An Instructional System is composed of (1) Problem Diagnosis (Performance Analysis, Need Analysis or Skills Gapping), (2) Program Design, (3) Program Delivery, and (4) Program Evaluation.

The systems approach gives important impetus to the establishment of objectives and evaluation criteria. A small pilot test may be conducted to validate the program before it is fully implemented (Dessler, 2009: 162). Training/development is never a finished product. There are always continued revisions to meet goals, situations change, and goals also change. It should be kept in mind that there may be a "sleeper effect" where it takes time for results to show up back on the job. One also does not know how long the impact will last. Interest in training and development has risen due to the need for a wider array of skills, awareness of the entire production system, the need to be responsive to mishaps, changing customer needs, interest in building clusters of internal team experts, more vocal concern over employment security, career growth, and retraining costs.

Note: There are many other instructional-system models for military, business and educational systems. Some of the components of this model were suggested by other systems. Taken from I. L. Goldstein (1986). Improving the Effectiveness of Performance Appraisal, in Perspectives on Personnel/ Human Resource Management, H. G. Heneman III and D. P. Schwab (eds.). 212-218. Homewood, IL: Irwin.
HR Training and Development Methods

Employee Orientation (Onboarding) = Basic background information is provided. The history of the organization, culture and the basics of various HR subjects are covered. The aim is to make the employee feel welcome, provide a general understanding of the organization, and start to socialize them with regard to the policies and procedures (how one should act) (Dessler, 2011: 142)

Job Instruction = The trainer explains the job in its proper sequence and demonstrates how it should be done. The trainee tries to replicate the methods, and receives feedback from the trainer.

Coaching (Understudy Method) = On a day-to-day basis the manager notes what the employee is doing properly and improperly. The trainer should provide advice on how the trainee can do his/her job more easily and effectively. Some supervisors, however, are reluctant to challenge or criticize.

Informal Learning (The Buddy System) = Employees learn much from peers. Surveys have found as much as 80% of what employees learn on the job, they learn informally (Dessler, 2011: 148).

Project Teams (Action Learning) = A temporary team, often consisting of people from different areas or functions, that works on real projects (Dessler, 2011: 156). The results are taught to others.

Mentoring = A figure who is often 8 to 15 years older, and 2 or 3 levels above provides career advice, hints on how to tackle problems, and demonstrates interpersonal/political skills by example. The trainee often picks up the mentor's friends and enemies (i.e. "guilt by association"). The process should be monitored so the trainee is not exploited (e.g. the mentor taking credit for his/her ideas).

Apprenticeship = This normally involves craft positions (plumbers, carpenters, electricians, linemen, etc.). It normally lasts 2 to 5 years (the average being four years). It primarily involves on the job training under the direction of an experienced person. It also frequently has a classroom component. The skilled workmen may want to limit the number of new craftsmen to further their own interests. A client may be charged the craftsman's rate despite the fact a trainee did some of the work.

Business (Management) Games = Simulations of what it is like to make top management decisions. When I was in college, I took a course that utilized a software package that simulated an industry with four to six competitors. On a weekly basis thirty decisions had to be submitted (product price, quantities to be manufactured, wage rates, staffing levels, distribution by region, advertising, inventory levels, debt levels, the amount of stock outstanding, production capacity, etc.). Ideally, this would show students how all the varied functions fit together. Each organization was represented by a team of 5 to 6 students. These students were selected from different disciplinary backgrounds. The students had to organize themselves. The students' grades were determined by their finish (stock price, dividends, etc.). Board meetings were held with students from other industries so the team could explain their strategy and get new ideas. Political fights did break out in the team discussions due to the composition of the groups and the stakes involved. Some students attempted to spy on other groups. A key question is where does the economic information within the simulation come from? Does the data reflect current realities, or does it foster outdated thinking?
Case Studies = Trainees are given in-depth descriptions (5 to 30 pages) of the experiences of disguised organizations. This allows them to see the experiences of numerous managers in a short period of time. Hopefully, the trainees will not repeat the same mistakes as the characters in the case. The case, however, is pre-gathered information. Therefore, the trainees do not practice researching problems. They do normally try to analyze the given information, diagnose problems, and pose solutions (Dessler, 2011: 156). They never see an actual implementation, nor have a chance to enact revisions. Essentially, the middle stages of handling problems are stressed, while the initial and final steps are left out. If groups analyze cases, and grades are at stake, aspects such as social loafing and political infighting may emerge.

Discussion Method (Incident Method) = Short controversial scenarios (one to three pages), like "An Exam for Mrs. Smith," are used to spark discussion. There are no "right answers." One can learn from the experiences of others, and should come to better appreciate others' views. The trainee should also develop his/her analytic skills and management style. Some people who long for exact answers dislike the disorganized and open-ended nature of these discussions. This method can only be effectively carried out in small groups. The nature of the feedback needs to be monitored ("Well, in my company we had a different experience" versus "No, you are wrong. That would never work.")

