Developing Knowledge Work with the Work Flow Game in a Service Organization

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ABSTRACT

The paper presents the Work Flow Game (WFG) as a potential method for developing knowledge work and service organizations. The WFG is a tailored and activity-based method, in which the organization members simulate a work process and work activities together. The use of the WFG, its effects and the participants' experiences were studied in a labor administration. The WFG was useful in analyzing and evaluating the inter-organizational work process. The participants learned an overview of the work process and identified its problems. The WFG provided an arena for interaction and communication across organizational borders, which built a common platform for cooperation, improvement ideas and development activities. These activities indicated improvements in the quality of the work process and customer service. With the WFG improvement of work process and use of information technology as well as employees' participation and learning can be combined to promote organization development.

CHALLENGES OF DEVELOPING SERVICE ORGANIZATIONS AND KNOWLEDGE WORK

Knowledge has become the strategic competitive resource playing a key role in organizations and in society referred to as the 'knowledge society' (Drucker 1993). There is an increasing significance and number of information intensive or knowledge-based organizations, where products and/or services are based on or tightly connected to information (Alvesson 1993; Drucker 1999). Services in particular are vital to the functioning of an economy. During recent decades there has been growth in the service sector (community, social and personal services) up to levels of 62% of total employment in European Union countries at the cost of industry and agriculture (Wieczorek 1995). In Finland, 66% of employment is in the service sector; in that sector 31% is in public and other services (Labor Force Statistics 2000). In the future, the importance of business services and healthcare services will grow in terms of employment and production (Hernesniemi et al. 2001).

A typical organization nowadays is engaged in services, which to a considerable degree consist of information processing, like collecting, storing and processing data as well as advising and informing people (Roe et al. 1995). Additionally, organizations have a growing need to create new knowledge (Nonaka & Takeuchi 1995). Services are often intangible and produced in interaction with clients. Personal service often requires face-to-face contact between producers and consumers, although with modern technology some services can be produced electronically. Information and communication technology is used for internal functions and for the interaction with clients, firms and partners (Roe et al. 1995).

The effort to make knowledge work more productive is the great management task (Drucker 1999). From a psychological point of view, the increased importance of knowledge at work, as well as changes in work objects, tools and working conditions affect the nature of work. First, material and tangible work objects are being replaced by information objects and information systems; second, physical components of work

activity are reduced in favor of an increase in mental operations, like information processing, problem solving and communication activities (Roe et al. 1995). Knowledge work means work activities that use individual and external knowledge to produce outputs characterized by information content. Knowledge work typically is non-routine and complex work; it depends on the application of an individual's knowledge and experience; it requires significant cognitive information processing to guide work as well as to manipulate, produce and communicate symbols; and, results in outputs characterized by information content (Davis et al. 1993).

In service work, an employee's competencies and skills used in work activities often rest upon individual, practical experience and an interpretation of the situation. This kind of tacit knowledge or knowing in action (Polanyi 1967; Schön 1983; Lave 1993; Nonaka & Takeuchi 1995) is usually difficult to externalize, transfer and share with others - therefore, it is also difficult to analyze and develop. However, it is a challenge to restructure knowledge work, and make it part of a broader work system (Drucker 1999).

FOCUS ON CROSS-FUNCTIONAL WORK PROCESSES

Organizations improve their business and services by redesigning business or work processes and by implementing information technology. A work process is a set of activities that delivers a product or service and provides an output to a customer (Harrington 1991). The customer may be the eventual user of the product or service, or it could be an 'internal customer' – the person or section responsible for the next set of activities in the overall work process. The work process concerns several hierarchical levels and departmental functions of the organization.

Many problems in the work process arise from the fact that organisation members are concerned primarily what happens at their own step on the work process and are not always aware either of what has gone before or what will happen afterwards. It is common to find that functions (departments, sections or units) in an organisation hold their unique perspectives and behaviours, which prevent effective cross-functional communication and co-operation and can

lead to ineffective working and dysfunctional conflict (Huczynski & Buchanan 2001). However, communication and cooperation between different functions inside the organization, as well as between different organizations, and contacts with customers are crucial for successful customer service and effective business. Communication and co-operation can be improved through a range of participatory methods such as discussion groups, workshops and work conferences between different groups from different departments and levels of the organisation structure (Huczynski & Buchanan 2001). Modifying the work processes that connect the organization with customers and link different functions can increase an organization's effectiveness.

