



## Extension of Digital Media to Strengthen Learning Outcome with Online Approach in Inclusive School Students

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### Abstract

This study aims to strengthen the learning outcomes of civic teachers by providing excellent service not only in learning process but also external activities beyond classrooms at inclusive schools. Research informants involved are inclusive students (with special needs), regular students, civic teachers, and school principals. The research approach is qualitative research of analytical descriptive. The process of collecting data encompasses process of observation, interviews, and documentation studies. The results indicate success in the learning process by significantly increasing the inclusive students' learning abilities. The activities of inclusive students were also better than before with their involvement in the I-Spring Suite-based education and training activities by all teachers.

**Keywords:** Civic Education, Inclusive School, I-Spring Suite, Learning outcome, Pancasila

### Introduction

The existence of inclusive schools is an effort to bring justice to all citizens. This is stated in Article 32 paragraph 1 of the 1945 Constitution that the state is responsible for providing education for all citizens. In addition, the National Education System Law No. 20 of 2003 article 5 paragraphs 1 and 2 also make it clear that every citizen has the same right to obtain quality education. This is in line with the policy of UNESCO which launched the Education for All program to eradicate discrimination in education. This is the basis need of inclusive education in terms of quality for all Indonesians.

However, out of 1.6 million children with special needs in Indonesia, only 18% have been found to have received educational services, which is around 115 thousand children are in Special Schools and 299 thousand in regular schools. There are still 82% who still have not received special education (Ministry of Education and Culture of the Republic of Indonesia, 2017). Earlier in 2005, it was estimated that ap-

proximately 10% of inclusive children still had problems with all forms of education in South-east Asia (Muazza et al, 2018, p. 2). In Indonesia, children with special needs are still found rejected in public and inclusive schools due to various conditions. Other problems that lie behind are teachers and education staff who are not yet ready to children with special needs, expensive funding for providing specific teachers, to bullying. They actually have extraordinary abilities but often receive impacts from sociocultural conditions and policies that are not yet ready to children with special needs. Various problems that arise include the issue of policy discrimination, discrimination in community treatment, family de-harmonization, bullying, and exploitation. This causes the distribution of inclusive education as if it is on the road and receives little attention. There were only about 75% of the totals Special Schools of 2,000 Special Schools. Of the 75% of all Special Schools, they are private Special Schools that charge more fees and are in urban areas, so children

with special needs who have a low economic background cannot go to school due to distance and cost factors. Based on children with special needs growth and development sites released by the Save the Children Report in 2017, Indonesia is ranked 101 out of 172 countries in the world. This is far behind Singapore's neighboring countries ranked 33, Malaysia 65, and Thailand 84. This indicates that the Indonesian government must strive to organize more education and inclusive schools in each sub-district in all districts / cities in Indonesia.

The understanding of inclusive education is contained in Ministry of Education No. 70 of 2009 which states that the system of providing education provides an opportunity for all students who have disabilities and have the potential intelligence and / or special talents to attend education or learning in the educational environment together with students in general. This is supported by Durak & Erkilic (2012) saying that inclusive education means students with special needs have the right to obtain education and are integrated into general education as much as possible.

Probolinggo State Vocational School 3 is one of the vocational schools in East Java designated to conduct the inclusive education program with the Decree of the Head of the Probolinggo City Education Office Number 421.2 / 71 / 425.103 / 2012 on July 16, 2012. The school has responsibilities in its implementation starting from facilities and infrastructure, human resources, and teacher competencies that must be prepared according to the subjects they need without ignoring the needs of students with special needs. This was also stated by Sunarso and Prayatno (2016, p. 71) that vocational schools have special characteristics to focus on a set of skills and abilities (competencies), so teachers and students must collaborate to create optimal learning processes and outcomes. Probolinggo State Vocational School 3 as the organizer of inclusive education has the obligation to accommodate all students including students with special needs by getting different services according to the abilities and needs of the students.

By the existence of regular students and students with special needs in one class together, the services in the class will be different between the two including the implementation of the curriculum (Anggraeni, 2018). Special services apply to special needs students with a curriculum that is identified and modified accord-

ing to their needs, while regular students carry out the applicable curriculum (Artiles et al, 2006). If the existence of inclusive schools is underestimated, the emergence of perceived bad behavior occurs in many countries (Ainscow and Cesar, 2006). The need for school reform indicators by emphasizing the needs of inclusive schools.

