

# Development of Education Information System in Personnel Deployment

1<sup>st</sup> Leli Setyaningrum  
 Science Department,  
 BINUS Graduate Program  
 – Doctor of Computer  
 Science, Bina Nusantara  
 University  
 Jakarta, Indonesia 11480  
 leli.setyaningrum@gmail.com

2<sup>nd</sup> Wayan Suparta  
 Departemen of Informatics,  
 Universitas Pembangunan  
 Jaya  
 South Tangerang 15413,  
 Banten, Indonesia

3<sup>rd</sup> Agung Trisetyarso  
 Science Department,  
 BINUS Graduate Program  
 – Doctor of Computer  
 Science, Bina Nusantara  
 University  
 Jakarta, Indonesia 11480

4<sup>th</sup> Bahtiar Saleh Abbas  
 Science Department,  
 BINUS Graduate Program  
 – Doctor of Computer  
 Science, Bina Nusantara  
 University  
 Jakarta, Indonesia 11480

**Abstract**— Education is developing very rapidly, affecting in various fields. It should also include issues in the career development of personnel. Education information system in an organization, must be able to provide various information related to education, but it should also be able to provide information about the career development of personnel. Especially in filling certain positions. This paper is a concept of how an education system in a military organization can provide deployment for personnel in accordance with the various education they have by being influenced by the position history. There are various influencing factors such as talent scouting and sociometry.

**Keywords:** education information system, deployment, talent-scouting, sosiometri

## I. INTRODUCTION

The education information system has become a very important system to be applied in various educational institutions. Because with this system, many have provided convenience in completing various processes, especially in educational matters. The military education system provides educational methods and skills for career development in the profession as military and civilian personnel. [1]

But in the education information system itself, sometimes there are still limitations. Because along with the development needs, it is necessary developments that can meet these needs, so that in the end will make the limitations of an educational information system open.

The widespread use of computers has been applied to all fields including the military. The development of technology in education, especially in the process that occurs in an educational institution is a development that has a link with the various training, practice, and learning of an educational process. [2]

According to Hristov, the military education system is a system that consists of two functions, namely the function of defense and education. The defense function is more for training prospective soldiers to instill military service, while

the education function is to provide knowledge that can be used in fields outside the military and can be applied to higher levels of education. [3]

## II. EXISTING EDUCATION INFORMATION SYSTEM

In this study, taking the case model contained in the Indonesian Navy by taking into account the system model found in the military of other countries. The education information system consists of several components, namely: military schools, university, military academies, and connected with divisions engaged in education and personnel. The human resource management doctrine states that, within a military education system, there is scope to consist of military schools, military academies, scientific research institutes, and professional universities or colleges. [1]

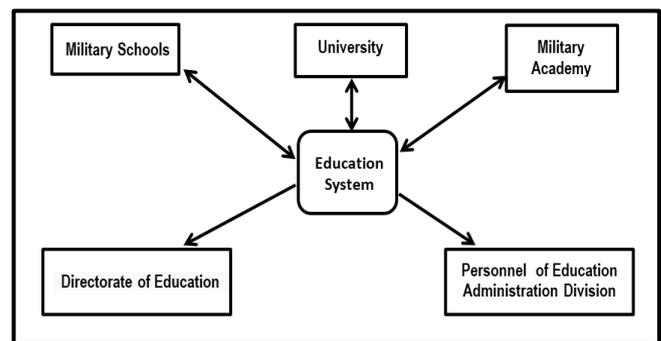


Figure 1. Chart of educational information systems. Showing the process of education information system.

From this picture, it can be seen that in an education information system there are also two divisions connected, namely the Directorate of Education and the Educational Personnel Administration Division. Both are parts that receive reports on various things that are developing and running in the education process. However, the data contained in the education database can only be accessed by

the section where the database is located. So that the other part, did not get permission to access the data. This is related to the confidentiality of data in each section. In its development, where an information system must be connected, there will be an openness to the data. Despite the fact, access to data can be limited through various protections.

**III. HRD (HUMAN RESOURCE DEPARTMENT) INFORMATION SYSTEM**

The personnel information system, in some military organizations, is still a stand-alone information system and is connected between the division in HRD itself, which consists of ranks, positions, and education. Educational data were obtained from reports submitted by sections related to education implementation.