Business process reengineering (BPR) focuses on the radical redesigning of business processes by utilizing information technology to achieve dramatic improvements in performance, such as cost, quality, service and speed (Hammer & Champy 1993). However, radical redesign has many risks and many organizations have not gained the desired outcomes (e.g. Davenport 1995). One problem is that BPR, carried out by experts and managers, neglects the development of human learning capacities and well-being. On the other hand, the underlying values of the organization development include involving and training people in order to improve both human satisfaction and organizational performance (Moosbruker & Loftin 1998). There is a need for an integrative approach in which social, technical and organizational systems are considered; furthermore, the success depends upon the effective participation of organisation members in the organization development (Caron et al. 1994; Mumford & Beekman 1995; Eason et al. 1996; Jaffe & Scott 1998; Moosbruker & Loftin 1998; Nader & Merten 1998).

NEED FOR NEW DEVELOPMENT METHODS

At the level of professional activity, organization developers, consultants and other practitioners have faced the lack of practical intervention methods to support organization development. The nature of work seems to have changed in such a way that one must doubt whether formerly designed methods are still applicable. The methods designed on the basis of traditional pro-

duction work, firmly rooted in the stable, well-defined and routine-like character of work, and with close connections to the physical environment, may not be efficient or applicable in a service and knowledge work context (Meijer & Roe 1993; Roe et al. 1995; Drucker 1999). The methods having roots in the field of software and interface design are mainly focused on technical human-machine systems and tasks conducted by the computer (Eason et al. 1996). The initial methods often neglect the social nature of service and knowledge work as well as the practical action and tacit knowledge of employees (Suchman 1987; Piispanen et al. 1996). There is a need for methods to support the participatory development of socio-technical systems to ensure consideration of organizational requirements and options as well as human well-being alongside technical opportunities (Caron et al. 1994; Mumford & Beekman 1995; Eason et al. 1996).

The typical methodological problems for analyzing and developing knowledge work, are related to the lack of direct access to mental activity, and the complexity of the interaction between the employee and the work environment (Meijer & Roe 1993). It is a methodological challenge to encourage employees to externalize and share their knowledge and experience. Methods for making 'invisible' knowledge work visible would be useful. Methods for work process analysis are needed to integrate individuals' or units' work with other functions of the organization. For those practical requirements, we have developed the intervention method, the WFG, which is described next.

THE SIMULATION GAME CALLED THE WORK FLOW GAME (WFG)

This study argues that a simulation game which is tailored for a specific organizational context and which is closely linked to on-going development activities can be utilized as a potential method for promoting organizational development. Only recently has there been growing interest and experience in using simulation games for organizational change and development; however, in literature very few articles can be found on their successful application (Joldersma & Geurts 1998).

Definitions of simulation games include the following key concepts (VanSicle 1978; Greenblat & Duke 1981; Saunders 1988). Simulation is a working representation of reality; it may be an abstracted, simplified or accelerated model of the process or system. Simulation allows participants to explore systems where reality is too complex, expensive, dangerous, fast or slow. A game is played when one or several players cooperate or compete according to a set of rules. A game means a setting in which participants make choices to achieve certain objectives, implement them and receive the consequences of those choices. A simulation game combines the features of a game (participants, roles, rules, cooperation or competition) with those of a simulation (incorporation of critical features of reality). A simulation game involves the performance of game activities in simulated contexts. Social-process simulations, like the WFG, focus on interaction among participants and the ways that one's beliefs, assumptions, goals and actions may be hindered or assisted in interaction with others (Gredler 1992).

The WFG is a method for participatory improvement of work processes in an organization. It is meant to be applied as part of organizational development in order to increase productivity and quality of work as well as human well-being. The WFG combines the features of simulation with those of a game, and is based on a simplified model of the real work process simulated during the game day. It is a man-based, not computer-based, simulation game in which the employees simulate their work activities together. The participants have their own professional roles and tasks, which separates the WFG from role-play. The central features of the WFG are (Piispanen et al. 1996, 1998):

- Work process approach and focus on an internal and/or external customer,

- Cooperation between different units and levels of the organization,

- Based on work activities, social interaction and communication between participants,

- Managers, employees and customers (up to 50 altogether) participate in the game day with the help of the game facilitator.

The WFG has been influenced by participatory development approaches (Ehn et al. 1990;

Eriksson 1990), sociodrama, group work methods, and the practical problems in developing knowledge work. The design of the WFG and the concepts used are based on the local knowledge of employees (compare Suchman 1987; Lave 1993). The WFG has features of action research (Whyte 1991), where the participants are involved in the development work and solving practical problems in their work. However, the WFG is more structured compared to other methods which are usually used in action research and participatory development approaches such as seminars, workshops, quality circles or dialogue-conferences.