The focus for education in general has a stage towards an inclusive movement that recognizes differences in students. Schools must support all children regardless of the differences in them, both related to differences in gender, culture, race, religion, ethnicity and abilities of inclusion / students with special needs (UNESCO, 1994; Forlin, 2006). For example, the school was faced by students with hearing impairments or students who experience obstacles with low memory / forgetfulness (Leigh, 1999), so teachers must develop learning plans that are modified with their different types of disability.

Likewise with education and learning in inclusive schools, teachers' equipment must also provide learning plans that are modified according to the necessity of students with special needs from the general learning plans that are made. The main reason why teachers need to know more about learning plans is to make a more effective planning program; so teachers can have more time to help students in their social, psychological, and emotional development. The purpose of the preparation of a learning plan is to avoid teaching that does not lead to indicators and learning objectives. In addition, it also makes it easier for teachers to deliver material and assist teachers in making decisions appropriately and quickly.

However, there are problems in preparing learning plans such as low professionalism of teachers, weak teacher competence, and the boredom of teachers in preparing learning plans (Kumolorini, 2019). Furthermore, in the implementation, evaluation and follow-up to the inclusion learning process is needed to guide them in understanding the subject matter and questions. Along with the development of the times and the increasingly dynamic needs of society, education is also experiencing increasingly rapid dynamics and changes. One important factor in education is the high quality of the methodology possessed by teachers, both elementary, middle and high school teachers. Monotonous methods such as discourse cause them not to focus on learning material. Therefore we need interactive learning methods and models using technology. An inte-

grative audio-visual and verbal-based methodology will be fun for students in general. When it is being compared with conventional methodology, where in one class consists of 32-40 students, it will cause them not to focus in receiving subject matter.

Based on the results of observations, interviews, and literature studies, researchers identify that the frequency of situations and conditions with different times and classes will affect the success in the learning process. At the time of the day or the last hour usually the level of concentration of students has decreased compared to the morning situation. This also leads to the success of teachers in each national content-based subject such as civic subject which has many competency standards and basic competencies. Therefore, many teachers have difficulty applying it at the last hour. In addition, the obstacles observed by researchers were also seen when observing the learning process in an inclusive-based school environment such as in Probolinggo State Vocational School 3. Teachers are required to have different competencies and services between regular students and students with special needs. In addition, the teacher must also modify the learning tools with the necessity of students with special needs. According to Novianti (in Suyatiningsih et al, 2016, p. 2), learning tools involving learning media have an important role in the 2013 curriculum. This becomes a challenge and dynamic for teachers who teach inclusive classes. Therefore, the findings will be available as an evaluation material and follow-up for teachers in providing learning material to all students optimally in the coming new school year (2019-2020). By seeing this development, the school should prepare everything, especially the readiness of its human resources (teachers) and learning strategies in the inclusive class. Inclusion in principle encourages every element involved in the learning process by endeavouring a conducive and effective learning environment, so that all students can learn together (Ministry of Education and Culture of the Republic of Indonesia, 2014).

The development of learning media for I-Spring Suite 8.0 can be a solution to the problems of citizen education and good quality education. The quality of education can be realized if it is carried out effectively. This means that the learning process is carried out in a directed, orderly, and smooth manner in accordance with the learning objectives. Therefore learning me-

dia are needed to help the success of the learning process. This learning media can help students think openly about the need to change teaching or learning methods and begin the semester of 2019/2020 school year with a discussion of how they feel and behave in the inclusive class. The purpose of citizen education is to develop smart and good citizens for all lines and levels of education (Winataputra, 2012, p.167). In addition, it also serves as a systemic vehicle for the intelligence of the nation's life (Winataputra, 2015, p. 41) and forms students into humans who have a sense of nationalism and love for the motherland (Wahab and Sapriya, 2011).

## Methodology

This study uses a qualitative approach with descriptive analytical methods. A qualitative approach is used to obtain in-depth data. Muchtar (2015) said that the qualitative meaning was interpreted as an activity of systematic thinking to emphasize the truth in an effort to solve research problems continuously. The objects and subjects of the research were conducted on the principal, deputy headmaster of the curriculum section, deputy headmaster of student affairs, deputy headmaster of infrastructure facilities, inclusion assistant teachers, counseling teachers, regular students, and inclusion students of the first and second grade of Probolinggo State Vocational School 3. The research location is on Hero Street number 26A City of Probolinggo. According to the Decree of Establishment with Number 0342 / U / 1989 on June 5, 1989, Probolinggo State Vocational School 3 has 5 areas of expertise competence, including a) hospitality accommodations, b) catering, c) fashion, d) skin and hair beauty, and e) visual communication design.

