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K-MAPS OF HR SELECTION PROCEDURES AND THEIR POTENTIAL USE IN THE IDENTIFICATION OF TALENTED STUDENTS

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Abstract

In this paper the K-maps are understood as a graphical rendering of a procedural knowledge. The procedural knowledge in question concerns a possible use of selection procedures commonly used in personnel selection in the context of human resources management. Actually, the identification of talented students might be an important task in educational setting. If this task could be successfully carried out by use of a procedure developed in another field, the efforts necessary for implementing it might be alleviated to a considerable degree. On the other hand, this paper is about potential uses of K-maps in the first place.

Key Words

K-maps, selection procedure, talented students.

1 Introduction

In this paper the K-maps are understood as a graphical rendering of a procedural knowledge. The procedural knowledge in question concerns a possible use of selection procedures commonly used in personnel selection in the context of human resources management. Actually, the identification of talented students might be an important task in educational setting. If this task could be successfully carried out by use of a procedure developed in another field, the efforts necessary for implementing it might be alleviated to a considerable degree. On the other hand, this paper is about potential uses of K-maps in the first place. In the following text four K-maps are discussed in the successive order, as follows:

- the first K-map deals with a selection procedure based on knowledge of statistical associations of specific characteristics of a person (*predictors*) and performance of the same person (*criterion*) in specific task or tasks' combination, as e.g. in a paid job,
- the second K-map provides an illustration of selection procedure out-sourcing, when the selection of personnel is carried out by some external agency, like e.g. an executive search firm,
- the third K-map considers a different approach to finding a right person for a job or task, which is based rather on development and learning, as on selection,
- the fourth K-map differs from the three preceding it as it attempts to establish a decision procedure for finding out the best procedure to apply in a case of the identification of a talented student.

2 K-maps description

The K-maps introduced in the paper might be thought to be rather simple. However, they contain all the relevant information concerning the procedures in question.

K-map 1 – a selection procedure:

The method of development of a selection procedure is described in sufficient detail in Kolman (2004, p. 57ff) and Arnold (2005, p. 154ff). It starts with *job analysis*, by which it is determined what prerequisites the person will have to posses to be able to perform well on the job. The results of a job analysis will lead to a set of assumptions about possible characteristics of a person, which might be considered to predict the person's future performance on the job in question. These assumptions should be validated by means of *validation study*, in which the statistical association of predictors and a criterion is measured and tested. Predictors are measures of person's knowledge, skills, attitudes, motivation and other characteristics. A criterion is a measure of person's performance on the job. If at least some of the assumptions are proved to be valid, a selection procedure could be established.

Fig. 1: K-map 1 – selection *Step #*	*Procedure*	*Procedural knowledge*
1. ↓	Need analysis	Action to be undertaken
2. ↓	Job analysis	Job contends and process
3. ↓	Predictors determined	Assumptions on job prerequisites
4. ↓	Criterion determined	Measurable job output
5. ↓	Validation study	Results of assumptions testing
6. □	Selection method implementation	Selection method

K-map 2 – selection outsourcing:

The executive search firms and the like make their living by selecting personnel. Because of it some people believe that these agencies have got hold of some special knowledge, which enables them to be very good and precise in their predictions of future behavior of people. However, the only way how to make valid predictions of future behavior of people is the one described in K-map 1. Of course, an experienced advisor could always offer some educated guesses, but the value of these is questionable, at the best. Some information concerning this approach could be found in Yate (1990, pp. 56).

Fig. 2: K-map2 - outsourcing *Step#*	Procedure	Procedural knowledge
1. ↓	Need analysis	**Reasons to act**
2. ↓	Outsourcing	**Contract with an agency**
3. ↓	Accepting results	**Agency output**
4. □	**Implementation**	**Business experience**

K-map 3 – development:

In some cases it seems to be more appropriate to help to an employee to develop the skills and knowledge through time as just selecting her/him from a pool of possible candidates. This procedure is suitable in cases when the person is already employed by the company and her/his record of job results shows some promise of her/his future growth. This approach is suited when preparing a person to undertake a managerial or a professional position at the company and in some cases it was formalized in a specific method. One of these methods is called mentoring (see, e. g., Kolman, 2005, p. 19). The term "mentor" was derived from Homer's Iliad, where Mentor was the name of an older and wise friend of Odysseus. Odysseus consulted his intended acts with Mentor and took his advice seriously. In mentoring an older and higher standing manager acts in a similar way and the younger, lower standing, person develops by following the friendly advice of her/his boss.

