

# Development of Students' Subject Passion Trends (SSPT) Oriented Constructivistic Learning in Facilitating the Needs of UM Laboratory Elementary School Students

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## ABSTRACT

This research aims to describe students' subject passion trends (SSPT)-oriented constructivistic learning development strategies in facilitating the needs of UM Laboratory Elementary School students. This research is a development study that refers to the ten steps developed by Borg & Gall. The findings of the study, among others: (1) facilitation of diversity is the fundamental principle of supporting the development of passion-based constructivistic learning and industrial values 4.0; (2) Accelerated learning model is the most superior and most facilitative model towards the provision of learning services that integrate the potential, talent, and interests of students as well as industry values 4.0; and (3) construction model optimization of potential students based on passion and industrial values 4.0.

**Keywords:** *Constructivistic, Students' Subject Passion Trends, Laboratory School, Learning Development Model*

## 1. INTRODUCTION

The suitability of learning for students is essential because learning in school is very closely related to its abilities and talents. Proper learning becomes a booster for students to realize or stream their passion for learning and significantly impact the quality of student achievement to the maximum [1], [2]. Passion based on students' interests, talents, and abilities and approached with learning facilities that enable students to reconstruct learning, will be able to give birth to graduates who can adapt and even innovate in their learning lives and daily lives so that they can live in their world to the fullest [3] – [5].

For students learning less, optimally will only lead to low learning spirit, weak motivation to achieve, the effectiveness of learning is not in line with expectations, and learning is considered an unpleasant activity, more than that that learning is regarded as a move incapable of guaranteeing the future. Such circumstances not only interfere with students' learning activities but also affect

the onset of problems with learning in the classroom. Of course, the next impact is, schools will only give birth to ensuring graduates.

Constructivistic-based learning presents an open facility for students to think creatively, dynamically, openly, pleasantly, and naturally and is relevant to the diverse values of life (contextual) that lead to learning [6]– [8]. Even by providing open opportunities for students to reconstruct the meaning of learning will awaken an atmosphere conducive to achieving learning goals more efficiently and maximally [8], [9]. The high level of competency with complete capability skills will give birth to a decent generation to face various challenges and opportunities, and problems of life in later eras [5], [10].

Such ideal circumstances would be achieved if the class was designed as a place where reconstructivistic values and commitments were adequately presented, and within individual student passion settings. Such learning is excellent classes, a great group of students with their passions who process constructive learning towards the

formation of graduate profiles that suit the needs of future eras, including the industrial era 4.0 [10], [14].

The first industrial term 4.0 was used by the German Government to describe the current high-level technology strategy directed at the use of big data [15], in which all interaction activities utilizing sensory devices without space and time limits, take place instantly, and high-quality accuracy, and require only very limited human intervention even can be done by human resources that have high levels of skills.

The era of industry 4.0 is an era in which social and industrial dependence is only to the world of big data that is overall presented in databases on internet-based and cloud-based software. As is known and experienced by almost all people on earth, that the trend towards such an era is occurring and experienced by all countries in different parts of the world, except for Indonesia [5], [10], [15], [16]. The following fact, industry era trend 4.0 cannot be avoided by anyone from any location and time and anytime.

This era presents high levels of dialectic complexity and competition, which will only be won by highly able individuals. Such individual capabilities, of course, remain relied on the education and learning presented by educational institutions with high-quality offerings as well [5], [14], [17]. Therefore, education must know and understand the characteristics of the industrial era.

There are at least two critical things that education needs to be aware of for its output to survive in the industrial era 4.0, namely always integrating itself with high-tech developments and making it a cornerstone in making every innovation in social life [5], [10], [18]. To accommodate the character of that era, education, as described in advance, must provide itself to act as a place or opportunity for anyone through the multi-competency facility to produce a generation capable of the characteristics of the era itself [19] – [22].

Models and learning approaches compatible with the 4.0 industrial era indeed consider opportunities for students to continually reconstruct their learning experiences in a real and natural way based on their passion characteristics. Thus, the learning experience will be interpreted as a process of facilitating talents, interests, knowledge, and experiences, as well as passion dynamically and futuristically, so that they can face and live together with the uncertainties of their future eras. Thus, between passion and constructivistic learning atmosphere is a matching blend that will seed creativity and innovation indefinitely to grow into a generation ready to match the future [2], [24], including the industrial era 4.0 with accompanying characteristics.