To obtain sample, this study uses purposive sampling. The purposive sampling is chosen because the information obtained must come from informants who have competence and experience, especially on Android-based learning models / media and the development of inclusive students. The informants in this study consisted of a school principal, 3 deputy principals, 3 counseling teachers, and 10 inclusive mentor teachers, 2 general teachers who implemented the i-Spring Suite, 17 inclusive students, and 5 regular / normal students. This research had received permission from the students' guardian and accordance with the integrity based on the facts compiled by researchers with the principal, teachers, and students, especially related to the researcher's ethics and confidentiality of information. The interview

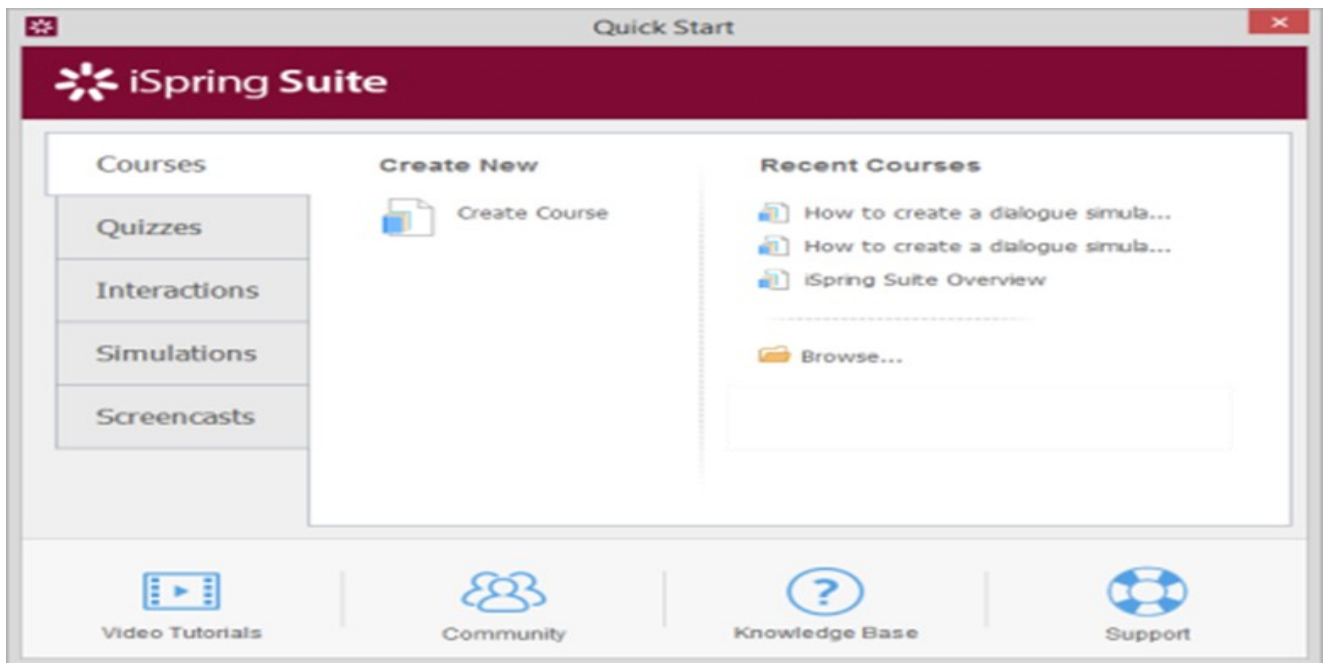


Figure 1. I-Spring Suite Interface

is focusing on the conditions and student development, obstacles encountered in the service of inclusive class learning, and school efforts in dealing with obstacles.

Data collection also requires documentation studies especially to analyze the suitability of the vision and mission of the school with school administration. In addition, the use of documentation studies is to see the extent to which the inclusion of students entering the State Vocational High School 3 Probolinggo is based on graphic data and school handbooks. Limitations in this study do not focus on the shortcomings experienced by inclusion students but rather on the presence of the effectiveness of the i-Spring Suite application as an effort to provide learning services that are interactive, interesting, and fun for those with technology-based (see figure 1). The presence of the i-Spring Suite proves that this practical project aims at increasing the level of student achievement and answering the diverse needs of students in the class.