The continuing process of mentoring is illustrated in Figure 4. In this diagram it could easily be seen that knowledge is exchanged, used, tested and that it results in producing some new knowledge. It would be more appropriate, of course, if the process is understood as a spiral, not as a circle. So, Figure 4 might be understood as just one turn of a spiral, which moves further on with every turn to achieve some specific goal in the end. Even so, Figure 4 is only a partial picture of the mentoring process. Mentoring is a continuing process of knowledge transfer, of teaching and learning involving two people. These two people are bound by a rather specific relationship, which is based on mutual trust, mutual interest in teaching/learning and goodwill on both sides. These wider aspects of mentoring process might be rendered by means of the following diagram (Fig. 3):

Trust, interest and goodwill → step-wise teaching/learning → implementing and testing knowledge → personal development and growth → development and establishment of new knowledge.

Figure 3: A wider view of the mentoring process

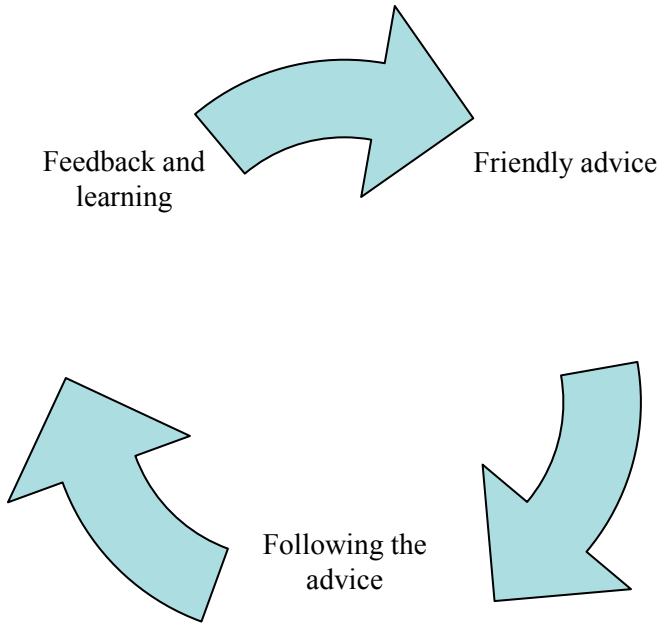

Figure 4: The continuing process of mentoring (one turn of a spiral of development)

K-map 4 – decision procedure

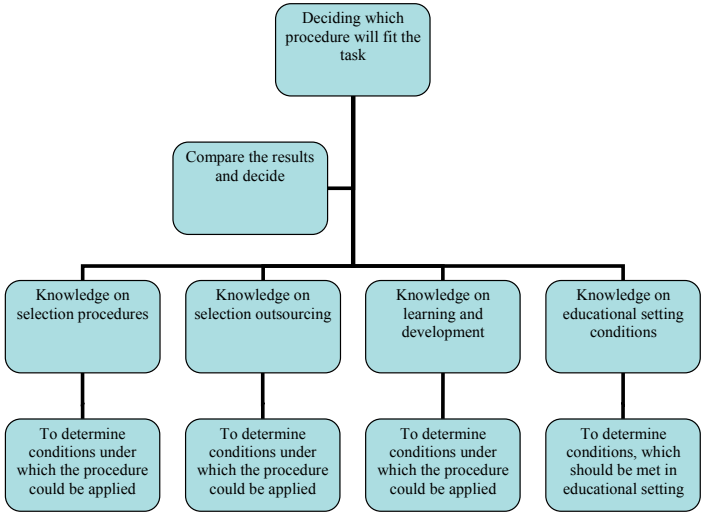

Figure 5: Basic structure of the decision procedure

So far, we have dealt in this paper with three different ways of how to find a right person for a specific job. The approaches described differ widely in a number of aspects. Our task at this point in our discussion of the subject in question is to find out on prerequisites of every one of these three approaches and to compare their potentials as candidates for the task of the talented students' identification. To do this we will have to gather specific knowledge on these three procedures and to use it to determine if and to what degree these three procedures might be used and applied in educational setting. To be able to decide what procedure could be used to talented students' identification we would have to make out about conditions and requirements of this task, as well. The knowledge gathered would enable to determine the utility and/or possible uses of the procedures discussed. The Figure 5 serves to illustrate the process.

