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In our opinion, a creation of the new international journal is an important initiative, because at present in the Central European countries such a periodical does not exist. The New Educational Review is a continuation of an idea of Professor Bogdan Suchodolski, who directed the international editorial board of the year-journal Paideia. It was edited by the Committee for Educational Sciences of the Polish Academy of Sciences in the period 1972 – 1994 in English, French and Russian. Two years after the Professor Suchodolski's death
the journal disappeared from the publishing market.

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The problems presented here should also focus an interest of researchers from academic and scientific centers in the
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The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students

DOI: 10.15804/tner.2018.51.1.01

Abstract

The presented research develops a deconstructive learning history model to promote the Higher Order Thinking Skill (HOTS) of university students. According to Thiagarajan, Semmel, & Semmel’s (1974) approach, the model was developed in four stages: defining, design, development, and dissemination. The research participants were 120 students of the History Education Department, Sebelas Maret University, Indonesia. The authors found the main problems related to the aspects of chronological thinking, students’ passive attitude, and the availability of learning path. Based on those problems, the author designed a deconstructive learning history model, consisting of four learning stages: problem statement, deconstruction, construction, and articulation. At the development and summative evaluation stages, the learning model proved feasible and effective in promoting the HOTS, thus, the learning model can solve the problems of time orientation and students’ passive attitude. Considering the findings and results of the research, the authors state that the learning model becomes a decisive factor in provoking students to reach the higher cognitive level in Bloom’s taxonomy.

Keywords: higher order thinking skill, learning history, learning model, deconstructive
Introduction

One of the primary objectives of the higher education learning system in the 21st century is to develop students’ higher order thinking skill (HOTS) (Collins, 2014). The HOTS can be defined in the framework of the cognitive level of Bloom’s taxonomy (1965), which later was revised by Anderson and Anderson (2001). The HOTS is achieved when the student has reached three high levels in the cognitive domain: analyze, evaluate, and create (Yen & Halili, 2015).

In learning history, the HOTS is similar to the concepts of historical thinking and history reasoning skill (Drie & Boxtel, 2007; Ercikan & Seixas, 2011). Some researchers dealing with the development of the process of learning history, have developed their own concepts, either intertwined or unrelated to Bloom’s framework.

Seixas, Morton, Colyer, and Fornazzari (2013) constructed six levels of historical thinking, encompassing establishment of historical significance, using primary source evidence, identifying continuity and change, analyzing cause and consequence, taking historical perspectives, and understanding the ethical dimension of historical interpretations. In the same spirits, Masood, and Abdullah (2016) adapted Bloom’s taxonomy for assessment purposes in learning history. They generated six levels of taxonomy encompassing example, pre-structural, uni-structural, multi-structural, relational and extended abstract.

Although the HOTS has been described theoretically, in many practical cases the HOTS is hard to achieve. Weay and Masood (2014) stressed the problem in promoting the HOTS, which ironically lies on the time orientation paradigm of teachers and students, which emphasizes memorizing the chronological facts. Meanwhile, Seixas (2017) mentioned local problems, which relate to the differences of temporal orientation, learning environment conditions, and the uniqueness of students and teachers.

In facing those problems, some researchers have been trying to promote the HOTS by developing the role of teachers (Dorren, 2004), students’ activity (Pattiz, 2004), student examination (Demircioglu, 2009), or students’ educational experiences (Kim & Seo, 2015). Meanwhile, Drake and Brown (2003) suggested a systematic way by emphasizing the enrichment of learning material and using more than one book reference to present more perspectives in the classroom.

Following those endeavors, this research takes another approach by designing a deconstructive learning history model. The basic idea is to transform Bloom’s taxonomy into a learning model that consists of classroom practice and student activities. Following Joyce, Weil, and Calhoun’ (1972) work, the authors believe
that the learning model will become one of the exponents in the development of the HOTS. The design of learning stages should support students in mastering each level of the taxonomy by providing a learning path.

