

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 to control 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 to monitor 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.

Introduction

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 (PERT) (Moder & Phillips, 1964) focus on timing and efficiency.

Implicit in the systematic instructional

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

The Training Technology System

Process control can be used for any instructional development system. It begins with the identification of all the phases and steps that 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 ap-

propriate personnel to make quality decisions that are unique to the organization. These decisions go beyond any standard instructional development process.

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.

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 approves 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.

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 indicate the TTS phases that

TRAINING TECHNOLOGY SYSTEM

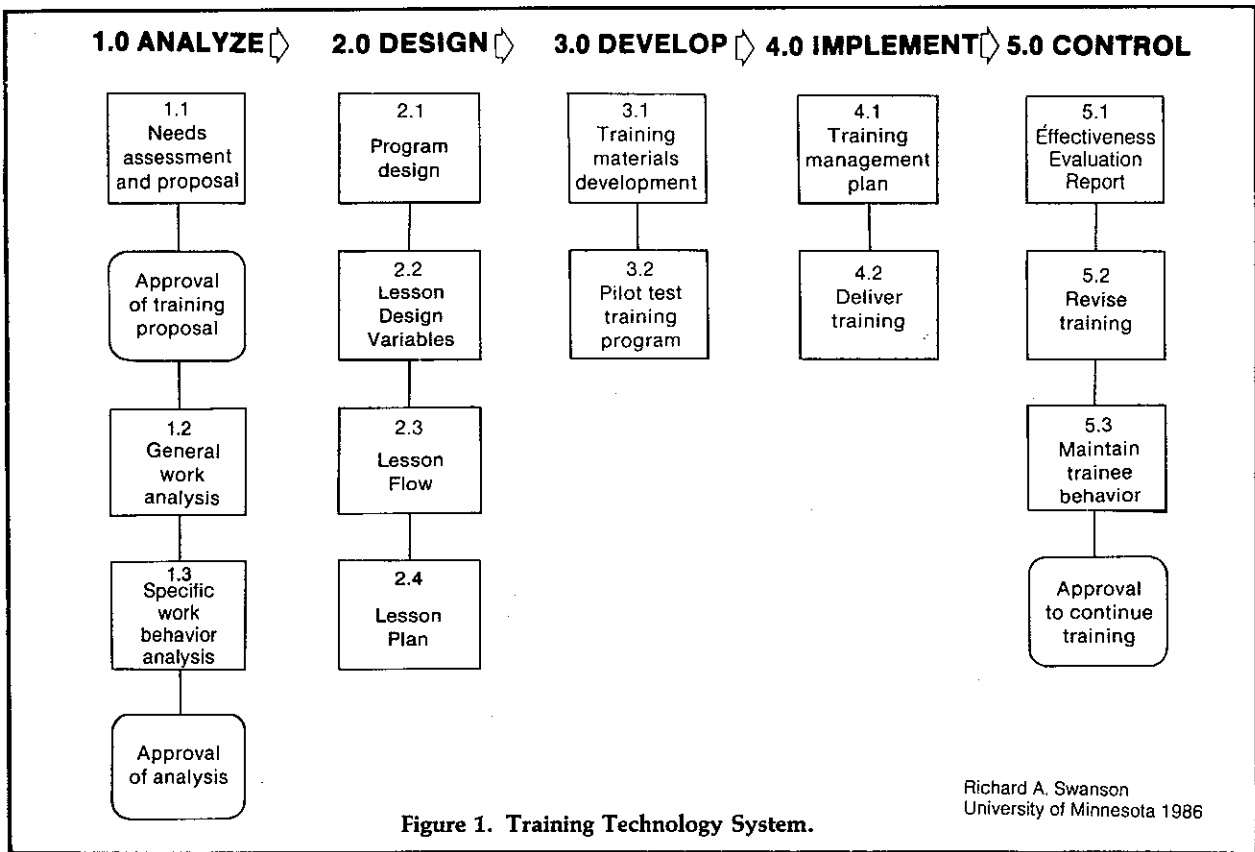


Figure 1. Training Technology System.

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	Instructor	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 Deliver training				O	X	/	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 = receives communication about this step

Figure 2. Process Control Planning Sheet for the TTS.

Department Mfg. Trng
 Year 1986

TRAINING PROJECT

	TEAM MEMBERS		TTS PHASES					ANALYZE				DESIGN			DEVELOP/IMPLEMENT			CONTROL			
	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	2.3 Lesson Design Ver.	2.4 Lesson Flow	3.1 Materials Plan	3.2 Pilot Test	4.1 Management Plan	4.2 Deliver. Training	5.1 Eff. Eval. & Report	5.2 Review Training	5.3 Maintain Inservice Beh.
Electronics	Curt	Saut	X	X				X	X	X	X	X	X	X							
Chip Insertion	Brown	Jones	X	X				X	X	X	X	X	X	X							
Wire Coding	Vite	Jones	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	X
Descriptive Statistics	Lou	Jones	X	X	X			X	X	X	X	X	X	X	X						


Alternate use of cells 

Figure 3. Process Control Record for a Manufacturing Training Department.

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 marked 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 plan easily 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 ex-

ample, 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 is not taken to extremes. Process control should not become a bureaucratic, paper-generating end unto itself. Rather, it should be a means for producing quality projects more efficiently. To be a useful tool, the process control system must be efficient and effective. It should include only the communiques and approvals needed to ensure the identification and development of efficient and effective training.

Author Note

The authors wish to acknowledge Robert J. Prifrel and Control Data Corporation of Minneapolis, Minnesota for supporting this research and development project.

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