

Vygotsky's Zone of Proximal Development and The Students' Progress in Learning (A Heutagogical Bibliographical Review)

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Abstract

Inspired by the belief that Man's power to change himself, that is, to learn, is perhaps the most impressive thing about him, the present study employed library research with a notated bibliography to highlight the pedagogical philosophy behind Vygotsky's concept of Zone of Proximal Development. It is argued that the students' learning progress results from the students' personal experience, in which the students learn actively, establishing the students as the agents of learning. With this concept, it is believed that the students' independent learning process can deliver them to the next level of their respective zone of potential development, from which process the zone of potential development will become the students' zone of actual development, through which the students will enter their next zone of potential development, and so forth. This Heutagogical thinking is founded on the basic premise that (1) learning is centered and determined by the students, (2) the students' capability in applying relevant skills in familiar and unfamiliar conditions, (3) the students' reflective and metacognitive process, (4) multiple repetitions, and (5) non-linear learning. The learning process in Vygotsky's concept Zone of Proximal Development can be applied in Heutagogical thinking through (1) the settlement of learning contract, (2) improving the learning activities, and (3) learning assessment with pedagogical designs, namely exploration, creation, collaboration, connection, sharing, and reflection. However, it is important to highlight in the implementation of this Vygotskian Heutagogical learning is that the students' backgrounds and characteristics should be closely observed, with close monitoring of the possible conflicts occurring during the learning process as they develop their sense of responsibility as they conduct their independent learning collaboratively, which might be novel for students accustomed with conventional learning.

Keywords: Vygotsky's Theory, Zone of Proximal Development, Heutagogy, Students as Agent of Learning

1. Introduction

Education becomes the main support to improve human resources. Education is a process of human formation that will completely be realized through an ideal education system (Aryani, 2015; Nurkholis, 2013; Susiyani & Subiyantoro, 2017). The foundation of the formation begins with the learning process during childhood. Learning is the process of a person acquiring various skills, skills, and attitudes (Astuti, 2015; Herawati, 2018). A person's ability to learn is an important characteristic that differentiates him from other living things. This learning ability provides benefits for oneself and also for society (Gredler, 1986; Irwandi & Fajeriadi, 2020). From the perspective of cognitive theory, learning is a mental event, not a behavioral event, even though behavioral things appear more real in almost every learning event. Individual behavior is not merely a response to existing, but what is more important is the mental drive that is regulated by the brain (Oktiani, 2017; Salahudin & Rohaniawati, 2018). Learning is an active mental process to achieve, remember, and use knowledge (Nugroho, 2015; Sutarto, 2017). Learning according to cognitive theory is perceptual. A person's behavior is determined by his perceptions and understanding of the situation related to his learning theory. Learning is a change in perception and understanding that cannot always be seen as visible behavior (Nurhadi, 2020; Zalyana, 2016). The cognitive theory emphasizes learning as an internal process. Learning is an activity that involves a very complex thought process. Many learning theories have developed, one of which is Vygotsky's theory of learning.

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Vygotsky's theory offers a portrait of human development as something inseparable from social and cultural activities. Vygotsky's theory emphasizes how mental development processes such as memory, attention, and so on involve learning using language, the symbolic-mathematical system, and tools as memory, emphasizing the role of adults such as mothers and fathers in facilitating the development of students. Vygotsky's theory makes a child challenged to carry out activities above their level of development (Afati & Sartika, 2020; Amin, 2012; Sukiyanto, 2018). Vygotsky's theory emphasizes the ability of students to solve problems by applying four principles in the learning process, namely sociocultural, the concept of the zone of proximal development, scaffolding, and mental development departing from the social field to the individual field (Pasaribu, 2013; Suci, 2018). Children basically have actual development that is achieved in their development journey which is built with the help of tasks completed by children independently (Payong, 2020). The success of a nation's education is largely determined by the approach used by educators in delivering material to students (Falah, 2015; Hiryanto, 2017; Sirait, 2017). Today there have been many approaches developed by experts, both targeting children and adults. Each approach certainly has advantages and disadvantages, because nothing is perfect in this world, including the approach used by educators in learning; the author's term "there is no generic drug that can be given for all kinds of learning diseases" each learning problem has the characteristics of the problem with different solutions. The approach referred to here is pedagogy and andragogy, which today with the rapid development of technology such as the existence of mobile phones and so on, a new approach known as Heutagogy has emerged.