Such circumstances have an impact on many things, as described above. Therefore, learning innovations relevant to efforts to excite students to engage intensively into learning in the classroom need to continue. The

innovation is directed to creating a learning climate that can facilitate students' passion for serious learning with pleasure so that their potential can develop optimally. The optimization of such potential will give birth to the reopening of their capabilities in interpreting learning as part of life to meet the real life of the future, namely life in the era of industry 4.0.

As stated in the previous review, education is an effort to endow value, which will be a helper and guide in living life and improve the fate and civilization of humankind that can be done since still in the womb. Conceptual education in schools is an important element for the sustainability of the national education system in a country. The development of the education system in Indonesia also encourages the growth of schools that are alternative choices for prospective students to register, and are believed to have better quality than normal schools [22], [25] – [27]. One of the alternative schools in demand is the laboratory elementary school, which is generally under the construction of certain universities, one of which is the Elementary School laboratory of Malang State University.

UM Laboratory Elementary School is a pioneer of international standard schools at the elementary school level. This school has started to pioneer international standard education by opening international classes. On 5 July 2007 the school received the International Center for Education and Exams award from the University of Cambridge International Examination of (CIE). Cambridge University is a world university which is ranked second in the world. The award is a form of recognition and also a license to hold international classes for three subjects, namely English, Mathematics and Science, at the primary and junior high school levels. Therefore, this school provides 9 years of education services (elementary and junior high schools) in one location.

Recognition as an international education center is not without effort at all. The process and learning media and infrastructure support of UM lab elementary school has met the standardization of Cambridge University's International education service. In SD Lab UM has developed models of accelerated education, individualized learning services, and mastery learning through per-unit modules. This kind of learning and education model has pedagogical implications of fostering children's independence, stimulating the interest in reading and mastering teaching materials, as well as the motivation of seeking as many references as possible. Therefore, in elementary school UM lab develops a sustainable student learning system and enables two teachers in each class.

The facilities that must be fulfilled by schools are multimedia that can be connected to the internet by every class. The teaching materials used must be references from the University of Cambridge or a country where the

language of instruction is English. Educators in this school must also be of international standards. All teachers teaching international classes must hold a certificate from the University of Cambridge. Teachers must also create teaching portfolios and also create learning modules and innovate and be creative in teaching.

Based on the above review, the research on "Development of Students' Subject Passion Trends (SSPT)-Oriented Constructivistic Learning in Facilitating the Needs of UM Laboratory Primary school students" is exciting to do. Based on the context analysis above, this research is focused on: (1) identification and background management of um laboratory elementary school students; (2) passion-based constructivistic learning design; and (3) optimization of students' potential in terms of uncovering and strengthening them into capabilities relevant to industry era 4.0 skills.

## 2. METHOD

This research uses the development research design (Development), adopted from Borg and Gall, according to [28] Educational Research and Development (R&D) is a process used to develop and validate educational products. The product developed in this study is a students' subject passion trends (SSPT) based learning model as a new model to be recommended to schools, especially schools where research is based.

Research procedures in the context of research and development are steps taken in developing and producing proven products. Referring to [28] there are ten development steps in research to develop and create new products, namely: (1) collecting information through principals, vice principals, and teachers; (2) Develop draft planning of the initial model; (3) conduct draft discussions of the initial model; (4) Conduct a trial, which in the online context of the practice is only done by asking the principal and teacher for input on the possibility of accessibility of the applicability and acceptance of the draft model. Step four is done following Steps 5 and 6; (7) revise the draft model according to the input of the principal and teacher; (8) conduct further accessibility trials through discussions with teachers and learning expert opinions; (9) finalize the model; and (10) to disseminate the model through online workshop activities involving 6 elementary schools in East Java (Malang and Bondowoso District) and North Kalimantan (Tana Tidung Regency).