Another way the procedure in the Figure 5 might be rendered is introduced in the Figure 6. In this figure we will use once more the step-by-step pattern of the first two figures.

Fig, 6: K-map4 – decision procedure *Step #*	Procedure	Procedural knowledge
1. ↓	**Gathering knowledge on selection procedure**	Where and how to find the desired knowledge
2. ↓	**Gathering knowledge on selection outsourcing**	Where and how to find the desired knowledge
3. ↓	**Gathering knowledge on development and learning**	Where and how to find the desired knowledge
4. ↓	**Gathering knowledge on educational setting conditions**	Where and how to find the desired knowledge
5. ↓	**Evaluating knowledge on selection procedure**	Aims and objectives; criteria for evaluation
6. ↓	**Evaluating knowledge on selection outsourcing**	Aims and objectives; criteria for evaluation
7. ↓	**Evaluating knowledge on development and learning**	Aims and objectives; criteria for evaluation
8. ↓	**Evaluating knowledge on educational setting**	Aims and objectives; criteria for evaluation
9. □	Deciding and implementing	How to reach a decision; how to implement it

3 Discussion and conclusions

In this section of the paper we will go subsequently through the step 5. to 9. of the Figure 6. It will be assumed that gathering the requisite knowledge is rather straightforward and does not need to be discussed in any length. As our task in this paper was rather to demonstrate the utility of K-mapping, as to reach any kind of final decision on talented students' identification we will limit the discussion to naming the known advantages and constraints of the first three procedures and based on it we will try to reach the conclusion based on the knowledge of the educational setting conditions.

K-map 1 – a selection procedure:

The selection procedure illustrated by K-map 1 represents the only scientifically based procedure of personnel selection. It is used world-wide and its usability and utility was repeatedly confirmed. However, there are costs and limitations to it. In the first place, the procedure costs time and money to develop. Because of it, it is advisable to use it only in cases where the costs of development could be covered, which means cases where huge numbers of people will be selected. The selection procedure is not universal – it should be developed anew for every specific job. Further limitations of the procedure utility are connected to *selection ratio* and to *probability of the event occurrence*. The first term is a ratio of selected persons to the number of candidates – in cases where number of candidates is roughly equal or less as the number of positions to be filled selection would not make sense. The second term concerns the probability with which the task could be successfully performed by an average person – if the job could be upheld by almost everybody; in such a case a selection would hardly make any sense, as well.

K-map 2 – selection outsourcing

As was mentioned earlier, the executive search firms and the like make their living by selecting personnel. Because of it some people believe that these agencies have got hold of some special knowledge, which enables them to be very good and precise in their predictions of future behavior of people. However, such a belief is not grounded in proved facts. The only way how to make valid predictions of future behavior of people is the one described in the previous case. Personnel agencies and executive search firms sometimes develop selection procedures of the type rendered by K-map 1. But, as they are business companies, they do that only in cases where they feel sure the costs of method development will be covered in not to far future. In all the other cases these companies deal in educated guesses of questionable value. There sure are alternative ways how to predict future behavior of people, similarly as there alternative ways of weather forecast. In both the cases the alternatives are unscientific and of no practical value.

Personnel agencies and firms are very strong in one other aspect of their functioning. This aspect is marketing. Quite often, it seems, they can sell their produce without its value and quality having been questioned.

K-map 3 - development

The developmental approach, as exemplified earlier in this text, resembles cultivation or tuition. It expects there are interest, motivation and good-will on both sides. This procedure is grounded in mutual trust and it continues for some time, developing new knowledge and expertise in the successive loops of advice, following the advice and feedback and evaluation.

K-map 4: decision procedure

By means of the K-map 4 we are now about to reach decision concerning the respective utilities of the three procedures preceding it in an educational setting. *Selection* might be considered as possible candidate, however, it is costly and limited by other constrains. Actually, it was tried several times (e.g. for identification of children talented for mathematics in the 1950th), but with questionable results. *Outsourcing* seems to be a fancy idea. In the best case the agency hired to accomplish the task would have to go through all the troubles of developing a selection procedure, as described above. Besides, the whole thing might be put in jeopardy by the business self-interest of the agency. The third procedure, *development*, seem best suited to educational purposes. Its structure resembles rather closely the educational process. Moreover it should be noted, that talent without motivation hardly could be found useful. As the K-map 3 takes motivational issues in the account it appears well suited to identifying talented students and developing their talents at the same time.

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