In-basket Exercises = The trainee is given a stack of memos, phone messages and letters. In the upcoming time frame (one week), the person has too much to do. Therefore, the problems must be prioritized. Time management must be exercised. In some cases, responses must be drafted. If the material is really job related, this can be a very useful developmental tool.

Sensitivity Training (T-groups) [Ropes Course, Outward Bound Program, Team Building] = This method is intended to change interpersonal relationships. A series of somewhat bizarre exercises will be carried out. The trainee will then discuss the experiences with the other participants (group analysis). Later, the trainee will put his/her reflections in writing (self analysis). These multiple analytic processes are intended to give the trainees greater insight into the behavior of others and themselves. Ideally, it will build greater understanding and tolerance. People should be able to develop new ways of interacting. Attitudes are quite likely to change. One must beware the damage that can be done by inappropriate feedback. When people bare their innermost thoughts, they can be really hurt if a person says "That's stupid," or the like. This technique can only be properly carried out in small group. It is obviously not being properly done if people rush from exercise to exercise with little group analysis or personal reflection. A tradeoff exists. If you do the exercises with people from your workplace, they will have greater difficulty opening up. Yet, changes are more likely to transfer back to work. Conversely, if one's superior does not become more "sensitive," it is unlikely any of that person's subordinates will sustain much of the changed behavior they initially display. This method was more popular in the 1960s than it is today (Dessler, 2011: 161).

Lecture = The most common training method. This is an economical way to convey information to large numbers of trainees with a small number of trainers. The amount of content for the time consumed is generally very high. Normally, this consists of a simple one-way presentation of information. The lack of social interaction and individualized material is a drawback. The extensive usage of lectures sometimes results in boredom. The lack of reinforcement and the ability to practice can pose problems in skill training.
Programmed Instruction (Auto Instructional Techniques) = Modules like the SRA reading program and computer software packages (CDs, Web sites, Learning Portals, etc.) that promote self-paced learning. There is a question, respond, and feedback cycle (Dessler, 2005: 278). Ideally, this method will be challenging and individualized. Computers and modules do not get impatient. Travel time to human presentations is eliminated. Advocates assert the same amount of material can be learned in one-third the time. The immediate feedback the employee can receive from self-tests, and the branching the software programs provide to locate the person's level and build him/her up from there are a plus. Unfortunately, trainees may cheat on the self tests. Why? They may want to impress or keep up with peers in classroom situations. The lack of social interaction raises questions about whether critical interpersonal skills are being neglected. Overall, the costs of the manuals or software can be compared to the benefits of accelerated learning (Dessler, 2005: 279).

Role Playing = Simulations where the trainees learn by doing. They carry out their prescribed roles and in the process develop their interpersonal skills. I use this method in the negotiations classes I teach. It is far more interesting and involving than a simple lecture format. Some of the exercises have superiors and subordinates switch roles so they can better understand each other (i.e. put oneself in the other's shoes). In any event, you should get feedback on what you are doing well and what you are doing poorly from your counterparts. Since people can become very competitive, bluff, lie, etc, one needs to monitor the process to make sure things do not get out of hand.

Behavioral Modeling = First, the trainees are exposed to "model behavior." After observing, they practice the techniques, get feedback as well as praise, and make revisions. This training should then be transferred back to the job (Dessler, 2011: 150). For instance, some of my former students have received videotapes of top salespeople closing deals. By mimicking these methods, consistency is fostered. New recruits can pick up proven methods and feel more confident in doing their jobs. You are naturally going to lose some individuality and creativity. One of my former students argued that after you pick up the fundamentals, you can add your own personal ideas.

Vestibules/Simulators = Train on the same or at least similar equipment in order to learn how to operate planes, ships, or autos. You should have an opportunity to practice, sequenced learning, knowledge of results and reinforcement. It is costly to build realistic simulators. Those used in the military are great, whereas most auto simulators are lame. The investment is justified where the cost of an accident is high in terms of lives, material and bad publicity. Some of the military simulators are so sophisticated it is possible to use them for other purposes, such as tracing the reasons for accidents. A simulator saves on maintenance costs, pilot cost, fuel cost, and the cost of not having a plane or ship in regular service. Video game simulations have even been created by the US Army to develop urban warfare skills (Dessler, 2005: 282).

Common Concerns and Suggestions for Improvement
A lack of ongoing measurement and revision has long been a major problem. A Hay Associates study found that fewer than 1 in 100 (a sample of 1200 major firms) even claimed to assess the millions spent on training (Sonnenfeld, 1985: 295). Another study of training and development directors that revealed 75% had no formal methods to evaluate their activities.

