

## DEVELOPMENT OF VOCATIONAL INFORMATICS AND COMPUTER SKILLS TO DEVELOP THE CAREER OF CHILDREN WITH ADHD (ATTENTION DEFICIT HYPERACTIVITY DISORDER)

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### ABSTRAK

Vocational skills programs are an important aspect of guiding independence and preparing ADHD children for life in the community. Where the development of these skills can help them prepare themselves to carry out career development in the vocational field of information and computer technology. Career development in vocational skills in the field of information and computer technology for children with ADHD (Attention Deficit Hyperactivity Disorder) has great potential in increasing their abilities and opportunities in a career, even though they have a concentration disorder that does not mean they cannot be tried and trained, because they may have abilities in the field of technology that we do not know. However, even though the job prospects are good, it does not mean that there are no obstacles, one of which is the obstacles in individual children with ADHD, as well as solutions and efforts so that ADHD children can succeed with their abilities in the field of technology starting from building their curiosity, building the right environment, understanding what they want and need in their career development process,

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### INTRODUCTION

The problem that will be discussed in this article is how to develop informatics and computer skills to develop adhd (Attention Deficit Hyperactivity Disorder) children's careers, whether adhd children can have a career using these skills, which many people even know that children with adhd are children who experience concentration disorders so that these individuals can become hyperactivity and impulsive individuals. With these skills, it can be a container for the success of adhd children's careers in the future.

According to the Big Indonesian Dictionary (KBBI), development is the process, way, act of developing. Development is a personally perceived improvement made by the individual to achieve a plan in a career and improvement by the personnel department to achieve a work plan that is on track. Abdul Majid (2005: 24): Development is an effort to improve technical, theoretical, abstract (conceptual), and moral quality through education. Richey and Klein (2007): Development is the process of translating design specifications into real/physical form related to systematic learning design,

development, and evaluation carried out with the intention of establishing a scientific/empirical basis for making new learning and non-learning products or improving existing development models. According to Nadler (Hardjana, 2011: 11) development is learning activities held within a certain period of time to increase the possibility of improving performance.

According to Sugiyono (2009), the steps of research and development are development consists of 10 steps as follows:

- (1) Potential and problems
- (2) Data collection
- (3) Product design
- (4) Validation ,Design validation
- (5) Design revision
- (6) Product trial
- (7) Product revision
- (8) Use trial
- (9) Product revision
- (10) Mass production

According to (John D. Krumboltz) A career is all the work and non-work experiences that shape a person's life and develop over time, reflecting the interaction between individuals and the work and non-work environment. (Douglas T. Hall) A career is the result of a person's personal and professional development that includes a series of work, education, and training experiences acquired throughout life. Careers involve planning, decision-making and as an effort to achieve goals in the world of work, both individually and in groups. It is important to introduce various careers and professions to children from an early age. This introduction can be done for example by reading books about various professions with parents and other family members and exploring various career options through role play and imagination. This early introduction can enable children to understand the different types of work and to find what interests them and what suits their interests and talents Hall's definition of career (Moekijat, 1986:6) is:

- As career advancement, i.e. upward movement within an organization.
- As a skill set, i.e. in some occupations there is a pattern or skill level that indicates a career
- As a lifelong series of jobs, i.e. an individual's work history
- As a set of experiences related to a lifetime of tasks, i.e. individuals' subjective vision of their work, goals, satisfaction, self-concept or changing attitudes.

The opinion regarding the definition of career development is as an ongoing systematic process to help individuals improve skills, knowledge, and experience that are also needed to achieve long-term career goals. According to Gomes, (2003) says that career development is a combination of future coaching needs with planning for human resources. According to Ginzberg, the development of the selection process The career includes three main stages, namely fantasy, tentative, and realistic. The two periods of Early and realistic are divided into several stages, Early covers the period when children are in elementary to middle school and includes four stages of interest, skills, values, and transition. According to Andre J. Dubrin (A.A. Anwar Prabu Mangkunegara, 2000: 77) states that: Career development is an employee activity that helps employees plan their future careers in the organization so that the organization and the employees concerned can develop themselves to the maximum. According to Sadili Samsudin (2006: 133) defines career development as an effort to improve technical, theoretical, conceptual, and technical skills.

is an effort to improve technical, theoretical, conceptual, and morale of employees in accordance with the needs of the job / position through education and training. While the realistic period is the age of children who have entered university and work. And for the fantasy period, the

most important feature is that the child's choice of profession is arbitrary. Some important aspects of career development include:

1. Career planning: Identifying short-term and long-term career goals and planning the steps to achieve them.
2. Training and education: Attending courses, training and formal education to enhance career-relevant skills and knowledge.
3. Mentoring and Coaching: Receive guidance from an experienced mentor or coach to help direct and support career development.
4. Job Rotation: Try out different positions or roles within the organization to broaden skills and experience.
5. Skill Development: Focus on improving the technical, managerial and interpersonal skills required in the job.
6. Evaluation and Feedback: Use feedback from supervisors, coworkers, and self-evaluation to identify areas for improvement and strategies for further development.

The benefits of career development in general are:

1. The existence of career development can improve skills and increase one's knowledge in a relevant career level.
2. As an inspiration in planning a mature career in the future
3. Increase networking and promotion to greater opportunities.
4. Helping individuals to adapt to the work environment.
5. Better understanding of oneself
6. Self-development
7. Training skills and competency skills in a particular field.

While the benefits of career development for employees are:

1. In order to understand and develop his passion in accordance with the interests of talent
2. As a work motivation and increase wider relations
3. Improve skills and knowledge
4. Become an increase in career opportunities
5. Increase one's income
6. Increase self-confidence and quality of life
7. Increase the ability to complete tasks
8. Improving the quality of work of an employee.

Technology is knowledge aimed at creating a tool or the act of processing and storing objects. The term "technology" is known term "technology" is known very broadly with different perspectives of each person in understanding of technology. Technology can be used to solve various problems in life. Technology can be in the form of a product or process. informatics has its own basic concepts, theories and application developments and is also related to cognitive and social aspects, including the social influence and consequences of the use of information technology in general. In addition, technology can also act as a tool or media that can expand the horizons that we cannot reach with the limitations of space and time. broaden insights that we cannot reach with limited space and time.

Technology makes some humans the main subject in running the technology system it self. Meanwhile, information is something of the same nature as with data or something that will be conveyed from the source to the audience. Between technology and information, there is an understanding that information technology is all related to the process of use as a source of information. information technology has everything to do with the process of using it as a tool, manipulation, as well as in the management of information, the combination of technology and information is inseparable because it contains a very important meaning. cannot be separated because it contains a very broad sense because it is related to the process, management, manipulation, and

management of information. process, management, manipulation, and transfer of information between media.

Technology and Information is an important part of learning in this era, namely as a component that creates services that are accurate, precise, organized, accountable, and reliable. There are several factors that influence technology in achieving its purpose, namely:

- a. Infrastructure, because an infrastructure is intended to allow access to information with sufficient speed and develop rapidly following the information with sufficient speed and develop rapidly following technological advances.
- b. Human resources, the factor of human resources aims to fulfill the demands of the availability of Human Brain as an actor in mastering technology. fulfill the demands of the availability of Human Brain as an actor in mastering a rapidly developing technology.
- c. Policy, this policy factor Technology requires good support on a micro or macro scale that can facilitate related on a micro scale or macro scale that can facilitate related developments in information technology that can be used in the long term.
- d. Financial, financial factors here mean that technology requires a positive attitude from financing or other financial institutions as support in the long term. positive attitude from financing or other financial institutions as support in the information technology industry.
- e. Content and Applications, this factor requires the existence of applications that are used in sending products so that users can easily access information.

delivering products so that users can easily access the information delivered.

There are five basic principles that serve as a guide for career development according to Edwin B. Flippo (1995:273), namely:

1. Managerial abilities
2. Technical Functional Capabilities
3. Security
4. Creativity
5. Autonomy-independence

From this description it can be concluded that career development is an effort to develop, exploit and utilize the potential possessed by employees by positioning them in a position in accordance with the abilities they demonstrate.

John Bernardin & Joyce E. A Russell (1993:195), stated that:

- 1) Career goals are the future positions one strives to reach as part of a career.
- 2) Career planning is the process by which one select career goals and the path to those goals.
- 3) Career development is those personal improvement one undertakes to achieve a personal career plan.

From this description, it can be concluded that career development is a career improvement effort and personal improvement effort carried out by an employee to achieve his career goals through the career paths that are available and determined in advance during career planning.