The WFG integrates the essential factors of organization development together: work process improvement, use of information technology, participation and learning of the personnel (Ruohomäki 1994; Piispanen et al. 1996, 1998). The idea of the WFG is to improve cross-functional work processes. The simulated work process is either related to an internal support process (e.g. salary payment process) or to a core process of the organization (e.g. customer service process). The process under development can also be inter-organizational between two or more organizations (e.g. between the buyer and the supplier of the service as is the case in this study). Compared to BPR, organizational change strategy with the WFG is interactive, not linear top-down.

The WFG provides possibilities for the participants to learn together when they are involved in simulation activities and debriefing. After the simulation, the purpose is to continue with development activities in a real work context. The application of the WFG follows the phases of the experiential learning cycle (Kolb 1984): briefing (planning and introduction to the WFG), concrete experience (playing the WFG), reflection of experiences (debriefing discussions), and active experimentation (development activities).

We have used the WFG in the following situations (Ruohomäki 1994, 1995; Piispanen et al. 1996, 1998; Pankakoski 1998): quality problems in current operations and services; problems in co-operation, communication or the division of work; implementation of a new information system; and, change towards a process-based or team-based organization. However, the WFG is not a suitable method if there is a risk for down-sizing of organization or cutting down on personnel. The WFG is always tailored to the specific context and needs of each organization, so every application is unique.

AIMS OF THE STUDY

This paper describes the use of the WFG in a labor administration. It can be seen as an example of a public service organization with knowledge work. The focus is on evaluating participants' experiences in the WFG, and their interaction and cooperation. The research aims are thus:

- To describe the use of the WFG for work process improvement,

- To describe the experiences of the participants on the WFG,

- To study the effects of the WFG on cross-functional interaction and cooperation,

- To evaluate development ideas raised and development activities based on the WFG.

CONTEXT OF THE CASE STUDY

Services produced and ordered by the public or semi-public sector are a massive business area in the Nordic countries. This case study deals with labor market training in Finland. The labor administration has a policy to maintain jobs in the country by preventing mass unemployment and by offering labor market training. Labor market training programs are designed for people who have been unemployed for several months and whose chances of placement in the labor market are weakened. Labor market training aims at leading unemployed people to permanent jobs via education.

Labor administration is structured as a state-province-community hierarchy. At the state level, the Ministry of Labor decides the weightings of the different labor fields. At the provincial level, the labor districts plan the labor market training. The labor district in question in this study is located in southern Finland. At the community level, the employment offices are responsible for selecting participants for the training program.

The case study was conducted on the employment office in a small town in southern Fin-

land with 25 customer service employees and information service officials. Each job consisted of service and administrative tasks. Services are produced in both face-to-face contact and via computer networks. They use information and communication technology intensively. The labor market training process in the employment office consists of advising and informing customers, collecting and transferring information about courses and selecting students for training. In the employment office, the average number of job-seeker customers is about 5200 per year.

The employment offices cooperate with training organizations which produce training courses, planning and carrying them out. The training organization in question is Finland's largest adult education center. Personnel number is 320 and the average number of students is 1700. Cooperation and communication between the employment offices and the training organizations have a central role in a fluent work process and high quality customer service. However, the customer feedback survey showed problems in communication and information, as well as service quality in labor market training (Kohtanen 1995).

In this study, the lack of communication and cooperation between the labor administration and the training organization was a starting point for organizational development. The work process approach seemed to be fruitful, because earlier develop activities on the office level did not reach improvement goals. The administrative process of the labor market training was selected as the object of development. The work process crosses borders between organizational units and operations inside the labor administration. The work process is also inter-organizational, crossing the boundaries between the labor administration and the training organization. The goal was to promote employees' interaction and cooperation in the labor administration (intra-organizational viewpoint) and between the labor administration and the training organization (inter-organizational viewpoint). Moreover, the goal was to improve the administrative process of labor market training and customer service. The representatives of the Ministry of Labor also wanted to gain an understanding of the WFG to be able to use it later in their organization. The WFG was applied for visualizing the initial work process, and to increase the participants' understanding of it. The real work process was analyzed and demonstrated for all employees by playing the WFG, to identify needs for improve-
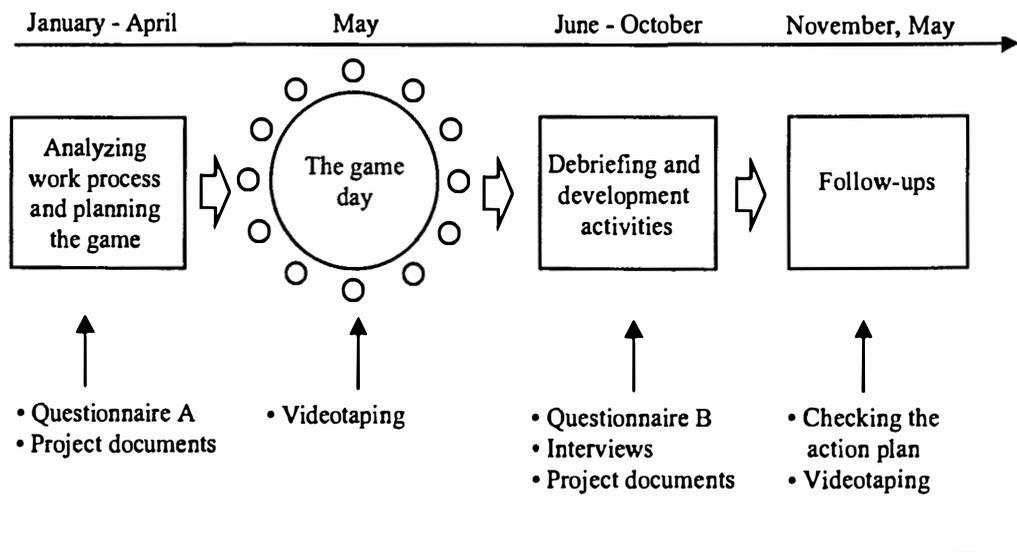