There are several important things in the use of information systems in the Department of human resources, namely: (1) Human resource information systems can provide a holistic understanding of the operations of an organization that can be divided among other divisions/units. (2) Provides the ability for organizations to process data quickly, precisely, accurately by influencing the quality of decision making in the leadership of the organization. (3) Providing ability in good administrative management in organizations. Human Resources Information Systems are applied to several levels in the organization to be able to provide functions that can be more comprehensive, for example for training and career paths. Besides, it is also to improve the information process in terms of speed, accuracy, and communication. [4]

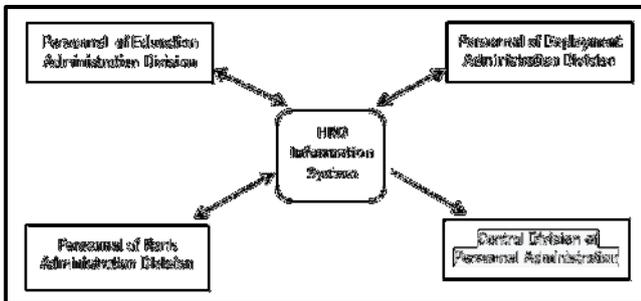


Figure 2. Chart of Human Resources Department Information Systems. Showing the process of HRD information system.

**IV. TALENT SCOUTING**

Talent reconnaissance personnel in military organizations are very important, this is very influential in the implementation and completion of tasks and operations. Position in the organization requires personnel who have professional abilities in several ways. Employee talent can affect the ability to make decisions that must be made in a variety of conditions and situations, related to the field of duty and position. If the position in the army, then the search for talent that must be possessed is knowing the ability of personnel, especially in leadership and firmness for an officer.

Various types of missions must be carried out by military personnel, so military forces must have a firm and wise character. Because at this time, military power is often used in handling social humanitarian missions, such as dealing

with refugees, facing disease outbreaks, and natural disasters. [5] Thus, recognition of talent will greatly influence success in completing a military mission or operation. There are some differences between talent search in the military and companies or non-military organizations.

TABLE 1. DIFFERENCES IN THE USE OF TALENT SCOUTING [6] [7] [8]

TYPES OF TESTS	MILITARY	NON-MILITARY
Psychometric tests	<ul style="list-style-type: none"> <li>- Standards for identifying, categorizing and maintaining intellectual personnel.</li> <li>- As an IQ test (cognitive), specifically related to intellectual abilities.</li> <li>- Standards in evaluating the successful implementation of tasks and missions.</li> <li>- Measuring intelligence and intellectual abilities, as well as academic acumen and ability.</li> <li>- Implementation of the Army Alpha and Beta tests, intended to distinguish the level of intelligence and ability possessed for the implementation of the task.</li> </ul>	<ul style="list-style-type: none"> <li>- As an IQ test determines the level of success in knowledge and experience.</li> <li>- Standards determine a person's level of interest and talent, in carrying out education.</li> <li>- Measuring intelligence and intellectual abilities, as well as academic acumen and ability.</li> <li>- It cannot be exclusively used for the measurement of academic and academic skills.</li> </ul>
Physiological test	<ul style="list-style-type: none"> <li>- To find out strong physical abilities.</li> </ul>	<ul style="list-style-type: none"> <li>- To find out physical abilities, especially in sports.</li> </ul>
Aptitude assesment	<ul style="list-style-type: none"> <li>- Knowing one's personal ability to complete tasks in certain conditions or situations.</li> <li>- Knowing one's level of optimism in completing a task.</li> <li>- It can show superior reasoning abilities, understanding, and acceptance of a language.</li> <li>- Knowing the level of ability to maintain a secret known by various pressures in certain circumstances</li> </ul>	<ul style="list-style-type: none"> <li>- Knowing the characteristics of a person against pressure in certain situations.</li> <li>- Knowing the level of one's ability to achieve success.</li> </ul>

The implementation of talent scouting is mainly carried out during the recruitment of personnel. However, observations will continue to be made during the service period, especially during the education period, especially education that is still under the auspices of the military

organization. This is because observations and tests can be more focused on during education. Therefore, in the education data, assessment data and results from observations and tests should be obtained through the talent scouting process. Each organization will carry out a talent scouting test based on its conditions in getting the highest quality personnel. [9]

V. SOCIOMETRY TESTING

Sociometric measurements, which are measures of actions in terms of social interaction, can provide an overview in aspects related to leadership, in the other words that a person's interaction relationship can also show the level of leadership abilities. [10] Sociometrics have proven to be more accurate and objective measurements so that they are difficult to manipulate, so they do not cause bias when compared to traditional methods in the form of self-reports. [11]

In some organizations, sociometric measurements are carried out by giving survey sheets to those around the person to be measured. So, it will be known various assessments from each party objectively, the survey is given to superiors, subordinates, and colleagues. As for personnel who are conducting education, surveys will be given to classmates, teachers or lecturers, as well as education staff.