Heutagogy is a self-determined learning study (Hase & Kenyon, 2007; Hiryanto, 2017; Sulistya, 2019). Heutagogy applies a holistic approach to developing learners' abilities, by learning as an active and proactive process, and students serving as the main agents in their learning, which occurs as a result of personal experiences (Hase, 2016; Hiryanto, 2017). As in the andragogy approach, the educator in heutagogy also facilitates the learning process by providing guidance and resources, but the sole choice of ownership of learning paths and processes for learners who negotiate, learn, and determine what to learn and how it will be learned is determined by the student. (Hase, 2016; Hiryanto, 2017). So, Heutagogy offers active collaboration (double hands) to determine learning, including what content is appropriate to learn, how to study it, and what form of assessment will be used to prove that competency has been successfully mastered. Education and students exchange ideas about what is appropriate for learners to learn and how to teach them or what learning steps and learning resources are used to achieve these predetermined learning goals. In other words, the learner's position is more as a facilitator or learning consultant

This research is based on the belief about Man's power to change himself, that is, to learn, is perhaps the most impressive thing about him and then why learning about learning is very important and what resources are available to understand learning about. The purpose of this study is to examine and examine Vygotsky's thoughts on the Zone of Proximal Development and the students' learning interests. This study discussed the importance of the learning role for individuals and mankind, prepared a picture of the learning influence and learning trends that are originally from the philosophy of social constructivism proposed by Lev Semenovich Vygotsky. In this framework, the researcher examined and discussed Vygotsky's thoughts in Zone of Proximal Development and the students' learning interests which are studied using the bibliographic annotation method in Heutagogy Thought and how it can be applied in today's learning practices.

2. Method

This research approach applied a research library using bibliographic annotation analysis, which was, a simple conclusion from an article, book, journal, or some other written sources. There were four procedures applied in this research, namely: (1) Organize, which is, to organize the literature to be reviewed; (2) Synthesize, which is, to unify the results of the literature organization into a summary so that they become an integrated unit by looking for linkages between literatures; (3) Identify, that is, to identify controversial issues in the literature. The controversial issue is an important issue that is considered to be explored or analyzed in

order to get interesting writing to be read; and (4) Formulate, which is, to formulate the questions that require further research.

3. Result and Discussion

The term Zone of Proximal Development is part of the social constructivism idea by Lev Semenovich Vygotsky. Vygotsky is a scholar from Russia, he is an expert in psychology, philosophy, and literature (Muhibbin & Hidayatullah, 2020). The well known Vygotsky's philosophy is about humans and the environment, according to Vygotsky, humans are not like animals that only react to the environment, can change the environment based on their needs (Schunk, 2012). The basic assumption of Vygotsky's theory of social constructivism is what the child can do in cooperation today, he can do alone tomorrow. Thus, what children do or learn today by working together in groups can be done independently in the future (Hariyanto & Warsono, 2012)

Based on Vygotsky's thought, the development of students' abilities can be divided into two, namely the level of actual development and potential development. The actual level of development is seen from the children's ability to solve problems or tasks independently while the level of potential development is seen from the children's ability under the guidance of teachers, parents/other people, or peers who have more competent abilities. Basically, this potential ability will turn into a new level of actual development with the consequence if you find a new problem, you need help and guidance from adults so this is called a new potential development, and so on so that this event causes the level of development on students capability in real learning, continuous learning, and a lifelong learning process (Schunk, 2012).

The development process of social activities into internal mental activities is called internalization. In all their social activities with teachers, parents, and peers, children always internalize every direction so that in the end they can independently provide direction to themselves in completing their learning tasks (Suci, 2018). A child will achieve a higher cognitive level if the child slowly begins to reduce dependence on problem solving.

Considering a lot of information available or a flood of information, various skills can be learned outside the practice of formal education (pedagogy) and can even be done for free and done anywhere, formal education is no longer a necessity and future jobs require high-level skills. In this case, our children will not be ready if their learning and learning needs are still based on teacher center learning (Pedagogy and Andragogy), then this Heutagogy paradigm is needed to support the improvement of the nation's children's resources as a successor to the nation's generation. Thus, currently, reality demands the children, who learn, have their considerations, begin to shift to their learning. Therefore, this Heutagogy is future learning that is needed by children nowadays.

Heutagogy principles developed by (Hase & Kenyon, 2007) are namely; the first, centered on and determined by students, students become movers take responsibility for what is learned and how, therefore learning does not depend on teachers/lecturers, curriculum, facilities, and other factors outside of themselves but it depends on yourself. Second, the ability of the children or students to use skills in familiar or unfamiliar conditions, the level of students adaptability has developed rapidly. Third, reflection and metacognition, students do reflection after learning. Besides, students need can study independently. Fifth, teaching and learning are non-linear, where the learning pattern is determined by the students themselves, not by the teacher.