Do many people use a “quasi experimental design” with pretests and post-tests as well as a test group and a control group? One survey found less than half of the companies responding used before and after measures and only a negligible number utilized control groups (Dessler, 2005: 299). Ideally, the desired outcomes should be linked to the organization’s mission and the objectives based on this. Currently, only 10-35% of are transferring what they learned to their jobs one year after their training was conducted (Dessler, 2011: 162).

Good intentions and large sums of money do not necessarily equal good education. What are some possible evaluation criteria?

- knowledge acquisition
- changing attitudes
- problem solving skills
- interpersonal skills
- participant acceptance (trainees’ reactions- enjoyment?)
- knowledge retention
- knowledge transfer

One might simplify this to considering measures of participant reactions, what was learned, changed behaviors, and end results (Dessler, 2005: 299). Still, people are reluctant to criticize a program the boss is associated with, or one that will help them move up (Wexley and Latham, 1991: 278).

A study of 100 firms who have tried to evaluate found 75% measured employee reactions, 20% behavior changes, and 15% results in terms of supervisory ratings. Evidently only a few measures are being examined, and the most popular is "employee acceptance" which is the hardest to properly interpret. Trainee reactions do not tell you much about what they learned or how it will transfer back to the way they will behave at work. Using a narrow spectrum of measurement could easily produce deceptive results.

Big ticket training involves a very real risk that you will become the talent supplier for your competitors. Firms with good training programs may well attract better candidates. The question is whether they retain most of them and recoup their training investment. Competitors may feel it is best to let others do the training and then they can skim off the cream. One would certainly want to monitor turnover rates, who was leaving (your best or your worst), and explore "string options" to hold people long enough to make it worthwhile (e.g. you must stay on X years, or you can not go to a direct competitor for Y years).

Some consultants or outside trainers may be more interested in delivering their "tried and true" program than in sensing the organization's needs. A key question is whether the trainer is supplying his/her own limited knowledge or what the organization really wants and needs.
Managers must beware of trainers who become "instant experts" to obtain jobs (your money). Ask the trainer what his/her area of expertise is before mentioning the specific project you have in mind. Try to find some former clients to check on the trainer's prior work.

(4) **One should not send mixed or improper signals.** Ideally, training should produce improved performance that will be reinforced via subsequent rewards. Trainees should certainly not be punished for performing more work. Yet, this often happens when added work is dumped on the desks of the most capable and hard working subordinates, while the deadwood sits idly by. Why learn new skills if it will only result in a further exaggeration of an already inequitable situation?

(5) One needs to try to **strike the right balance.** Utilizing a variety of training methods is usually praised as being stimulating. Nevertheless, some employees may be confused or feel overwhelmed by the unfamiliar waters. **People learn in different ways and at different speeds.** It is obviously easier to properly design material and appropriately pace programs in smaller classes.

(6) Efforts can be made to **enhance the meaningfulness of programs.** Some trainees criticize training as being unrealistic in that they cannot apply it on their jobs. Some trainers are also not actual practitioners, or have been removed from the field for such a long period that they have little useful knowledge to convey. A few organizations have addressed these concerns by periodically rotating in experienced people from the field to conduct training programs. For example, IBM rotates in some of their best salespeople to conduct its sales training classes. While the meaningfulness of the material and participant acceptance should be enhanced, there are still some concerns. Just because a person is a good salesperson does not necessarily make him/her a good trainer. Is the person interested in training? Is the person a capable trainer? Will the person be willing to convey all of the tricks of the trade it took him/her years to discover? Is the person essentially training competitors? Of course, as one nears retirement, such concerns may be alleviated. Other issues must also be considered, such as who will service the person's accounts in the interim, and will the person be losing money by foregoing his/her sales commissions?

We will conclude with a list of Human Resource Development Principles. Many of these principles were mentioned in the discussion above. These are important factors to consider in each situation.

* Distributed Learning = conducting the program over a long enough period of time for the trainees to be able to digest and apply the material (not trying to do too much, too fast).

* Rewards = The trainees should be able to see what is in it for them (praise, recognition, promotion, etc.).

* Feedback = Trainees need to know what progress they are making and what mistakes need correction.

* Motivation = Trainees must want to learn. Some people do not believe it is very easy to motivate people. If so, you better pick people who are already motivated.

* Transfer = The training should apply to the job activities.
* Opportunity to Practice = Trainees should be able to try the techniques they are being taught in order to make these methods part of their repertoire.

* Learning from Many Sources = This heightens the probability you will get the material through by (a) hitting the mode the person computes on, and (b) providing a broad base for the points being made which provides helpful reinforcement.

* Individual Differences = The trainee's intelligence, motivation, aptitudes and interests should be taken into account.

REFERENCES