What is ADHD (Attention Deficit Hyperactivity Disorder), is a child who has a disorder in neurological development that has an influence on a person's movement behavior. Martaniah (2001): ADHD is a disorder that contains two components, namely not having attention and not being able to follow orders given. Baihaqi and Sugiarmun (2006): ADHD has an average or above average IQ. ADHD children have the potential to excel in school, but they need special guidance in learning. Kewley, G and Latham, P (2010: 3) Explain that ADHD children are hyperactive / mobile children and have difficulty concentrating so that they experience delays in the development of other skills. According to Isna Perdana (2012: 6) His attention is distracted. Usually the signs of individuals

experiencing adhd are difficulty focusing, impulsivity, hyperactivity, inattentiveness, and a combination of the two. The following is an explanation of the types of adhd disease:

### 1. Inattentive Dominant ADHD

Before the name ADHD, this disease was called ADD (Attention Deficit Disorder) If the individual has this disease, he will have difficulty focusing on one thing and has differences from his motor skills.

### 2. Hyperactive-Impulsive Dominant ADHD

Usually, Hyperactivity can be characterized by behavior that does not want to be quiet, has a lot of energy to do something, and talks a lot. While Impulsivity is more about doing something without thinking about the impact.

### 3. Combination ADHD

Combination ADHD is a combination of several points that have been described.

Although the development of ADHD children follows the same general pattern for everyone. However, understanding the differences in individualized ways and speeds can be used as a basis for setting expectations, treating, and providing education that is also individualized.

Many parents complain about the difficulty of educating children with ADHD. But it turns out that using written or verbal methods can be a solution that is worth trying, for example by sticking the child's activity schedule along with the rules that he must obey on the wall of the room, every success in small things needs to be given appreciation and reward. There is no parent who does not want their child to become a better person over time, even so mom and dad cannot force it on their ADHD child. The inability of ADHD children to be consistent makes them often experience ups and downs, so let them grow into a person as they are without losing guidance and direction from parents, help children manage their lives such as managing their activity time.

Give a specific instructor and then give it if he does it right, Create a good child's sleep time by sleeping and waking up at the same time every day. Apply firm and loving discipline, Take time every day to just communicate and do activities with children such as walking to the park together, Because caring for and assisting hyperactive children does require patience and extra energy, And music can also help ADHD children in improving focus and concentration but it is necessary to pay attention to the stability rhythm so that it is not too loud and the child is not disturbed.

Information and Communication Technology in Curriculum 2013 is utilized as a learning tool (JCT for learning) integrated in all subjects because in essence, currently all life activities including learning, are ICT-based. It is expected that students can understand and apply ICT in the implementation of activities at school. Therefore, the Minister of Education and Culture of the Republic of Indonesia has regulated the role of ICT teachers as stated in the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 45 of 2015 concerning Amendments to the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 68 of 2014 concerning the Role of Information and Communication Technology Teachers and Computer and Information Management Skills Teachers in the Implementation of Curriculum 2013, namely guiding students to support the smooth learning process, providing services/facilitation to fellow teachers for the preparation, implementation, and assessment of learning and providing services/facilitation to education personnel to develop ICT-based school management systems and career development for students with these skills.

### Difference Between ICT and Informatics

Informatics content is an expansion and deepening of the knowledge of ICT content, which at the beginning of its implementation in the 2013 Curriculum was integrated into all subjects through ICT-based learning. This has resulted in fundamental differences in material coverage, learning processes and learning objectives. Informatics competencies do not only make students as users and consumers, but are more concerned with the ability to identify existing problems and provide solutions, then from the ability to think creatively and innovatively will produce information technology products that are in accordance with the rules, hardware or software engineering, and data processing in digital form into information. These competencies include digital skills needed in everyday life (life skills),



utilization of information technology, and informatics science. The learning process is carried out in a tiered, gradual, and sustainable manner starting from SD/ML, SMP/MTs, and SMA/MA.

The characteristics of ADHD children that affect the success of computer learning are:

Difficulty in paying attention to details, Difficulty in following instructions, Difficulty in organizing activities, Difficulty in waiting for turn, Difficulty in absorbing learning materials, Difficulty in managing time, Difficulty in remembering, Difficulty in managing energy. Thus, ADHD children need special guidance in learning and using effective learning media to improve their abilities and career opportunities. Helping Young Adults Make ADHD-Friendly Career and Job Choices When working with young adults, their work lives lie ahead. This is an ideal time to help young adults achieve a sophisticated understanding of themselves helping them participate fully in evaluations, understanding that their interests, preferences, and strengths may have more to do with a good career fit than with their ADHD. Often a young adult, or their parent, enters the career assessment process asking what job is "best" for someone with ADHD.

