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Postgraduate student, **ARTEM SUSHENTSEV**
Khmelnytskyi National University, MES of Ukraine
Address: 11 Instytutska Str., Kmelnytskyi, 29016, Ukraine
E-mail: caserta@mail.ru

PROFESSIONAL DEVELOPMENT MODEL FOR ENGINEERING INDUSTRY STAFF IN THE USA

ABSTRACT

The problem of professional development modeling for engineering industry staff in the United States has been considered. The scientific and educational literature devoted to the study of specific aspects of training engineering industry staff at enterprises of the United States, including engineering industry, has been studied. Different models of professional development for engineering industry staff and different possibilities of professional development that may be appropriate for each stage of their career in the U.S. have been analyzed. A model of professional development that is long-termed, based on career professional growth, and flexible enough to adjust to short-term changes in the positions and interests of workers has been outlined. It has been determined that professional development modeling for engineering industry staff provides, on the one hand, a gradual ascent to the growth and on the other – encourages each employee to raise the level of professionalism through various forms and methods of improving professional skills. The model consists of four stages: Introduction, Colleague, Advisor, and Supervisor. Each step lists a set of motivators that may lead to professional development at each point in career.

Several main types of programs offered for staff development have been presented and analyzed: *"Orientation", "Education at Work", "Regional or national training on the field", "Distance learning", "Professional development", post-graduate courses, professional associations, seminars and training sessions, magazines and periodicals, self-education, get-to-know visits and trips.*

It has been proved that support of staff in their professional development can improve their productivity and enhance personal satisfaction of each employee.

Key words**:** *engineering industry staff, professional development model, professional growth, the USA.*

INTRODUCTION

At many U.S. companies, including engineering industry, workers undergo a number of changes in the work before they go up, for example, from a skilled worker to a master or instructor. However, professional career often does not have such a structured career ladder that can be followed. Part of the engineering industry staff prefers to stay in a certain position for many years. This becomes a problem due to the fact that these people have adequate capacity to meet the needs of professional growth.

Planning professional development is an important part of professional activity of engineering industry staff in the United States. Effective planning involves defining future prospects and opportunities to take a long-term, holistic view of a career. During the planning process personal and professional goals are initially formulated and then the opportunities for development, that are the most effective means for achieving these goals, are determined. Thus, Kentucky Cooperative Extension Service allows all professional staff

to achieve their fullest potential in both personal development and prospects of their membership in Extension. It is believed that supporting staff in professional development can improve their productivity and enhance personal satisfaction of each employee.

According to E. Schein, using the method of career planning professional development is the need to focus on the interaction between the person and the organization for a long time (Schein, 1978). Indeed, such a long-term perspective lets us use the time more effectively and efficiently to be devoted to professional development.

However, it should be noted that although the long-term perspective is needed, it is also important to keep the flexibility to amend to plans along the way. As Extension examines contemporary issues that affect society, D. Martin says that production staff will have to learn throughout life to maintain professional knowledge in the relevant fields (Martin, 1991). Other changes, in his view, such as a move towards the information society, the ways (methods) that are used to indicate that the information is the highest level of subordinates' education, have an impact on professional development.

It is indisputable that the movement from one career bar to another is the essence of career. We are moving to a new career's bar by meeting the needs within the current stage of our career. Then we select development opportunities that will best help us meet those needs.

THE AIM OF THE STUDY

The aim of the article is to outline a model of professional development that is long-termed, based on career professional growth and is flexible enough to adjust a worker to short-term changes in positions and interests.

THEORETICAL FRAMEWORK AND RESEARCH METHODS

Over the years, a number of authors (S. Kerr, M. Von Glinow, J. Schriesheim, and others) attempted to describe the features of a professional career. Most authors agree that a professional should:

– have a knowledge base by which he (she) practices;
– achieve a mastery of knowledge through further education;
– have autonomy in decision making regarding the use of this knowledge;
– show a strong interest in his field of knowledge;
– have a commitment (interest) for professional development throughout life (Kerr, Von Glinow & Schriesheim, 1977).