## 3. RESULTS

### 3.1. *Basic Principles of Passion-Based Constructivistic Learning Development and Industry Values 4.0 in UM Lab Elementary School*

Constructivistic learning in SD Lab. UM was developed based on the following principles, including:

(1) learning practices based on strengthening efforts towards the diversity of students' potential; (2) good learning relies heavily on diversity-oriented learning planning; (3) Development of learning planning in the classroom, should pay attention to students' interests and talents and be presented through various media, methods, and certain approaches to arousing students' passions and learning appetites; (4) SD Lab teachers are not only tasked with transferring knowledge but as a source of inspiration in terms of thinking, spoken and behaving; (5) Roleplaying, is a method that needs to be developed in exploring feelings, attitudes, contextual values and problem-solving strategies; and (6) The involvement of students in learning planning can strengthen the character of discipline, self-reliance, creative and responsible for him.

### 3.2. *Dominant Passion-Based Constructivistic Learning Models and Industry Values 4.0 in UM Lab Elementary School*

Constructivistic learning models implemented in SD Lab. UM include discovery learning, reception learning, assisted learning, active learning, the accelerated learning, quantum learning, and contextual teaching and learning, and cooperative learning. Of these learning models, accelerated learning models are the most superior and most facilitative learning services that integrate students' potential, talent, and interests and industry values 4.0.

### 3.3. *Construction Model optimization of Passion-Based Students and Industrial Values 4.0*

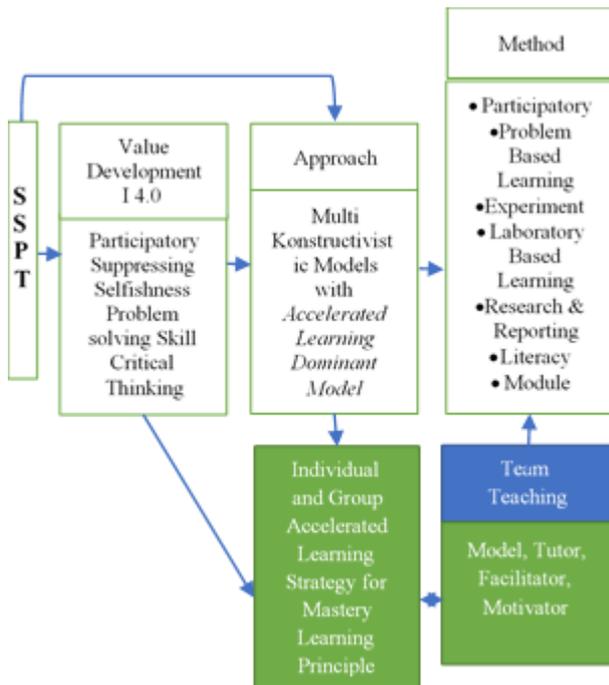
From the various data collected and analyzed, it is known that learning in SD Lab. UM can be described in Figure 1.

## 4. DISCUSSION

Based on these findings, some of the main things that will be discussed include learning planning, role-playing, participatory learning, modules, and mastery learning, continuous progress, and acceleration programs). If faced with the choice of "teachers may not make curriculum, it may also not make props even in certain cases do not make judgments, but should not have to do planning" [29] – [31].

Learning planning has an important role in determining the achievement of learning objectives. Students should ideally be involved in development, competency identification, standard setting of subject matter, development of learning indicators, and learning assessment. Development of Learning Implementation Planning (RPP) should pay attention to the interest and attention of students to the basic standard materials and competencies that are used as study materials. In this

case, it should be noted that teachers should not only act as transformers.



**Figure 1** Design optimization of students' potential in learning through the Constructivistic Approach of SSPT And Industrial Value 4.0

Still, it must also act as motivators that can arouse passions and learning appetites, encourage students to learn by using a variety of appropriate media and learning resources, and uphold the formation of competencies. Because students are "raw material" in the educational process [33], [34].

Learning is an effort to teach students to learn. In this definition, it is contained the meaning that in such learning, there is an activity of selecting, establishing, and developing optimal methods or strategies to achieve the desired learning outcomes under certain conditions [34]– [36].