**Research Method**

The design of the instructional development by Thiagarajan, Semmel and Semmel (1974) was adopted to develop a deconstructive learning history model. The authors modified the design according to the local conditions and research purposes. At the defining stage, the authors focused on the problems and analysis of student characteristics related to their level of HOTS. The design stage was focused on generating the prototype of a deconstructive learning history model in the form of learning stages. The development stage consisted of two steps: expert appraisal and developmental testing. Small group and large group testing was used in the developmental testing to measure the feasibility and consistency of the learning model. The last stage was dissemination, consisting of summative evaluation to prove the effectiveness of the learning model in promoting the HOTS of students.

The research participants were 120 students of the History Education Department, Sebelas Maret University, Surakarta, Indonesia. The data were collected with the use of interviews, open questionnaires, feasibility forms, and HOTS test. At the defining stage, 30 students were interviewed and asked to fill the questionnaire in order to find the problems and contextual factors that influence the level of students’ HOTS. At the development stage, a feasibility form was used to collect responses from experts and students in expert appraisal, small group testing, and large group testing. The feasibility form consisted of the holistic indicator of the learning model arranged by Joyce and Weil (1972), encompassing learning stages, social system, lecturer and student roles, supporting system, and nurture effects. The feasibility of the prototype was measured according to the following criteria:

<table>
<thead>
<tr>
<th>Range</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.26–4.00</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.51–3.25</td>
<td>Feasible</td>
</tr>
<tr>
<td>1.76–2.50</td>
<td>Feasible enough</td>
</tr>
<tr>
<td>1.00–1.75</td>
<td>Not feasible</td>
</tr>
</tbody>
</table>
In the summative evaluation, 60 students were involved to measure the effectiveness of the learning model. They were divided into a control group and an experimental group, each group consisted of 30 students. At this stage, a HOTS test was used with t-test analysis to measure the effectiveness of the learning model. The HOTS test was designed by the authors following the revised version of the cognitive levels of Bloom's taxonomy, the six-levels of historical thinking, and the adaptation of Bloom's taxonomy in learning history. The authors then generated the indicators into a questionnaire and validated it by the SPSS 17.0 program.

Research Findings and Results

The Findings of the Defining Stage
The authors found several student characteristic in the classroom. The majority of the students mostly recite historical data and information that was presented during the learning process as the construction of their historical argumentation and reasoning. They have an assumption that all of the historical data, which were presented in the classroom, were generally true. Other students not only reiterate but also try to use historical data, whether partially or fully, to construct their historical argumentation and reasoning. However, the students have a tendency to emphasize the chronological aspect of the historical events explanation. The authors also found that few students are able to produce argumentation or historical reasoning based on their analysis and evaluation of historical data. Based on those data, the authors emphasise that the differences in the students’ abilities are affected by how the students organize their existing as well as new knowledge during the learning process.

The Design Stage
The findings of the define stage become an empirical foundation to design the deconstructive learning history model. The framework of the prototype of the learning model was generated from Bloom's revised taxonomy (Anderson & Anderson, 2001), the six-levels of historical thinking (Seixas, Morton, Colyer, & Fornazzari, 2013), and the adaptation of taxonomy in learning history (Weay, Masood, & Abdullah, 2016). Vygotsky's (1986) approach, particularly the concept of scaffolding, was adopted to design the social system of the learning model, in order to help the students to reach their zone of proximal development by
providing a space for collective discussion, problem solving, and articulate their finding in the classroom.

The authors also adopted problem-based learning (PBL) in contextualizing the learning model. PBL could improve the HOTS by posing present and complex problems to solve (Tan, Chye, & Teo, 2009; Duch, 2001), which in the context of learning history must be interrelated with historical events (White, 2008). Meanwhile, the deconstruction approaches of Derrida (1997) and the concept of continuity and discontinuity of Foucault (1972) were adopted as a tool of the heuristic phase to analyze the genealogy of the present problems in the past. It affected the design of the learning stages that emphasize the profound analysis of genealogy of problems in order to find a new concept or argumentation from its process. The prototype of the deconstructive learning history model is as follows:

**Table 2. Prototype of Deconstructive Learning History Model**

<table>
<thead>
<tr>
<th>Learning Stages</th>
<th>Learning activities</th>
<th>Competences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1:</td>
<td>• Lecturer explains present problems as the main topic of learning</td>
<td>• Remembering and understanding the concept of continuity and discontinuity</td>
</tr>
<tr>
<td>Problem statement</td>
<td>• Lecturer makes a link between the present problems and the past problems</td>
<td></td>
</tr>
<tr>
<td>Stage 2:</td>
<td>• Students discuss the problems collectively</td>
<td>• Apply the concept of continuity and discontinuity</td>
</tr>
<tr>
<td>Deconstruction</td>
<td>• Students compare and analyze the problems in historical perspectives</td>
<td>• Analyzing similarities and differences between the present problems and past problems</td>
</tr>
<tr>
<td></td>
<td>• Students find and describe roots of the problems</td>
<td></td>
</tr>
<tr>
<td>Stage 3:</td>
<td>• Students give critiques to the existing assumptions, perspectives, and concepts based on their findings</td>
<td>• Produce new findings by evaluating old assumptions, perspectives, and concepts based on historical evidence and reasoning</td>
</tr>
<tr>
<td>Construction</td>
<td>• Students construct new assumptions, perspectives, and concepts in looking at the problems</td>
<td></td>
</tr>
<tr>
<td>Stage 4:</td>
<td>• Students articulate and share their findings with other students</td>
<td>• Acknowledge and take ethical aspect of the learning process</td>
</tr>
<tr>
<td>Articulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**The Result of the Development Stage**

The result of expert appraisal and developmental testing proved that the prototype is feasible. The average result of expert appraisal is presented in Table 3.
After expert appraisal, the prototype was tested in small group testing and large group testing, in order to find the consistency of its feasibility. The result of small group testing and large group testing is presented in Table 4.

<table>
<thead>
<tr>
<th>Evaluation Aspect</th>
<th>Result (Average)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Group Testing</td>
<td>Large Group Testing</td>
</tr>
<tr>
<td>Learning Stages</td>
<td>3.25</td>
<td>3.5</td>
</tr>
<tr>
<td>Social system</td>
<td>3</td>
<td>3.25</td>
</tr>
<tr>
<td>Lecturer and student roles</td>
<td>2.75</td>
<td>3.10</td>
</tr>
<tr>
<td>Supporting system</td>
<td>3.25</td>
<td>3.5</td>
</tr>
<tr>
<td>Nurture effects</td>
<td>3</td>
<td>3.10</td>
</tr>
</tbody>
</table>

The result of expert appraisal and development testing has proven the feasibility and consistency of the prototype. It means the prototype could be tested for its effectiveness at the dissemination stage.

**The Result of the Dissemination Stage**

The post-test average score and independent sample t-test score of the control class and the experimental class have proved the effectiveness of the learning model. The results are shown in Tables 5 and 6 below:

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Order Thinking Skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>30</td>
<td>33.17</td>
<td>1.913</td>
<td>.349</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>30</td>
<td>35.73</td>
<td>3.129</td>
<td>.571</td>
</tr>
</tbody>
</table>
The post-test average score showed differences between the control group and the experimental group. The mean of the control group (33.17) was smaller than that of the experimental group (35.73). It proved that the score of experimental group was better than that of the control group. The result of the independent sample t-test is shown in Table 6.

Table 6. The result of independent sample t-test

<table>
<thead>
<tr>
<th>Levene's test for equality of variances</th>
<th>t-test for equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>HOTS</td>
<td>Equal variances assumed</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
</tr>
</tbody>
</table>

The result of the independent sample t-test proved that the control group and experimental group were not an identical population. It showed the sig. value of Levene's test for equality of variances was 0.030 < 0.05. The values proved that the deconstructive learning history model was effective in promoting the students’ HOTS.

Discussion

The presented study discusses a common problem in the development of the HOTS, particularly in the subject of learning history. The student’s challenge is to think beyond the chronological thinking and make connections among historical events in a wider contexts. The problem lies in how students organize their knowledge in its relation to time perceptions and historical sequences. This problem is similar to the time orientation problem found by Weay and Masood (2014) in the context of learning history in Malaysia.

Moreover, as stressed by Seixas (2017), the authors also found local problems related to students’ passive learning attitude, which was constructed by the students’ assumption of historical data in learning history. The students tend to acquire all historical data and do not have a path to retrace and organize all the
historical data acquired during the learning process. The facts that there were differences in the HOTS levels among the students in one classroom, as an epistemic community that intermingled and received the same knowledge, reflected the uniqueness and locality aspect in the development of HOTS. Furthermore, it reflects the importance of a learning path as the student’s cognitive ability to organize their existing knowledge as well as their new knowledge that affects their cognitive level.