In recognition of the unique features of professional career, G. Dalton, P. Thompson and R. Price presented a model for professional career growth, which identifies and describes four different stages of professional careers (Dalton, Thompson & Price, 1977). At each stage of career there are identifiable characteristics and needs that guide thoughts, behaviors and actions at some point. This ultimately has an impact on the nature of capabilities of the particular stage.

Despite the fact that the model predicts the development from one stage to another, it was found that not all experts would progress through four stages during their career. Although the movement from stage to stage is consistent, progressing from one stage to another requires a change of jobs.

RESULTS

The original model introduced by G. Dalton, P. Thompson and R. Price has been modified and adapted by R. Rennekamp for professional career expansion (Rennekamp, 1988). The model includes four stages: Introduction, Colleague, Advisor, and Supervisor. Each step lists a set of motivators that may lead to professional development in every point of a career. There is a clear set of motivators for each stage of the career. These motivators

provide an incentive to participate in professional development and criteria for the selection of a number of different opportunities for professional development. Not all motivations are active at any given time. In addition, it is listed the options for professional development that may be suitable for each stage of the career. Therefore, we consider each step in more detail.

"Introduction" Stage (initial stage) corresponds to the time in the career, when a man first entered the profession or moved to a new job within the profession. Some name this stage as "pupil". It is important that all the experts come out of this phase and could achieve the fun of the career. "Introduction" Stage is characterized by psychological dependence, where the central motivators for professional development include achieving basic skills needed to perform the work and understand the structure of the organization, functions and culture at this point of its history. At this stage *motivators* for professional development are:

– understanding of the structure, functions, and culture of the organization;
– achievement of a basic level of technical skills;
– providing relevant degree of conformity prior to the study;
– use of directed creativity and initiative;
– establishing relationships with volunteers, advisory groups and unions;
– transition from dependence to independence;
– study of personal / professional evolution;
– increase of relevant issues' knowledge;
– building relationships with professional peers.

At this stage of professional career development the following developmental possibilities are appropriate: oriented education, relationship between a "mentor" and a senior specialist, periodic further training and administrative support, establishment of relationships with peers, experience that promotes trust, confidence and loyalty to the company or organization, counseling career.

"Colleagues" Stage may be satisfactory for many professionals over the years, as long as it concerns the growth of skills and responsibility. According to P. Simonsen, some people never go beyond this level, thriving at independent work (Simonsen, 1986). Note that people who are under "Colleagues" may be admitted to the professional community and develop their own expertise to solve problems and implement their own programs.

This stage is characterized by rapid growth of professional knowledge, independence and autonomy. "Colleague" aims to build at least one branch of knowledge which he or she is determined about and often shares this experience in development committees and by other special tasks. Most professionals that work in the "colleagues" stage seek additional formal education through creative holiday etc.

Motivators for professional development at this stage are:

– development of the field of knowledge;
– becoming an independent contributor to solving problems;
– development of professional identity;
– sharing knowledge and information with others;
– membership in a professional community;
– improving the efficiency and effectiveness;
– expansion of creativity and innovation;
– transition from independence to interdependence;
– increase of knowledge in relevant issues.

At the stage of "Colleagues" there are significant educational opportunities: development of a specialty (High School, regional seminars, etc.), increase of participation in committees,

professional associations, exchange of information and knowledge; writing for newsletters, magazines and other publications, development of training materials, counseling career.

Professionals who have reached the stage of "Advisor" are ready to take formal or informal responsibility for the development of the company, business or organization or other members of the production staff. At the same time, they should not neglect their own personal growth and development. To ensure personal their development, advisors frequently try to develop additional industry knowledge, other than those they currently possess. These efforts lead to a broad base of knowledge foundation that can be used in solving the problems of the company, business or organization.

Advisors are often the heads of committees or take on the role of leaders in professional associations. Instead of being independent investors (into the development), they understand the need for a coherent role and perform most of their work by others. They are great interdepartmental group and often branch out not only within the internal network, but also the network outside the company, business or organization.

However, it should be noted that the movement to the stage "Advisor" does not necessarily imply a change in workplace to supervisory or managerial positions. It is important that the advisor is able to contribute to the growth of others in the system.