VI. THE CONCEPT OF DEPLOYMENT USES EDUCATIONAL INFORMATION SYSTEMS

This concept emphasizes the use of information systems that have been built before and are already running, with a database that is complete and always up to date. With this concept, it can be reduced and emphasized the cost of system development, this is also an effort in optimizing the existing system. In its implementation, and analysis of the requirements for system development must be carried out. Then proceed with an analysis of the system that is already running, then with a limited budget can be determined a system that can be integrated. Integration is done by taking into account the limited access to each database contained in the system.

One thing that must be considered in this development is the desire of the system owner who wants restrictions on data access. This is related to the legality of data ownership. Thus, the only data that can be seen is data that has been processed in a system in the form of a report format to the outside of the system.

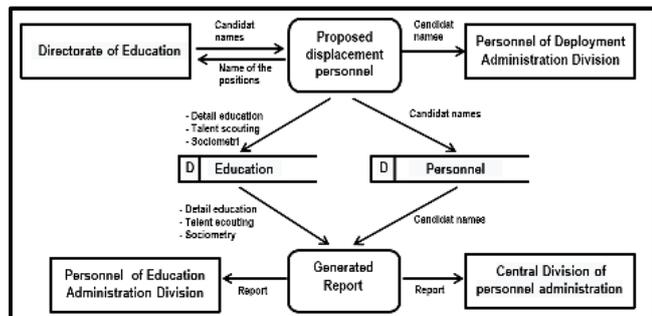


Figure 3. Diagram of the process of proposing personnel positions in the education information system

This process begins when there is a proposal coming from HRD for the substitution of personnel. After the processing is carried out at the Directorate of Education, names of candidates who are suitable to fulfill these positions will be sent to the Personnel of Deployment Administration Division. The list of candidates is processed based on data available in the education database that has been integrated with limited access and connected to the personnel database.

As a form of report, complete data will be sent about these candidates. The complete data is consists of the education that has been undertaken including the achievements, as well as the results of the measurement of talent scouting and sociometry tests, especially those carried out during the education period. There are several requirement that must be possessed by personnel in order to become candidates for a position (1) The level of education must be accomplished by following the level of position (2) Field of expertise that must be by following education and service experience (3) The level of expertise that comes from education or courses that specialized personnel, particular to the position to be filled (4) Talent assessment must meet the category with the level and class of position required (5) The results of sociometry during the education period and service period.

VII. CONCLUSIONS AND FURTHER RESEARCH

The need for information systems at the present is very important to support the speed, accuracy, accuracy, and completeness of the data. Information obtained from the results of an information system process will greatly affect the leadership decisions of the organization. Education Information Systems can be developed into a system that exceeds the actual function, but with the development that still has a relationship with the available database. This research is a study of an existing system that requires development without having to build a new system or maximize the system and infrastructure that is already available. Further research is needed to find out about the weaknesses of the merging system. This is very important, especially if reintegration will be carried out with several other systems aimed at optimizing the existing system and improving the function of the system in an organization that is not yet integrated.

VIII. REFERENCES

- [1] V. Terziev and N. Nichev, "Analysis of The Environment for Military Educational System Functioning and Its Impact on The Preparation of Cadets for Military Professional Activities in The Republic of Bulgaria," *International E-Journal of Advances in Education*, pp. 371-374, 2017.
- [2] A. V. Khizhnaya, M. M. Kutepov, M. N. Gladkova, A. V. Gladkov and E. I. Dvornikova, "Information Technologies in the System of Military Engineer Training of Cadets," vol. 11, no. 13, 2016.
- [3] N. H. Hristov, "Military Education as Possibility in Bulgaria," vol. IV, no. 10, 2018.
- [4] E. Ankrah and E. Sokro, "Intention and Usage of Human Resource Information Systems among Ghanaian Human Resource Managers," vol. 11, no. <http://dx.doi.org/10.5539/ijbm.v11n2p241> , 2016.
- [5] S. Özcan, "The Impact of Changing Nature of Operations Over Decision Making: The Need to Separate Planning Processes Between Deliberate and Crises-Response Planning," Vols. ISBN: 978-975-409-711-5, 2015.

- [6] D. Rosenke, "Talent Identification and Carding in Canadian Track and Field: Is Our System Empirically Supported?," Vols. A Thesis, Master of Arts, 2014.
- [7] D. Gerrard, "Playing foreign policy games: States, drugs and other," vol. 11, no. 4, 2008.
- [8] J. Shepherd, "Developing a fast twitch training muscle fiber for speed, power and strength," vol. 30, 2013.
- [9] H. Tetteh, "Talent and Its Management as Critical Success Factors in the Future of Radio," 2018.
- [10] E. R. Uhl, T. Toumbeva, C. Knott, R. McCormack, F. Diedrich, S. Flanagan and M. Stuhlman, "Sociometric Indicators of Leadership: An Exploratory Analysis," 2018.
- [11] D. O. Oluín and A. Pentland, "Social sensors for automatic data collection," 2008.