The presented study confirms the importance of the learning model in promoting HOTS. It means, as stressed by Collins (2014) and Budsankom, Sawaboon, Darongpanit, and Chuensiringmokol (2015), that the learning model becomes a fundamental aspect in developing HOTS. This can also be perceived in line with an attempt to transform Bloom’s taxonomy into classroom practice in the form of the students’ activities (Mulcare & Shwedel, 2017; Shalaby & Milad, 2017).

Our empirical study proved that the deconstructive learning model affects the level of students’ HOTS. The result of the summative evaluation showed the effectiveness of the learning model in promoting students’ HOTS. The learning model could solve the problems of time orientation and students’ passive attitude. The learning model improves students’ HOTS by providing learning stages that not only emphasize chronological perspectives but also critically force students to retrace historical data at each learning stage, from problem statement, through deconstruction, and construction, to articulation. In line with Duch (2001) and Pritchard and Woolard (2003), the present problem could be posited as the main topic in learning history to reverse the chronological thinking of the student. It is added to the concept of continuity and discontinuity as basic thinking to understand the past. Furthermore, the deconstructive and genealogical approaches are imparted as a heuristic component in the learning model and it proved effectively helpful to the students in the deep analysis of problems. In other words, the learning model acted like modeling for students’ activity and a medium of scaffolding to achieve the HOTS of students.

In the context of education theory, this research continues Usher and Edward (2003) and Walshaw’s (2007) ideas to use Derrida’s and Foucault’s thought in the educational field. They theoretically focused on the positions of deconstruction in the matter with subjectivity and individualism of students’ construction in modern times. This research puts forward a supportive finding that the processes of analysis and evaluation, as well as creativity, do not merely depend on students’ authentication and subjectivity but are also affected by students’ contiguity with others. The students’ contiguity was shown during their activities at the deconstruction stage. At that stage, the students showed the need to collaborate with
others to solve difficult problems. Moreover, at the articulation stage, the students personally learned to accept and take the ethical aspect from the argumentations and critiques of others. The students’ activities reflecting the process of knowledge construction depends on the presence of others, who scaffold them in reaching the highest level of learning. Moreover, the mixture of personal and collective action at the learning stages contribute to the development of HOTS by producing an awareness of others. The authors argue that the HOTS is composed by the aspect of students’ subjectivity and the awareness of the presence of others. Thus, the learning model plays a role in decentering the notion of authentication and subjectivity in the learning process as well as reinforcing the understanding of others’ influence on students’ subjectivity.

Based on the above discussion, the authors agree that the learning model should be intensively developed in future research by considering other learning components, such as curriculum (Casagrand & Semsar, 2017), learning theory and practices (Ganapathy, Singh, Kaur, & Kit, 2014), and technologizing university (Hopson, Simms, & Knezek, 2001; Bolton, 2006). Thus, following Drake and Brown’s (2003) holistic approach, the development of HOTS could be systematically implemented in all the aspect of the higher education learning system.

**Conclusion and Recommendations**

The result of the research reflects the importance of the learning model in the development of the HOTS. Our research proves that the deconstructive learning model is effective in promoting students’ HOTS. The learning model could solve two problems in the development of the HOTS: time orientation and students’ passive attitude. Thus, the development of the learning model should be intensively developed in future research. However, this notion should be followed by other elements in the university, such as curriculum and policy as well as lecturer training and student learning support programs, thus, students’ HOTS could be more systematically promoted.

**References**


Mulcare, D., & Shwedel, A. (2017, April 3). Transforming Bloom’s taxonomy into class-


New Educational Review
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Country: Poland - SIR Ranking of Poland

Subject Area and Category: Social Sciences - Education

Publisher: Adam Marszalek Publishing House

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ISSN: 17326729

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Scope: The New Educational Review is a journal that has been founded by the faculties of education from the following universities: University of Silesia in Katowice (Poland), Matej Bel University in Banská Bystrica (Slovak Republic) and University of Ostrava (Czech Republic). The deans and vice-deans of the pedagogical faculties of the universities mentioned above create associate Editors board. The main seat of editorial board is placed at the Faculty of Education and Psychology in University of Silesia in Poland.