Heutagogy is very interesting to be implemented, he proposes about learners as the active learning agents who determine their learning freely (Blaschke, 2016). This is somewhat different from the concept offered by Vygotsky's social constructivism, even though they both view that learners are active individuals who are able to reconstruct their own knowledge through their activeness in the learning process. In constructive learning, although the main focus is the same as heutagogy learning, namely on the students learning besides teaching the learner, in constructive learning students still lack the freedom to determine what to learn, how to study and measure as well as show evidence that they have mastered a certain

competency. Learning and assessment are still largely determined by the learner or on the provided option. However, in the learning process, students are given more freedom to actively reconstruct their knowledge by carrying out a variety of learning activities, without passively waiting for learner explanation.

Meanwhile, heutagogy offers the concept where the learners are given the freedom from the beginning to determine what to learn, how to study, and how to prove what they have been mastered, even though there is still teacher involvement as a learning consultant in this determination. However, the underlined point is that the heutagogy emphasizes the level of autonomy and the learner maturity in learning; the learner maturity level has an influence on the needs for learning assistance, namely the more mature a person in terms of learning independence, the percentage of learners' control must be reduced. In applying pedagogy, the role of learners is still very dominant compared to the learners. Furthermore, the learner's role has diminished in andragogy application and there is very little in heutagogy, where the teacher is no longer a learning companion but rather a learning consultant. In other words, even though it is very promising, the successful application of heutagogy will only be maximized if the learning targets have a sufficient level of independence and learning maturity, namely having a clear learning vision, a good understanding of learning tendencies, and learning styles (metacognitive skills). It will be difficult for him to determine what he should learn and how to study it and how to prove his mastery.

Heutagogy is not only oriented towards efforts on certain mastery competency but also at the level of increasing the capacity and capability of the competency. The expected output from the application of this heutagogy is generations who have certain competencies with the capacity to develop and the capability to apply them from various situations and conditions in the field that always changes and develops or in other terms the generation of lifelong learners who always develops.

A key concept in heutagogy is double cycle of learning and self-reflection. In a dual cycle of learning, students consider the resulting problems, actions, and outcomes, in addition, to reflect on the problem-solving process and how it affects the students' own beliefs and actions (Hiryanto, 2017). The Heutagogy approach can be seen as a development from pedagogy to andragogy, where students progress in maturity and autonomy (Canning, 2010; Hiryanto, 2017). Adult learners require less control from instructors and can be more independent in learning, while fewer adult learners' need more instructor guidance and prerequisite courses. Based on andragogy, heutagogy further extends the andragogy approach, and can be understood as a continuation of andragogy. In andragogy, curriculum, questions, discussions, and assessments are designed by the instructor based on the learners' needs; whereas in heutagogy, students define a learning program, design, and develop a concept map of their learning from the curriculum for self-assessments (Hiryanto, 2017). Heutagogy emphasizes the development of abilities besides competence (andragogy).

Then, how can Vygotsky's thoughts on the Zone of Proximal Development in Heutagogy thought be applied in learning practices? Of course, by applying the Heutagogical principles, they are inserted into the learning stages carried out by educators, this is what Hase (2000) calls the Heutagogical Design Process, namely as follows;

First, create or design a learning contract. The learning contract is determined between educators and students regarding the children's need and what the students want to learn, then the learning process is also determined together, including the assessment process which is determined between the teacher and students. In this phase, students and teachers work together to identify learning needs and expected outcomes. The questions that must be answered are; what do students want to learn? What results are expected from the learning experience? What specific curriculum goals are needed? Learning contracts help students decide what they want to learn and define their own individual learning paths. A heutagogy approach is only possible if the curriculum is flexible and takes into account the questions, motivations, and shifts in students' thinking as a result of what they have learned. Students must be able to create their own curriculum which can adapt to their individual needs. Students may be asked to make plans based on a set of set learning goals, but they have to identify what and how they learn.

Second, developing learning activities. At this stage, educators and students identify learning resources, identify, and develop together with the desired learning outcomes, provide formative feedback, and carry out self-reflection. Learning experience runs in harmony with one's own existence. In line with self-existence, that is, we will feel easier to learn when the experience is felt in harmony with our existence. Filtering out unwanted experiences helps to avoid the influence and it does not belong to learning and teaching.

Third, Assessment of Learning Outcomes. The assessment of learning outcomes is conducted based on a contract that has been made and agreed upon in advance, the main assessor is the students themselves. Assessment is an important part of any instructional approach, including heutagogy. However, in this approach, students design their own learning assessments without undergoing standard tests. In fact, this provides a more comfortable, less intimidating environment, and can encourage deeper learning. The design of student assessments, including ways to measure the understanding of content and acquired skills, is determined by students. At the end of the process, students will be asked whether the agreed-upon results are achieved. Due to its independent nature, learning heutagogically can cause inner conflict in students, especially if they are not accustomed to take responsibility for their own learning. However, once students had the confidence to learn independently, few students want to return to the old curriculum with a rigid structure. Heutagogy facilitates students to be able to work together and share knowledge, reflect on progress. Students learn from each other, and think about how they can put their new skills into practice.