Figure 1. The methods and the execution of the study.

ment, and to start development activities. (Jaakola & Ruohomäki 1995).

RESEARCH MATERIAL AND METHODS

This action research oriented (Whyte 1991) case study (Eisenhardt 1989) presents a chronological description of events and a process evaluation of the use of the WFG in organizational development. The study uses multiple data collection methods and triangulation of the quantitative and qualitative data. Data were gathered in different phases of the one-year development project with follow-ups (Figure 1).

Participants

The participants of the study (n=20) were those employees and managers from the labor administration (n=16) and the training organization (n=4) who participated in the WFG. The participants from the labor administration represented the Ministry of Labor (n=4), the labor district (n=3) and the employment office (n=9). There were 11 women and 9 men who were from 30 to 55 years old. Most of them had a college or university degree, and work experience of from five to ten years in the labor administration.

Questionnaires

Data on the participants' experiences of the WFG and the work process were collected using questionnaires (Ruohomäki et al. 1996) both before (questionnaire A) and after the game day (questionnaire B). The questionnaires included both structured forced choice questions and open-ended questions. For the structured questions, the response scale was from 1 to 5 (1 = I strongly disagree,..., 5 = I completely agree).

With questionnaire A (29 questions) we gathered information about the following issues: participants' background; interest for development activities; attitudes to the WFG; knowledge on the labor market training process and its quality; need for improvements and improvement ideas. Questionnaire B (42 questions) included the same questions as Questionnaire A, and 13 questions about the following themes: experien-

ces on the game day and the debriefing; perceived usefulness of the WFG; interaction and communication during the WFG; expectations about future interaction and communication; learning experiences; opportunities to participate in development activities and influence the development.

The participants filled in Questionnaire A in the information session two weeks before the game day. Questionnaire B was given to the participants in the debriefing session after the game day. The response rates were 75 % (n=15) for questionnaire A, and 80 % (n=16) for questionnaire B. Seven of the respondents were players and nine were observers on the game day. Seven out of 16 respondents were the members of the project group. For the qualitative analyses of the data, two researchers classified the answers to the open ended questions into different categories. We agreed on the classification over 80 % on every question. The quantitative data collected before and after the game were compared to uncover possible differences in the participants' answers.

Interviews

Data on the participants' experiences in the WFG, its usefulness and effects were collected with using interviews. We interviewed members of the project group representing the Ministry of Labor and the labor district two months after the game day. The semi-structured interviews (Ruohomäki et al. 1996), which took about one hour, included the questions on the following themes: use of the WFG (8 questions), such as, "What kind of issues facilitated/hindered the planning process?"; the usefulness of the WFG (6 questions), for instance, "Is the WFG useful for your organization?", "What are its strengths/limitations?"; effects of the WFG (including its planning, the game day and debriefing) (14 questions), for example, "Have you noticed any effects on the development project?".

Video recordings

We used video recordings for documentation (Suchman & Trigg 1991) during the game day and during the evaluation meeting afterwards.

We used the videotaped material to complete the information from the questionnaires and the interviews.

Follow-up of the development project

As the first follow-up at the end of the project, the project group checked how the development activities were conducted, and how the goals of the project were received. The project group answered together the list of questions under the following topics (Ruohomäki et al. 1996): Have the goals of the project and the WFG been achieved? What kinds of results have been gained? How do you see the role of the WFG in the development project? Do you have plans for applying the WFG in your organization in the future? The project group presented their answers to the questions in the evaluation meeting, which was organized at the end of the project. The second follow-up was conducted six months after the end of the development project. The project group checked the implementation of the action plan and answered individually the same questions as in the first follow-up. The list of questions was mailed to the project group, and they mailed their answers to the researcher.

