of efficient and effective training.

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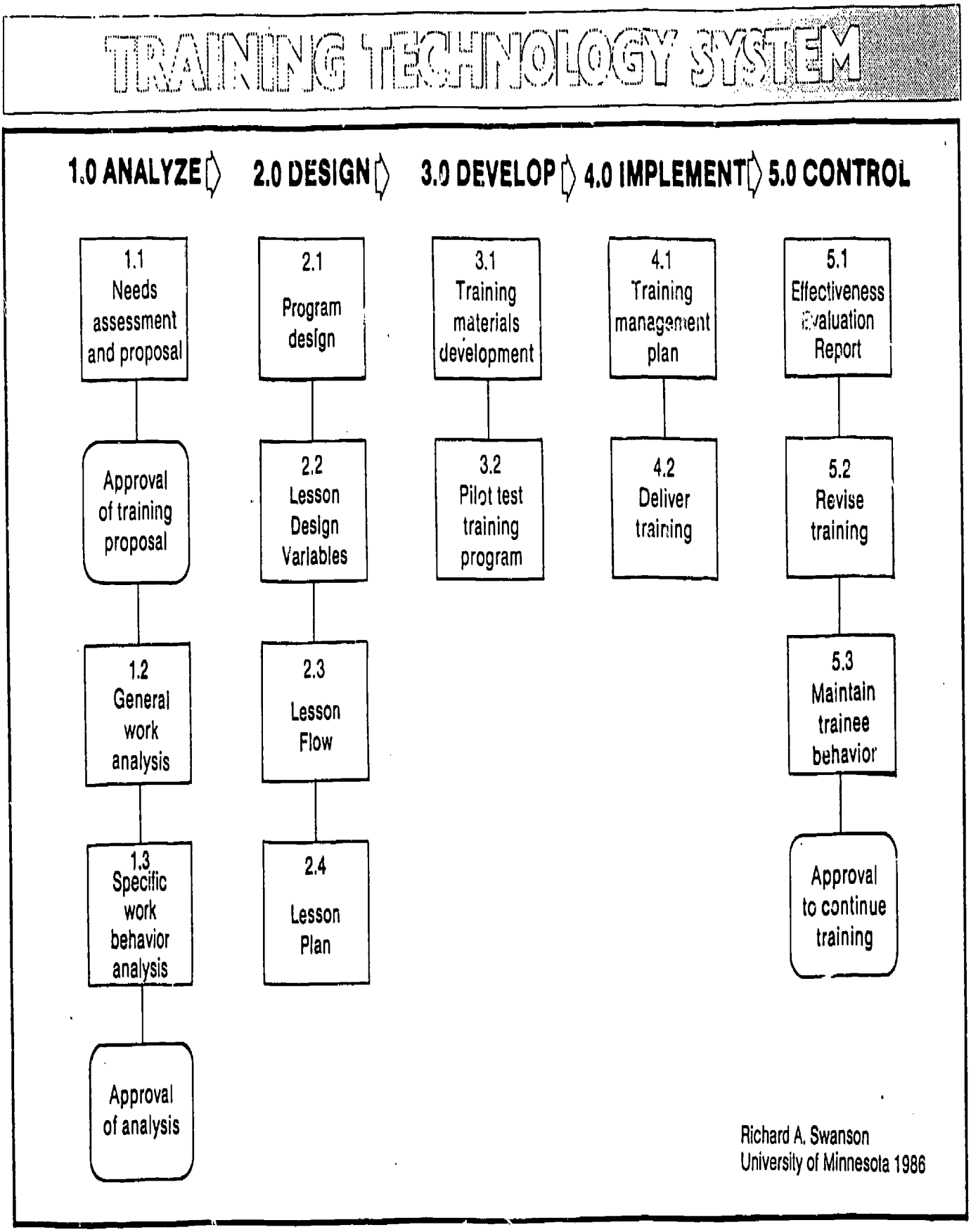

Figure 1. Training Technology System

CORPORATION XYZ Inc.

DEPARTMENT Sales Training Department

TRAINING MANAGER S. Sautter

DATE 2/27/86

TTS STEPS	Upper Management	Department Manager or Supervisor	Subject Expert	Training Manager	Training Team Leader	Training Team Reviewer	Instructo	Other:	Other:	Other:
1.1 Needs assessment and proposal	/	X		X	O					
1.2 General work analysis			O	O	X	/				
1.3 Specific work behavior analysis			/	O	X	/				
2.1 Program design		O		O	X	/				
2.2 Lesson Design Variables				O	X	O				
2.3 Lesson Flow				O	X	O				
2.4 Lesson Plan				O	X	/	O			
3.1 Training materials development			/	O	X	/				
3.2 Pilot test training program		/	O	O	X	/	X			
4.1 Training management plan				/	X	O				
4.2 Delivar training				O	/		X			
5.1 Evaluate training	O	O		/	X	/	O			
5.2 Revise training		/	O	O	X	/				
5.3 Maintain trainee behavior		X		/	X					

Project Tasks:

x = developer of product at this step

/ = determines if product for this step meets the quality standards

o = recieves communication about this step

Figure 2. Process Control Planning Sheet for the TTS

Department Mfg. Trng.
Year 1986

TRAINING PROJECT	TRAINING TEAM LEADER	TRAINING TEAM REVIEWER	1. Analyze	2. Design	3. Develop	4. Implement	5. Control	1.1 Needs Assess. Proposal	1.2 General Work Analysis	1.3 Specific W. B. A.	2.1 Program Design	2.2 Lesson Design Var.	2.3 Lesson Flow	2.4 Lesson Plan	3.1 Materials Development	3.2 Pilot Test	4.1 Management Plan	4.2 Deliver Training	5.1 Eil. Eval. & Report	5.2 Revise Training	5.3 Maintain trainee beh.
	TEAM MEMBERS		TTS PHASES					ANALYZE			DESIGN						DEVELOP		IMPLEMENT		CONTROL
Electronics	Curt	Saut	X	X				X	X	X	X	X	X	X	X						
Chip Insertion	Brown	Jones	X	X				X	X	X	X	X	X	X	X						
Wire Coding	Vite	Jones	X	X				X	X	X	X	X	X	X							
Robot Operations	Jones	Pert	X					X	X	X											
Supervisory Training	Lou	Curt	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	
Descriptive Statistics	Lou	Jones	X	X	X			X	X	X	X	X	X	X	X	X	X				

Alternate use of cells Plan / Actual

Figure 3. Process control record for a manufacturing training department