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Citations per document

SJR
Dear Asnawi Muslem

The two years line is equivalent to journal impact factor (Thomson Reuters) metric.

<table>
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Dear Editor of TNER,

We wish to submit an original research article entitled “The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students” for consideration by The New Educational Review.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

We have no conflicts of interest to disclose.

We declare that no funding has been received for research and publication.

Thank you very much

Best regards from Solo, Indonesia

Dr. Leo Agung Sutimin, M.Pd.
Prof. Dr. Hermanu Joebagio, M.Pd.
Prof. Dr. Sariyatun, M.Pd., M.Hum.
Nur Fatah Abidin, S.Pd., M.Pd.
History Education Department of Sebelas Maret University, Solo, Indonesia

2 attachments

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Dear Authors,

please find the enclosed review of your manuscript sent to The New Educational Review. The reviewers suggest an improving of the manuscript.

Sincerely,

Full Professor Stanislaw Juszczyk
Editor in Chief of The New Educational Review
www.educationalrev.us.edu.pl

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Deconstructive model -2018.docx
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Reviewer’s form

**Paper code:** _______  **Title:** The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students

In order to rate please mark an item from 1 (lowest or worst) to 5 (highest or best):

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<td>Is the length of the paper limited to 25,000 of characters with spaces, tables and figures?</td>
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**TOTAL SCORE:** 42

Does the manuscript require language correction? | NO ☒ | YES ☐ |  

**What are the main values of the paper?** The article deals with the classic and still very important problem concerning how to change the passive attitude of the student (receiving historical information and simply remembering them) into active one (creative use of knowledge). The authors review current approaches to Higher Order Thinking Skill (HOTS) and propose their own history learning model. The research and its results have been presented in a transparent and logical way.

**What are the main weaknesses of the paper?** I wish the article did not contain qualitative interview data on HOTS contexts. It is the knowledge of unique aspects that could bring something significantly new to our image of learning levels. The main weakness of the text is...
a brief, even similar to an index, presentation manner of the theory. It is not clear how the ideas of Vygotsky, Derrida, Foucault and others were used. In the text they appear as ornaments or, at best, footnotes. Meanwhile, their ideas are ambiguous and not straightforward. There are also no significant traces of their thoughts in the proposed model. It’s possible there are such connections, but the authors have not shown it. The core of the problem is how we understand “analysis”, “evaluation”, “creativity” or “deconstruction” in human thinking. For these reasons, I find this article as just a report of local empirical research confirming the obvious truth that collective discussions, analyzing assumptions and learning of articulation are better than remembering information.

**Suggestions to authors** (corrections, changes, complements etc.): I suggest a theoretical deepening according to previous comments.

**Reviewer’s recommendation** (please mark):

- Accept without modifications
- Accept after specified revisions
- Revise and resubmit
- Reject with encouragement to submit to another journal

**The paper should be published as:**

- Research paper
- Essay
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- Review of book
- Information
Revised Manuscript - Leo Agung et.al. - The Development of Deconstructive Learning History Model

Nur Fatah Abidin <nurfatahabidin@student.uns.ac.id>  
To: stanislaw.juszczyk@us.edu.pl  
Wed, Jan 10, 2018 at 12:12 PM

Re: Revision of manuscript "The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students"

Dear editor and reviewers of TNER,

Thank you for the opportunity to revise our manuscript. We appreciate the careful review and constructive suggestions.

There are two attachments files:

1. File of Revision Letter, consist of the authors' responses and revisions through the reviewer's comment, and revised manuscript with the detail of revisions highlighted with green marks.

2. File of Revised Manuscript

The revision has been developed in consultation with all authors and coauthors, and each author has given approval to the final form of this revision.

Sincerely,

Dr. Leo Agung Sutimin, M.Pd.
Prof. Dr. Hermanu Joebagio, M.Pd.
Prof. Dr. Sariyatun, M.Pd., M.Hum.
Nur Fatah Abidin, S.Pd., M.Pd.
History Education Department of Sebelas Maret University
Surakarta, Indonesia

2 attachments

1. Revision Letter - Leo Agung S et.al - The Development of Deconstructive Learning History Model.docx  
51K

2. Revised Manuscript - Leo Agung S et al - The Development of Deconstructive Learning History Model.doc  
192K
Dear editor and reviewers of TNER,

Thank you for the opportunity to revise our manuscript, entitled The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students. We appreciate the careful review and constructive suggestions.