Every young adult has the task of choosing a career with a very complex set of traits that must all be taken into consideration if a good choice is to be made. An emphasis on strengths and preferences, accompanied by a plan to reduce or minimize the challenges of ADHD, will result in a much more satisfying career choice than a career choice made with too much focus on those related to ADHD. The choice of one's life's work is a critical choice that will lead to has a major impact on the quality of life of someone with ADHD. he comprehensive career assessment that focuses on ADHD for young adults with ADHD is a good investment in their future. Surprisingly, despite the expense of a college education, the choice of college major and the choice of related career focus is often left to young adults with little or no intervention from parents or psychotherapists. Yet few young adults are equipped with a sophisticated understanding of themselves, let alone an adequate understanding of the many factors involved in a particular job or career.

## RESEARCH METHODS

In this paper, the research used is library research. With the method used is the analysis method which means that in compiling this research, namely by collecting data where the data and sources are addressed through documents, with data collection technique through discourse from books, articles, web, journals. Then identify the data according to what is needed in the research. After that, data grouping is carried out to make it easier to assemble scientific papers and not forget to analyze. Furthermore, by approaching the analysis to be able to find answer to research problems, the results of the research are in the form of a report by writing a scientific narrative.

## RESULTS AND DISCUSSION

The results of this discussion are. Children with adhd (Attention Deficit Hyperactivity Disorder) can have the ability to have vocational skills in the field of information technology and computers for a career, why it can happen to adhd children, because even though adhd children have a concentration disorder does not mean they cannot be creative, speed in thinking and the ability to hyper-focus on things of interest, can be an advantage in software development, technical problem solving, or even in developing innovations in the world of technology with the right support. There are several professions in the field that can be done by children with adhd, for example as:

1. Information systems: Adhd children can work in the field of information systems, as this job involves collecting, storing, managing, and accessing data and information. They also learn about database concepts, database management systems, and decision-making techniques.
2. Information Security: With the development of technology, information security is becoming increasingly important. So they can work in information security and how to protect data from cyber threats.
3. Programmer: Programmers are responsible for writing, creating, programming, and coding application systems and software. They are very much needed by companies, media, and startups because this job has a very high demand.

And even ADHD kids can have a career in these professions.

The scope of these professions is very broad so that adhd children can develop their careers by working in these fields and other fields that are still related to technology. There is a supportive work environment

for ADHD children who want to pursue a career in information and computer technology, which includes things like:

1. Supportive physical environment: A good physical environment can include facilities that support productivity, adequate lighting, and a calm atmosphere. It is because of such an environment that can make ADHD children able to focus on work.
2. Good relationships between coworkers: A supportive work environment also includes supportive coworkers. Good relationships will give the effect of a healthy, comfortable environment, and make it possible to collaborate with coworkers. This will usually keep the ADHD child motivated in the work environment.
3. Supportive management: This is also an important part of a supportive work environment. Supportive management can provide the necessary support and guidance for ADHD children to thrive and succeed in their careers.

The characteristics of ADHD children that affect the success of computer learning are:

Difficulty in paying attention to details, Difficulty in following instructions, Difficulty in organizing activities, Difficulty in waiting for turn, Difficulty in absorbing learning materials, Difficulty in managing time, Difficulty in remembering, Difficulty in managing energy. Thus, ADHD children need special guidance in learning and using effective learning media to improve their abilities and career opportunities. To implement successful IT and computer vocational skills for ADHD children, here are some ways that can help in this process:

-Vocational Skills Program Implementation

is the most important step in guiding independence and preparing ADHD children to enter the field of information technology and computers. This can include learning logic, programming, and computer data processing skills.

-Supportive Learning Environment

Creating a supportive learning environment, both at school and at home, can help children develop vocational skills. An environment that facilitates technology exploration, problem solving and creativity can positively contribute to the skill development of ADHD children.

-Social and Emotional Skill Development

It is also important to pay attention to the development of social and emotional skills of ADHD children. This can be done through positive parenting such as providing attention, affection, and clear guidance to the child, as well as teaching healthy social skills and emotional management.

-Collaboration with Communities and Schools

Collaboration with communities or schools that focus on vocational education, especially in informatics (coding and programming) for children with special needs, can provide additional support in implementing success in vocational skills.