## Results and Discussions

Some previous research studies can be the basis for choosing learning strategies for schools implementing inclusive education so that the interest in learning civic subject is increased. Research conducted by Nenden (2014) shows an increase in communication skills by

applying a multisensory approach to third grade of special elementary school of inclusion children in Subang. In that study, it was shown that there was a significant influence between the multisensory approach with an increase in communication skills, i.e. in first cycle, an average score of 3.2 was obtained, in the second cycle, an average score of 5.0 was obtained, and in the third cycle, an average score of 5.6 was obtained. Furthermore, the results of research conducted by Pawlyn & Carnaby (2009) show that the use of instructional media in the classroom has a positive impact, namely:

1. Submission of subject matter is not rigid;
2. Learning in class can be more interesting;
3. Learning becomes more interactive by applying learning theories and psychological principles that are accepted in terms of residual participation, feedback, and reinforcement;
4. The duration of learning can be shortened;
5. Integration of words and images as learning media can improve the quality of learning outcomes so that the communication of elements of knowledge can be done in a well-organized, specific and clear manner;
6. Individual designed learning media can be given whenever and wherever desired or needed;
7. The positive attitude of students towards what they are learning and the learning pro-

- cess can be improved; and
8. There is a change in the teacher's role in a more positive direction.

From the two research results, a multisensory approach to improve the ability of students inclusion and the use of media into learning strategies that fit the character of disability, become the basis and references for researchers to pour and utilize the results of these studies to be implemented in I-Spring Suite 8.0 media as a civic learning strategy to improve the ability and competency of inclusion students as well as a means of communication for researchers.

The problem solving strategies used in providing educational services for students with special needs in the regular school environment must understand the students' condition in detail, including by looking at their health records. Furthermore, solving problems in civic subject learning, researchers conducted learning by presenting learning material and videos using the I-Spring Suite as a guide for students' inclusion in the learning process. Every problem-solving strategy arise new problems that researchers must also immediately solve so that inclusive education services can work well.

Students create learning videos using the I-Spring Suite media to find the completion of the civic subject. When problem arises, researchers try to do the simple thing by recording all civic learning activities in class which are then uploaded on YouTube and shared with several groups of teachers of high school in Probolinggo through social media WhatsApp. This recording activity is carried out repeatedly to observe differences in the learning process in the inclusive class. This activity involved an inclusive teacher who played an active role in helping provide information in this study.

There are several steps taken by investigators prior to the selection of media by using media Spring Suite, namely:

1. Communicating using personal approach so inclusion students feel comfortable and not afraid of the presence of researchers;
2. Identifying the types of disabilities that students carry with the help of information obtained from the Special Inclusive Teacher in the school or the Guidance Counseling teacher and analyzing the needs of inclusive students;
3. Analyzing civic subject material;
4. Arranging civic material in the form of power points and learning videos; and

5. Testing on regular students and Inclusion students with assistance and guidance in understanding civic material in the form of power points and videos with peer assistance and teacher assistance in the form of special services. Furthermore, the Spring Suite is used for Inclusion student learning.

Furthermore, the Spring Suite media can be used for all students in class in solving civic problems according to procedures. Furthermore, it can be set out in a modified lesson plan without having to implement a special curriculum for inclusive education. Thus, inclusive students can learn together in parallel with other regular students and the learning process is more effective by using the media Spring Suite 8.0 or Spring Suite 9.0.

With the implementation of i-Spring Suite 8.0 which has improved, it can be installed on the teacher's notebook / laptop. For notebooks that have a low capacity of 32 bits it is recommended to use i-Spring Suite 8.0, while laptops that have a large capacity of 64 bits can use i-Spring Suite version 8.7 or i-Spring Suite 9.0. Before being applied in class, the teacher must also install `website.2.apk.builder.v3.1.Installer.exe`. The aim is to share question material, audio visual learning videos, and exam questions with regular and inclusive students. In implementing the development of i-Spring Suite, there are several things that can be identified based on obstacles, strategies, and the results of the development of i-Spring Suite conducted by the teacher towards the inclusion class, as can be seen in Table 1.

The efforts of inclusion class teachers are very important to be done in order to improve the ability of regular and inclusive students according to the indicators and learning outcomes. In addition, principal and government policies continue to be carried out to support the success of the learning process. One of them is the implementation of internal and external cooperation (principals, education offices and stakeholders) on In House Training (IHT) to increase the capacity and competence of teachers to meet the digital era education as shown in Figure 2.