The steps or Heutagogy learning designs developed by Hase (2000) that can be applied in learning using Vygotsky's thinking towards the Zone of Proximal Development are as follows: 1) Exploration, students have the freedom to explore various learning patterns and desired learning resources by students. 2) Creating, students have freedom to create an opportunity in creating something, choosing, making a Mind Map, or showing evidence and learning products. 3) Collaboration, students can learn from each other, work together, and towards mutual goals with various available information, practice, and experiment. Collaboration is an important component in the future century (21st century) helping each other to achieve common goals. 4) Linking or networking is an important component in heutagogy. If possible, students should be encouraged to connect with experts in the field of study being studied, knowing the relationship between people learning and their abilities about what they learn and the benefits in real life. This kind of thing is an insertion of contextual learning. 6) Sharing, sharing information will create new opportunities to collaborate because children share ideas and experiences that can increase learning capacity and improve learning outcomes. 7) Reflection, reflection is an opportunity where new learning occurs and previous learning is consolidated, and provides opportunities for higher-level cognitive processing.

However, according to Hase (2000), there are several notes if you want to implement this thought in learning practices, namely, First, pay attention to the anthropological and psychological backgrounds of students, in this case, the students characteristics are different from problems, needs, ways of learning and handling so the approach must be different from one another. Second, there will be some conflicts because they are not accustomed to get freedom and responsibility, the responsibility for managing time which is completely different from the previous conventional patterns. Third, once students have found the right pattern for themselves, only a few students want to return to structured learning styles or conventional learning styles so this must be considered by educators.

Heutagogy will provide some needed attributes and skills by graduates when entering a hypercompetitive world of work, including creating a vision of the future, oral and written communication skills, problem solution skills based on critical thinking, collaboration skills through work networks, curiosity, and imagination, agility and adaptability, hope and optimism, self-regulation, empathy, and global stewardship, resilience, and fortitude. (Mohammad et al., 2019; Widiaty et al., 2020). Heutagogy is a student-centered learning strategy which emphasizes the development of autonomy, capacity, and capability, is realized with the aim of being able to encourage the implementation of lifelong learning. From heutagogy, students are expected to be truly ready to enter the complexities of the world of work that can be produced

properly. In an increasingly complex future, it requires tough individuals who are ready to face the dynamics of change independently so that Heutagogy is the solution.

In the heutagogy, collaboration determines learning in content, learning methods, and forms of assessment that will be used to prove competencies that have been successfully mastered well. Students and teachers exchange ideas about what is right for students to learn and how to teach them or what learning steps and learning resources are used to achieve these predetermined learning goals. In other words, the student's position is more as a facilitator or learning consultant. Heutagogy is an interesting learning strategy to be implemented because students become active learning agents who determine their own learning freely. This is slightly different from the constructive learning concept, even though we both view that students are active individuals who can reconstruct their own knowledge through their activeness in the learning process. The concept offered in learning heutagogy is that students are given the freedom from the beginning to determine what to learn, how to learn, and how to prove their mastery, even though in determining this matter, there is still the teacher involvement as a learning consultant.

4. Conclusion and Recommendation

The conclusion of the present study emphasizes that Heutagogy thought on the level of actual development in the Zone of Proximal Development is explained as a learning result from students' personal experiences. The interests and learning outcomes are the result of the ability to learn as an active and proactive process, and the function of learners as the main agents in learning that can develop continuously into a potential level of development then enter into actual development, and so on. Thus, it can be concluded that students will achieve higher cognitive levels if the child slowly begins to do problem solving independently and how to learn. In this framework, the next learning perspective is needed, that is, Heutagogy in supporting Pedagogy. Heutagogical thought uses the following principles: (1) centered on and determined by the learner, (2) the students's ability to use skills in familiar or unfamiliar conditions, (3) reflection and metacognition, (4) multiple repetitions, and (5) teaching and learning are non-linear. Learning practices on Vygotsky's thought about the Zone of Proximal Development in Heutagogy thought can be applied through: (1) making learning contracts, (2) developing learning activities, and (3) Assessment of Learning Outcomes with Heutagogy learning design elements, namely exploration, creation, collaboration, connecting, share, and reflect. As a note in the application, paying attention to the background, students characteristics, and the different ways of handling it. The conflicts will occur because they are not used to get freedom and responsibility from conventional learning approaches.

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