RESULTS

The use of the WFG is first described step-by-step. Second, the participants' experience in the WFG, concerning learning, interaction and cooperation, are presented. Third, the improvement ideas and development activities are reported.
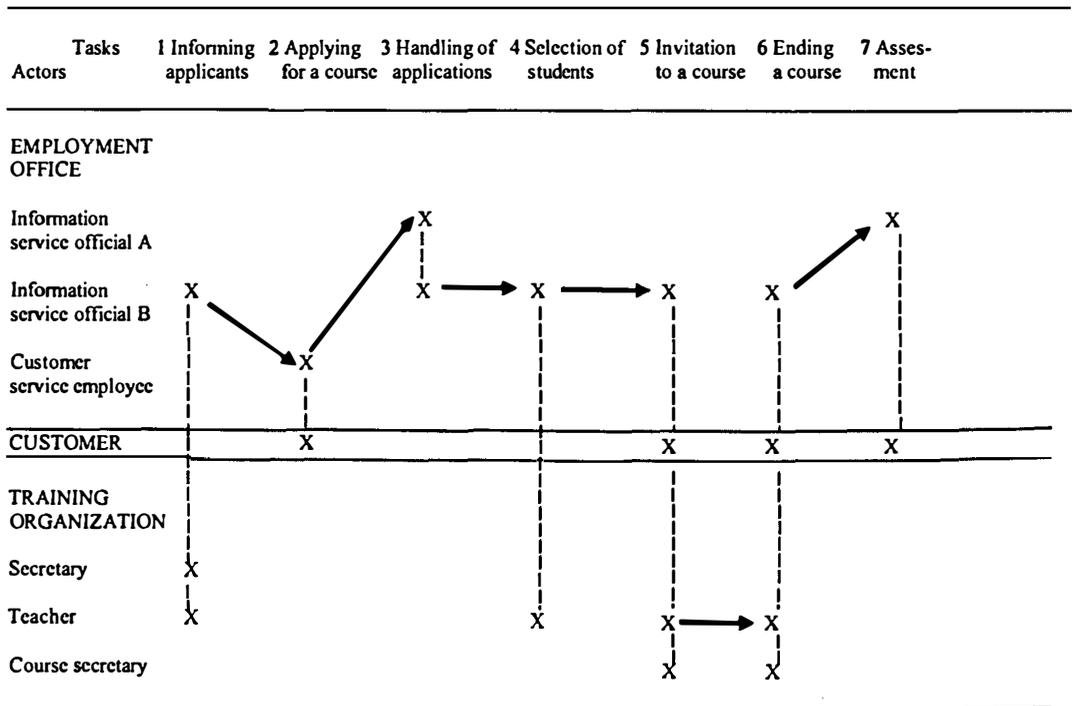
Tasks / Actors	1 Informing applicants	2 Applying for a course	3 Handling of applications	4 Selection of students	5 Invitation to a course	6 Ending a course	7 Assessment
EMPLOYMENT OFFICE							
Information service official A		X				X	
Information service official B	X	X	X	X	X		
Customer service employee		X					
CUSTOMER		X		X	X	X	
TRAINING ORGANIZATION							
Secretary	X						
Teacher	X			X	X	X	
Course secretary					X	X	

Figure 2. The work flow of the administrative process of the labor market training.

Participatory Planning of the Work Flow Game

The WFG consists of planning the game, the game day, and debriefing followed by development activities. The phases of the method are next described in more detail. At the beginning of the project the steering committee and the project group were established. The aims and timetable of the project were specified, and the division of work in the project group was clarified. The WFG was organized by a project group of seven persons from the labor administration, who worked in close cooperation with two researchers throughout the project. One researcher was responsible for the WFG method, while the other coordinated the work of the project group. The project group and the researchers had nine meetings.

The project group selected the administrative process of labor market training as the object of their development activities because it was found to be too complicated. The project group analyzed and described the process on the basis of existing documents. The process was visualized using wall diagram techniques and work flow charts (Figure 2).

In the WFG the simulation is based on a real, previous case example representing the work process. The representatives of the employment office selected 'a computer course for unemployed secretaries' as a case example of the administrative process of labor market training. The project group described the example process in cooperation with the employees involved in the case example. To gain understanding of the example process in a practical context, the members of the project group walked through the route of the example process, and interviewed the employees about their work tasks, tools and documents used. Possible problems that they have faced at work were also asked. The employees collected all the paper and computer documents used in the example case (total number was 40). The documents were collected and copied for simulation on the game day.