To improve skills in solving civic problems, inclusive students are given guidance activities outside the learning hours where they do not carry out other learning activities. The teacher also only provides assistance as needed so that students do not depend entirely on the teacher. This is one form of strengthening the character of inclusive students by forming their confidence

Table 1. Obstacles, Strategies, and Results of the Development of i-Spring Suite

Role	Obstacles	Strategies	Results
<b>Individual</b>	<p>Some teachers are still hesitant in installing the i-Spring Suite application</p> <p>There are still many regular and inclusive students who do not yet have a gadget / android</p> <p>Lack of access to internet / Wi-Fi facilities for students in the inclusive classes</p>	<p>The principal gives an evaluation and motivation regarding the importance of the demands of IT-based teaching</p> <p>The principal issued a policy of using gadgets and providing adequate laptops</p> <p>Additional facilities sourced from the East Java provincial and BOS provincial Tistas program</p>	<p>The teacher is enthusiastic and actively practices using the i-Spring Suite</p> <p>Increased curiosity and interest of regular and inclusive students in receiving learning material</p> <p>Students enjoy the services provided by inclusive schools as needed</p>
<b>Superstructure (Government, Inclusion Schools)</b>	<p>Dependence on school operators / IT related to synchronization of exam questions</p> <p>The lack of training, workshops, training related to learning models and strategies</p>	<p>Teachers practice and implement IT-based learning by utilizing the i-Spring Suite, Edmodo, and Google Class they have</p> <p>Collaboration in the education service is carried out through the education office and school branches in aligning the curriculum, In House Training to increase teacher competency</p>	<p>The teacher synchronizes the exam questions (daily test, midterm, and final exam)</p> <p>Increase teacher creativity in developing learning tools that are creative, innovative, fun, and interesting</p>

and abilities.

The results obtained from the I-Spring Suite learning show that students are more enthusiastic in the civic learning process, from 40.28% to 68.54% for the total learning activity achievement. This is also reinforced by observational data made by researchers in class third grade of Communication and Visual Design class 2019/2020, as shown in Table 2.

Based on the observations above, it can be concluded that the learning process before and after using the I-Spring Suite learning media has increased. This was also reinforced by Umi and Suprpto (2014, p. 129) who stated that effective learning was proven by learning outcomes.

Likewise, one of the third-level inclusion

students, Vember, was able to complete the civic questions from the final semester assessment exercise using gadget / laptop media, and even became a facilitator for his colleagues in solving civic questions.

Their pride in being able to make them sit in line with other regular friends and increase their interest in learning civic. Vember is able to help researchers become teacher assistants to teach how to solve civic problems with laptop / computer aids.

The other friend is helping to make the concept of thinking during class hours in the counseling service room for inclusive learning. During the inclusion seminar, they were proud to help the civic teacher / inclusive teacher.



Figure 2. IHT Training to Increase the Competence of Teachers

Table 2. Observation Results of the Civic Learning Process

Indicators	Condition Before	Condition After
Class	Less conducive	conducive
Concentration of learning	Less	Good
Questioning	Passive	Active
Presentation	Passive	Active
Questioning and Answering during presentation	Passive	Active
Discussion	Passive	Active
Finishing task	25 percent of 32 students do not complete assignments in a timely manner	12.5 percent of 32 students do not complete assignments in a timely manner

However, the results of inclusion students' national examination scores do not meet the Minimum Mastery Criteria that are set regularly. This is due to the inclusion of students who have cognitive limitations. However, they have special features in life skills, motor skills, and the ability to remember what was done. This privilege is a gap to provide skills to solve civic problems by using computer media, laptops, and Android. Civic learning by using I-Spring Suite assisted by android and laptop in Probolinggo State Vocational School 3 had met the purpose, i.e. Creating independent young workers who will be able to face real life in several fields of work with the skills they have.

For example, Vember with the type of character and disability which carried will be

able to do some more activities. Vember is one of the students who are able to take over the position of his colleague in terms of communication and provide information both to his inclusion friends and younger siblings who have different disabilities.

**Conclusion**

Inclusive students become part of an inclusive education community that must receive the same services as other regular students. The participation of parents, teachers, and the environment becomes its own motivation for inclusion students to grow and develop into a generation who are ready to face their future with confidence.

Teachers must be able to create learning that is fun for them and prepare learning tools that fit the needs of inclusive students without ignoring the needs of regular students, one of which is to prepare teaching materials and media that will be used in delivering subject matter.

I-Spring Suite civic is one of the sacred media solutions as well as teaching materials that can involve students in learning inclusion in civic subject and improve students' abilities in learning civic. Basically inclusive students have an average IQ and can take part in learning in inclusive schools if the teacher has the right handling and is carried out continuously.

This is evidenced by the increase in students' learning ability from 40.28% to 68.54%. Inclusive student activities are also better than before proven by the participation in teaching and learning process and also training activities using I-Spring Suite, helping teachers as training participants, and becoming peer tutors for other regular students in utilizing I-Spring Suite media to solve problems.

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