-With a comprehensive approach and appropriate support, successful implementation of vocational skills for ADHD children can contribute positively to their career development in the field.

The demand for IT professionals continues to rise as new technologies emerge and businesses need to manage information more effectively. Companies from a wide range of industries, from banking to retail and healthcare companies, all need IT experts to ensure their operations run smoothly and securely. IT professionals often earn competitive salaries, especially with high skill levels and relevant experience. Roles that require specialized technical skills or specific expertise in areas such as cybersecurity and software development often have higher salaries. Many companies in the tech industry offer work flexibility, including the option of working remotely or having a flexible work schedule. This allows IT professionals to create a balance between their work and personal lives. Technology is constantly evolving, creating a demand for new innovations and better technology solutions. IT professionals who are innovation-oriented and committed to learning and keeping up with technology will always have the opportunity to grow in their careers. In this era of globalization, the need for IT professionals is not just limited to one country or region, but also applies worldwide.

This provides opportunities for individuals to work in different countries and experience different work cultures. The tech industry is also a source of new job creation, both through large corporations and through innovative start-ups. This creates opportunities for new graduates as well as professionals looking to change careers. Although job prospects in the field of information and computer technology are very bright, there are some barriers to a career in this field:

Technology continues to evolve rapidly, which means IT professionals must constantly update and improve their skills to stay relevant. The technology industry is a highly competitive field, with many professionals competing for limited job opportunities. This can make it difficult for individuals to enter the industry or advance in their careers without having a clear edge. In some areas, especially in developing countries, access to technology resources and the education required to become an IT professional may be limited. Limited internet infrastructure and lack of investment in technology education can be barriers to developing a career in this field. There is a gap between the skills possessed by graduates or new professionals and the needs desired by the industry. Some countries or regions may have complex regulations or strict regulations related to the technology industry, such as data security and privacy. The tech industry often requires high commitment and long working hours, which can lead to difficulties in creating a work-life balance. That is the obstacle, but it will definitely be overcome if the individual continues to hone their skills in this field.

If we want to help ADHD children in the IT field, of course we must have a deep understanding of ADHD. With that understanding we can know what they need. Exploring a career direction, searching for a job, or managing a career involves a concerted effort to complete tasks and maintain momentum. While this process may be challenging for any client, it can be especially difficult for clients with Attention-Deficit/Hyperactivity Disorder (ADHD), which in turn poses challenges for career practitioners who may find their usual approaches and tools less effective.

#### ADHD

ADHD symptoms can have a serious impact on career occupational development, as well as a client's perception and attitude towards their career, so it is important to adapt the approach to clients with ADHD. Those with ADHD have a higher chance of living with co-occurring disorders, the most common of which are anxiety, depression, and obsessive-compulsive disorder (Nadeau, 2005). This condition can impact the severity of ADHD symptoms, thereby making an already difficult task worse. For example, someone with ADHD-related anxiety may trigger that anxiety through natural manifestations of their ADHD (such as forgetting to answer an email from a network contact). This anxiety then causes their executive function to weaken further, creating an unhealthy cycle. Career professionals are in a unique position to provide support to the ADHD community by understanding the impact of ADHD and how it manifests in career development. Career practitioners can better support clients with ADHD by being able to recognize and understand its impact on career exploration, job search, and career management and adapt approaches to help clients with ADHD experience success in career development.

#### CONCLUSIONS

Based on this conclusion, information technology and computer skills can provide a strong foundation for the career development of ADHD children, because from this field they get the opportunity to have a career that suits their skills in the field of technology, even though they have problems. Focusing their attention is not an obstacle for them to continue learning and trying, because basically ADHD children will have creative, innovative thinking if it is something that interests them and ADHD children have abilities that are not visible to others, with the right approach, good strategies and a comfortable environment as well as the right way of implementing them, as well as receiving positive support, ADHD children are able to pursue their career journey in the future. Explaining good job prospects does not mean there are no obstacles, but of course these obstacles can be overcome if individuals continue to hone their abilities so as not to be displaced, and must also pay attention to the aspects they have. The purpose of a career development plan is to help, learn, imagine, decide, and plan how to achieve these career goals. There is no manual, guidebook, or even test that can tell you what job or job you should have. And the career development process is typically a step-by-step process used by career coaches, career professionals, and college career offices. Through career development, employees are helped to determine realistic goals and the abilities required for the position they hold. Meanwhile, a person's career is a very personal and very important life.



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