The complicated example process was divided into different tasks and customer service situations. The main phases of the example process were: informing applicants about the course; applying for the course; handling the applications (the number was 53); selection of the students to the course; invitation to the course (15 were

selected, but five canceled their application); starting and ending procedures of the course; assessing the placement of the students after the course. The work process included 67 work tasks and took one year to complete. On the basis of the work flow chart and interviews, we prepared a manuscript of the simulation for the game day. The manuscript described the work tasks of the case example in chronological order.

The researchers organized an information meeting for the participants two weeks before the game day. Their roles as players or observers, the aims and rules of the game and the game setting were clarified. The participants received the descriptions of the work process and the printed manuscript with all the documents concerning the simulated work process.

Simulation of the Work Process on the Game Day

On the game day the example work process, 'a computer course for unemployed secretaries', was simulated. In the simulation, the events of the example process were transformed into the actions of the participants. The simulation proceeded according to a manuscript in the same manner as the events of the real work process. Eight of the 20 participants were players and 12 were observers. In addition, there were two researchers, one assistant, two visitors and one video operator. The participants were seated in a circle, which formed the game setting. The players sat in the inner and the observers in the outer circle of the setting (Figure 3).

The players were those employees who had participated in the selected example work process: three customer service employees and two information service officials from the employment office, two secretaries and a teacher from the training organization. During the simulation, the players conducted their ordinary tasks and handled the original papers and documents. They used the same equipment that was required for performing the real tasks. Two different information systems were used to perform the administrative tasks needed in the work process. Instead of the real information systems, we used baskets and wires to symbolize the information flows between computers. The tasks that needed social interaction like service situations
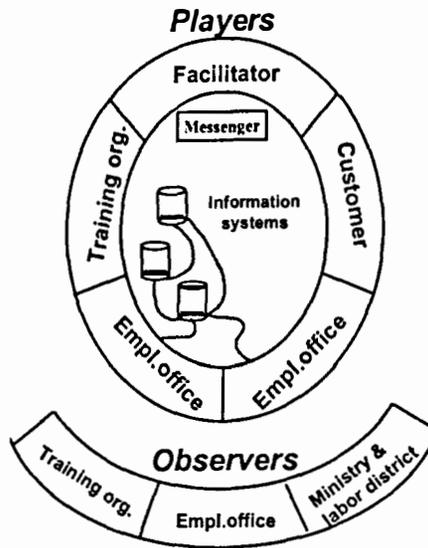
Figure 3. The game setting of the WFG.

and telephone calls were performed as dialogue between the players.

While performing their tasks, the players thought aloud (thinking aloud -technique by Ericsson & Simon 1984): what they do and how they perform their tasks; what equipment and documents they use; what their work is based on (e.g. laws, rules); what is the result of this particular work phase; what kind of problems are faced when performing tasks; who the next person is in the work process that they contact or send documents.

The observers represented the labor administration and the training organization. They followed the game events with a list of questions to evaluate the work process and made notes about problems they observed and improvement ideas. One employee acted in the role of a customer, because the real customer could not come to the game day. One person acted as a messenger sending documents from one employee to the other one in the work process. This was a concrete way to visualize the workflow. Two researchers had the role of game facilitators, ensuring that the process went on according to

the manuscript and timetable. We also helped the participants follow the process and facilitated the discussions.

Debriefing after the Simulation

After the simulation, we organized a debriefing in four small groups. The participants shared their feelings and reflected on their experiences of the simulation. The participants evaluated the simulated work process and its development needs critically with each other. They discovered lots of development needs and development ideas for the work process, which were jointly discussed. The debriefing was summarized as a general discussion with all the participants together. The development ideas presented by the participants were later formulated into an action plan (what actions will be done, by whom, and when), which functioned as a guideline for implementing development ideas.

The role of the researchers diminished after the debriefing. We participated in one common meeting between the labor administration and the

training organization, and after that, they organized meetings themselves. The project group took responsibility for the implementation of the ideas and the development activities. At the end of the development project, we organized the evaluation meeting, where the representatives of two organizations presented how the development activities were implemented and how the goals were achieved.