Learning is an activity that integrates material elements, facilities, equipment, procedures, and people. Learning is related to how to teach students well or how students can have a willingness to learn. Learning should try to describe the values in the curriculum by analyzing the characteristics of the subjects and learning objectives in the curriculum. This process is known as the ideal curriculum.

The next activity carried out is selecting, determining, and developing learning strategies that are in accordance with the learning objectives. Curriculum goals can be realized through the learning process, so that it will have an impact on the realization of learning outcomes for students [34]. CTL is a concept that can help teachers connect the material taught to students with the real world, so that students will increase their motivation. It is

intended that the subject matter is relevant to the real world in the student environment itself.

#### 4.1. Roleplaying

Students through role-playing learning can improve relationships by demonstrating and discussing various topics, so that students can practice sensitivity to feelings, attitudes, values, and problem-solving strategies. Role-playing originates from a personal and social dimension. Students with this model are invited to learn to solve the problems they face with the help of their classmates.

This model from the social dimension provides opportunities for students to work together in analyzing social situations and conditions, especially problems related to students' personalities. This model is also implemented democratically. Thus, this model trains students to uphold democratic values.

#### 4.2. Participatory Learning

Participatory learning is learning that involves students, starting from the planning process, implementation, to the learning evaluation process [44], [45]. Schools involve students in the process of planning learning and setting learning goals. The teacher provides directions and solutions to students who experience problems in learning. The teacher provides directions to students who want to evaluate their own learning and analyze learning outcomes.

Schools by involving students in learning planning, implementing learning, and evaluating learning can improve student discipline, student independence, student creativity, and a sense of responsibility to themselves, both when studying at school or at home. So that students will be ready to face an uncertain future.

#### 4.3. Module

Modules can be formulated as a complete, stand-alone unit consisting of a series of learning activities arranged to help students achieve several specially formulated and clear goals. From the above definition, according to the implementation of learning in SD Lab UM where teachers create their learning modules to facilitate students to learn independently.

The Module also provides various learning activities, such as reading textbooks, library books, magazines, essays, drawings, photographs, diagrams, movies, slides, listening to audiotapes, learning demonstration tools, participating in projects or experiments, and participating in extra-curricular activities. Besides, modules can provide choices and a large number of topics to learn, as well as provide opportunities to recognize the advantages and disadvantages and correct weaknesses.

#### **4.4. Mastery Learning, Continuous Progress, and Accelerated Learning**

Learning that is carried out systematically and structured aims to improve student competence and is useful for increasing student learning speed [49] – [51]. Learning that is carried out completely can be in the form of individual and group learning systems. Learning that is implemented properly must have the support of several elements, such as the availability of media, hardware, software, and also the internet, so that the learning process can be carried out virtually.

There are several strategies and learning approaches that can be implemented by teachers. First, an individual approach, namely learning that pays attention to the uniqueness of students. This learning provides an understanding to the teacher that learning must be carried out by paying attention to unique student differences. Second, the group approach is the approach needed to develop and foster students' social attitudes.

Third, the practical approach, namely learning that allows students to practice, practice, and feel the results of what they do in carrying out tasks and solving learning problems in everyday life. Fourth, the habituation approach, namely learning that allows students to practice according to the teachings that each student believes. Fifth, a dynamic approach, namely learning that aims to arouse students' feelings and emotions in understanding and living religious lessons in accordance with the student's religion and Indonesian culture.

Sixth, the rational approach is an approach that plays a role in increasing the understanding and rational power of students in studying subjects. This approach deals with the good and bad behavior of people in everyday life. Seventh, the functional approach is learning that emphasizes the usefulness of subject matter that students learn in everyday life. And the eight exemplary approaches, this approach makes teachers and school administrators a good role model for students. [38], [52].

## **5. CONCLUSION**

The success of learning to facilitate the optimization of students' potential can be done by applying a constructivistic approach. A constructivistic approach would be more optimal if it was based on an effectively integrated diversity of student backgrounds.

Implementing a constructivistic approach against the background of student diversity encourages the optimal achievement of various potentials, especially the potential desired by the Era of Industry 4.0. Malang State University Laboratory Elementary School has an anticipatory constructivistic learning design for the industrial era 4.0.

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