Motivators for professional development are:

– acquisition of a broad-based experience;
– achieving leadership positions in professional circles;
– participation in problem-solving within the organization;
– development of a network with other organizations;
– encouraging thoughts of others;
– consulting other professionals;
– development of mentoring relationships;
– initiating improvement of work and redesign;
– promoting self-renewal and revival;
– increase of knowledge in relevant issues.

At the stage of "Advisor" there are the following educational opportunities: to work as formal or informal mentor, lead committees and coordinate projects; for self-renewal and additional training; to make decisions and solve problems, work in formal educational roles, enrich the work, redesign, perform a variety of tasks, provide career counseling, temporary management of special projects.

Those who are at the stage of "Supervisor" play a key role in shaping the future by "sponsoring" perspective people, programs and ideas. Sponsors often develop various competencies in several areas of knowledge and often have regional or national reputation. Sponsors have a complete understanding of the company, enterprises, organizations, and can be a catalyst for positive change. They are able to carry out formal and informal influence in the decision-making process.

Not all professionals reach the stage of a supervisor. However, as in "Advisor" stage, progressing to the stage of a superviser does not require a permanent or formal transition to titled positions, and that does not mean that the supervisor has some influence over the policies or procedures of an organization, at least no more than the nature of his own work presupposes.

Motivators for professional development are:

– becoming a member of the strategic organizational planning;
– achieving respect from others in the organization;
– participation in innovation and risk projects;

– understanding of the complex relationships;
– achieving positions of influence;
– sponsorship of special people and programs;
– increase of responsibility;
– increase of knowledge in relevant issues.

Developing capabilities of this phase include: the ability to use the experience and impact, solve challenges and objectives of the call, increase accountability, participate in strategic planning, represent the organization in internal and external groups, achieve mastery of resources, provide career counseling and retirement planning.

Most professionals have little or no problems in determining the level of their careers, but there are some that are very difficult at it, because they do not see themselves at different career stages in accordance with various aspects of their work. It is only natural, especially when there are changes occurring in the workplace. For example, implementation of new software or adaptation to a new process technology forces many workers to participate in development activities that are specific to the "entrance" stage. Therefore, in many ways the production staff is in several stages of career simultaneously. However, for practical implementation of the model it is important to try to choose one career stage that best describes where you feel present in your professional growth.

Another important point is that while tranfering from one stage to another is a common goal of most personnel, some of them are satisfied with a definite career stage. Satisfaction in a career stage can be maintained for as long as the growth of skills and responsibility takes place. Transfer to the stage of adviser or manager does not necessarily fit all and they do not tend to it.

Thus, the model actually implies movement, but not necessarily from one job to another, or even from a stage to stage. This movement is achieved through continuous professional development. This growth is essential for job satisfaction. We believe that the model provides an excellent base from which experts can begin to focus and articulate their professional development plans.

Professional development is usually described as a complex influence of organizational and individual efforts that help the individual to grow and develop on the job. These innovative efforts of the system are called as staff development. Opportunities sponsored by other organizations and in which professionals participate on their own initiative are called professional development. Over the past few years in the U.S. the relationship between professional development and staff development has become much stronger, because the system pays more attention to the holistic professional development (Extension Committee on Organization and Policy, 1992).

Special attention should be given to the training of production personnel at enterprises and organizations. For example, the Kentucky Cooperative Extension Service is committed to providing both initial and long-term opportunities for the development of production personnel through programs that strengthen their ability to do their job. Besides Kentucky program, professionally focused programs and continuing education programs are coordinated by Management and Staff Development Program. Some staff development programs occur outside Kentucky and are held on either a regional or a national level. Some programs presuppose direct participation in seminars, while others use distance-learning techniques such as satellite training. The following are some of the main types of staff development programs.

"Orientation" is a professionally-focused program that is designed to help newly hired professional staff and promotes the acquisition of knowledge and skills necessary to

perform a particular job. Soon after an appointment to a new post new employees receive one or more days of the initial orientation. The initial orientation provides them with an overview of the company and introduces them to many administrative procedures which they should become familiar with. The initial orientation follows the multi-, thematic advanced professionally oriented sessions that deal with the basic skills necessary for effective educational programs. Newly hired workers are also under the supervisory control of managers and professionals involved in the program of visits to more experienced workers, and complete self-study program that encourage them to learn more about their county.