Participants' Experiences on the Work Flow Game

The development project and the planning of the WFG were intensive cooperative work. The members of the project group perceived it as quite demanding and time consuming. They emphasized, however, that they had learned to work together during the development project. The atmosphere during the WFG was good and intensive. The participants were involved actively and discussed issues in a constructive manner. The participants pointed out that the WFG was excellent in analyzing and evaluating the initial work process. All the respondents had a positive attitude to the development activities both before and after the game day. They found the development of the work process very important (10 out of 16 respondents) or quite important (5 persons). Their attitudes to the WFG method were mainly positive (13 out of 16 respondents) or neutral (3 persons) both before and after the game day. The majority of the respondents thought that participation in the WFG was useful (13 persons) or

a very useful (3 persons) experience for themselves.

Respondents (n=16) answered the open question "What was best about the WFG?" with the following themes:

- The possibility to see and understand the work process as a whole (9 mentioning).

- People from different organizational units were able to meet (5).

- The opportunity to participate and to see how the method is applied (2).

For example, the respondents described their best experiences in the WFG as follows:

"The WFG revealed to me the whole process and its different phases."

"The WFG opened up problems and bottlenecks in the process, which we could solve together."

"I really realized my own functional part in the work process."

"It was very useful to meet all those persons from different units who are involved in the process - from the Ministry, the labor district and the employment office."

As limits of the WFG, the respondents (n=14) mentioned the following points:

- The timetable of the development project and the game day was quite tight (6 mentioning).

- The actual customer was not present on the

Table 1. Participants' perceived learning in the WFG.

Perceived learning	Very good	Good	Moderate	Poor	Not at all	Total
Overview of the work process	6	9	1	0	0	16
Different viewpoints of actors	4	10	2	0	0	16
Own tasks as part of the work process	2	8	5	0	0	15

game day (5).

- It wasn't easy to face development needs (3).

For example, the respondents described their experienced limits of the WFG as follows:

"It was a pity that we didn't manage to face the actual customer on the game day, therefore the customer service situations weren't as demanding as they are in reality."

"We were well prepared for the game day; however, I took criticism rather personally at first, although it was meant to address the generally used working procedures."

Learning Experiences

The participants perceived having learned an overview of the work process, understood the different viewpoints of its actors, and realized the role of their tasks as a part of the whole work process (Table 1). The respondents perceived that the WFG had offered an excellent learning experience, and they had learned a lot of (6 out of 18 respondents) or quite a lot about new issues (8 persons) during the game day.

All the respondents thought that the WFG clarified well the quality problems of the administrative process of labor market training. The participants thought before the game day that the

worst problems were unclear student selection criteria, a lack of information for applicants and a too slow handling of the applications. However, after the game day, the main hindrance was perceived as the lack of cooperation between the labor administration and the training organization. The participants were asked about the possible overlapping of tasks in the work process, i.e. tasks done twice or several times. Before the game day, only four persons were able to name overlapping tasks. After the game day, all the respondents agreed about their existence. Accordingly, participants learned to understand the process better and were able to identify its essential problems.

Interaction and Need for Cooperation

The respondents reported that the interaction improved between the labor administration and the training organization (inter-organizational viewpoint), as well as between different organizational units and hierarchical levels in the labor administration (intra-organizational viewpoint) (Table 2).

In the WFG, the strategic and operative levels met with each other. The WFG was a useful experience for the representatives of the ministry and the labor district, because they saw in practice how the customer service employees work. On the other hand, the service employees had an opportunity to show the complexity of their tasks

Table 2. Effects of the WFG on the cross-functional interaction.

Interaction between...	Very much improved	Improved	No effects	Weakened	Very much weakened	Total
Labor administration & training organization	1	12	0	0	0	13
Organizational units	1	10	2	0	0	13
Organizational levels	1	9	4	0	0	14

Table 3. Development ideas awakened before and after the WFG.

Development ideas	Before	After
Course information	4	4
Cooperation and division of work	2	6
Student selection	4	4
Work tools	2	3
Planning of the training courses	0	2
Meeting objectives of the labor market training	1	0
Total number of ideas	13	19

and to relate their practical problems directly to those persons who can make decisions and changes at the strategic level of the organization. In addition, the representatives of the training organization were able to see the working procedures of the employment office. As a result of the WFG the participants realized needs for intra- and inter-organizational cooperation in order to achieve effective and high quality customer service. This allowed decision making on actions for changes.

From Improvement Ideas to Development Activities

The respondents thought that the WFG offered excellent (7 persons out of 16) or good (9) opportunities to express improvement ideas. Most of the improvement ideas, presented by nine participants before the game, concerned course information and student selection, while afterwards the cooperation and division of work (Table 3). Most of the participants (11 persons out of 16) realized that new ideas were also awakened.

The follow-up study six months after the project end showed that most of the ideas were implemented according to the action plan, while some needing more in-depth preparation were still in progress. The intra-organizational development activities carried out in the labor administration concerned the following issues:

- Improving the internal information system. For example, clear job descriptions and codes indicating different jobs were introduced in the information systems.

- Using electronic mail and data transfer. For example, customer service employees can obtain on-line information about course descriptions and students.

- Clarifying norms governing customer service procedures. For example, the role of the employment office is now emphasized and information about norms and common procedures has been improved.

The cooperation between the labor administration and the training organization intensified and improved throughout the project. Inter-organizational development activities were carried out in the following areas:

- Effective use of information and communication technology, for example, electronic mail and electronic data transfer.

- Clarifying division of work on course information between the labor district and the training organization.
- Cooperation on counseling of students, for example, a common approval letter mailed.

The above mentioned development activities had positive effects on both organizations. It was possible to cut unnecessary tasks and the paper bureaucracy, which expedited the work process. The customer service employees' work was facilitated and speeded up. From the customers' point of view, the quality of service improved, such as the right information in the right place at the right time. The customer feedback survey showed improvements in the employment office: the activities of the customer service personnel received very positive feedback, the interaction with the customers was well managed, and customers' waiting times for service were shortened (Kohtanen 1997).

The aims of the project were reached and the project group was satisfied with the results.

The development activities presented in this study could be disseminated also in other employment offices. During the development project, the methodological knowledge concerning the WFG was disseminated, which promoted its further application. The representatives of the labor administration have used the WFG in other labor districts.

DISCUSSION

The WFG — including its planning, the game day and the debriefing — is a social process of interaction, communication and mutual learning of the participants. The WFG provides an arena for the participants to interact face-to-face over organizational boundaries. The case study showed that with the WFG, it was possible to make visible the 'invisible' work process, and to present an overview of it to all the participants. The WFG revealed the problems of the work process and showed the need for improvements. The participants realized the need for cooperation in order to achieve effective and high quality customer service. The WFG built a common platform for intra- and inter-organizational communication, cooperation and development activities.

With the WFG, different stakeholders from two organizations were able to share their knowledge and experience with each other. The learning process which occurs during the WFG could be described in the terms of Nonaka and Takeuchi (1995) as a continuous and dynamic interaction between tacit and explicit knowledge, where individual tacit knowledge is first externalized and shared collectively, and then allows for the formation of shared mental models. The WFG provides possibilities for a shared overview, understanding and reflection of work activities in a broader work system, which is essential for developing knowledge work and increasing its productivity (Drucker 1999). The WFG seems to promote system thinking and helps employees understand the interrelations of different actions as part of the whole process, which is crucial for organizational learning (Senge 1990) and knowledge creation (Nonaka & Takeuchi 1995).

The organization development strategy with the WFG is participatory and interactive. The new ways of working can be built on the participants' own ideas, instead of the ideas of consultants usually used in expert-driven approaches. The way the WFG influences the organization's functions, quality and efficiency depends on the way the improvement ideas are carried out in practice. The development activities aroused by the WFG usually concern both social and technical issues as well as organizational structures. In this study, the development activities concerned customer service procedures, division of work, cooperation, and using information and communication technology. The active involvement of organization members generated acceptance and commitment to the changes being implemented. The development activities indicated improvements in quality of the work process and better customer service. It is concluded that with the WFG work process improvement, use of information technology and the employees' participation and learning can be successfully combined to promote organization development. The WFG is a suitable method to be used in service organizations with knowledge work.

One limitation of this study to be considered is that it concerned only one case study with quite a small number of participants. Additionally, the case organization may not represent any typical Finnish public service organization. However, this study supports the earlier findings

of ten reported case studies in public administration and in private service sector with similar kinds of effects and outcomes (Ruohomäki 1994, 1995; Piispanen et al. 1996, 1998). So far, also dozens of practitioners have applied the WFG in different organizations with promising results, for example, in business services, public health-care services and in provincial governments (Pankakoski 1998). When earlier studies concerned intra-organizational work processes, this study showed that the WFG is also applicable when developing inter-organizational work processes between the buyer and the supplier of the service. In future, further applications of the WFG for inter-organizational development activities in both the service and industrial context could be one potential research area.

The context and general situation in the organization are important factors that can partly either further or hinder the organization development with the WFG. The sufficient human resources and time as well as management support are essential for the successful use of the WFG. Instead, many parallel change processes competing for the same limited resources can prevent meaningful use of the WFG. Negative aspects of organization conflict or inflamed relationship between management and personnel make the situation unfavorable for using the method. The game facilitator needs adequate competencies for using the WFG and also a legitimate position for organization development (see Piispanen et al. 1998). For organization developers, consultants and other practitioners, the WFG may be one potential intervention method among others to be used as a part of participatory organization development.

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