"Education at Work" is a program aimed at improving knowledge and skills in specific areas of professional issues or subject areas which you want to focus on. It is offered to production staff each year for education while working. Other proposals in the education service provide in-depth training in the methodology used at the enterprise. More than 100 educational sessions at work are offered each year.

"Regional or national training on the field" is a training program throughout the year, when the government offers a number of workshops and seminars within regional or national scale. Most of these sessions are offered to graduates who have earned them. These regional and national seminars are often opened to professionals.

"Distance learning" is a series of programs that enable distance learning and provide valuable professional experience in the development. The value of distance learning methods, such as satellite broadcasting, is that they provide the highest quality educational programs that can be delivered to almost any place around the country. Although not all satellite programs are considered training, many provide useful information that can be used in the development and implementation of operational programs.

"Professional development" is a program that includes a wide range of training and experience. These range from graduate school and participation in professional associations to independent learning and study tours. Such proposals for staff development address the needs of employees and provide wide opportunities to participate in improved professional development, allowing workers to adapt their professional development plans to meet individual and often unique needs.

Postgraduate courses: many experts enter post-graduate school, where they gain knowledge and skills in a specific subject area or processes. Some workers come to one course of a post-graduate study, and some come to several courses that eventually make it possible to obtain a degree. (Please note that you must first be admitted to postgraduate institution that offers a course before being allowed to enroll to a course). It is enough to refer to the department in which the chosen degree program is active and outline the plan of study before admission to the courses of post-graduate study.

Professional associations hold annual meetings, which include numerous professional seminars that focus more on subjects expanding the profession. Many of these associations hold annual conferences and a wide range of seminars, organize schools and universities.

Other seminars and training sessions are an unlimitled array of workshops and training opportunities relevant to professionals. In addition to the educational opportunities offered by organizations, other options include courses within some professional community, educational TV-courses etc.

Magazines and periodicals are perhaps one of the most useful and cost-effective methods of professional development, when experts subscribe and read relevant professional journals. These editions contain feature articles on successful programs and evaluation of their practical applications. They also include expert articles on controversial topics, published reviews of reference materials and research summaries.

Self-education can cover a wide range of educational projects, including field trials. It can presuppose independent reading and development or adaptation of training materials for local use. These possibilities are limited only by the imagination of people.

Get-to-know visits and trips are offered by many organizations. They can be both general and specifically focused get-to-know visits, which are similar to practices. Get-to-know visits provide an opportunity to see the process first hand. The important thing is that they often provide experiences that cannot be obtained through training meetings, seminars or through the text (Dalton & Thompson, 1986).

CONCLUSIONS

Thus, modeling professional development for engineering industry staff provides, on the one hand, a gradual ascent to the growth and on the other – encourages each employee to raise the level of professionalism through various forms and methods of improving professional skills.

REFERENCES

1. Dalton, G., Thompson, P., Price, R. (1977). The four stages of professional careers: a new look at performance by professionals. *Organizational Dynamics.*, Number 1, p. 23.

2. Dalton, G., Thompson, P. (1986). *Novations: Strategies for Career Management.* Glenview, IL: Scott Foresman and Company.

3. Extension Committee on Organization and Policy (1992). *The 21st Century Professional in the Midst of Organizational Change*. Washington, DC: USDA.

4. Kerr, S., Von Glinow, M., Schriesheim, J. (1977). Issues in the study of professionals in organizations: the case of scientists and engineers. *Organizational Behavior and Performance*, № 18, p. 325–329.

5. Martin, D. (1991). *Professional Growth: A Personal Journey*. Fort Collins, CO: Colorado State University Cooperative Extension Service.

6. Rennekamp, R. (1988). *A Career Development Model for 4-H Professionals. Final Report of the 4-H Professional Research and Knowledge Base Projects.* Columbus, OH: The Ohio State University, p. 24–54.

7. Schein, E. (1978). *Career Dynamics: Matching Individual and Organizational Need*s. Reading, MA: Addison-Wesley Publishing Company.

8. Simonsen, P. (1986). Concepts of Career Development. *Training and Development Journal*, November, p. 70–74.