Following this letter are the reviewer’s comments with our responses and revisions highlighted with green marks. The revision has been developed in consultation with all authors and coauthors, and each author has given approval to the final form of this revision.

Sincerely,

Dr. Leo Agung Sutimin, M.Pd.
Prof. Dr. Hermanu Joebagio, M.Pd.
Prof. Dr Sariyatun, M.Pd., M.Hum.
Nur Fatah Abidin, S.Pd., M.Pd.
History Education Department of Sebelas Maret University
Surakarta, Indonesia
Points of Revisions

1. The qualitative interview data on HOTS contexts

The reviewer comments and suggestion:
I wish the article did not contain qualitative interview data on HOTS contexts. It is the knowledge of unique aspects that could bring something significantly new to our image of learning level.

The authors’ revision:
The qualitative interview data is written in the subchapter “The Finding of Define Stages”. The authors have rewritten the qualitative interview data as follow:

“The authors found several of students’ characteristic in the classroom. The majority of students mostly reiterate historical data and information that was presented during the learning process as the construction of their historical argumentation and reasoning. They had an assumption that all of the historical data, which were presented in the classroom, were generally true. Meanwhile, some of the students not only reiterate but also tried to use historical data, whether it was partially or fully, to construct their historical argumentation and reasoning. However, the students had a tendency to emphasize the chronological aspect of the historical events explanation. The authors also found that few students were able to produce argumentation or historical reasoning based on their analysis and evaluation of historical data. From those data, the authors highlighted the differences in students’ abilities are affected by how the students organize their existing as well as new knowledge during the learning process.”

2. The use of Vygotsky, Derrida, and Foucault ideas on the proposed model

The reviewer comments and suggestion:
It is not clear how the ideas of Vygotsky, Derrida, Foucault, and others were used.

The authors’ revision:
The authors already mentioned how the ideas of Vygotsky and others were adopted in the proposed model, precisely on the sub chapter “The Design Stage”. The Vygotsky idea was adopted in the design of social system. Meanwhile, the Derrida and Foucault ideas were adopted as heuristic tool in problem based learning activity. For more detail, thus, the authors more highlighted the ideas in two paragraphs as follows:

“The framework of the prototype of learning model was generated from revised Bloom’s taxonomy (Anderson & Anderson, 2001), the six-levels of historical thinking (Seixas, Morton, Colyer, & Fornazzari, 2013), and the adaptation of taxonomy in learning history (Weay, Masood, & Abdullah, 2016). Vygotsky’s (1986) approach, particularly the concept of scaffolding, was adopted to design the social system of the learning model, in order to help the students to reach their zone of proximal development by providing a space for collective discussion, problems solving, and articulate their finding in the classroom. The authors also adopted problem-based learning (PBL) in contextualizing the learning model. PBL could improve HOTS by posing present and complex problems to solve (Tan, Chye, & Teo, 2009; Duch, 2001), which in the context of learning history must be interrelated with historical events in the past (White, 2008). Meanwhile, the deconstruction approaches of Derrida (1997) and the concept of continuity and discontinuity of Foucault (1972) were adopted as a tool of heuristic phase to analyze the genealogy of the present problems in the past. It affected the design of learning stages that emphasize on the profound analysis of genealogy of problems in order to find a new concept or argumentation from its process.”
3. The trace of the Derrida and Foucault thought in proposed model

The reviewer comments and suggestion:

*There are also no significant traces of their thoughts in the proposed model*

The authors’ revision:

The authors added two citations regarding the reviewer’s comment to describe the traces of Derrida and Foucault’s thought, especially in the educational field. The citations are the work of Usher & Edward (2003), *Postmodernism and Education: Different Voices, Different Worlds*, andWalshaw’s work (2007), *Working with Foucault in Education*. The citations are located in the discussion section:

>“In the context of education theory, this research continues Usher and Edward (2003) and Walshaw’s (2007) ideas to use Derrida and Foucault’s thought in the educational field. They theoretically focused on the positions of deconstruction in the matter with subjectivity and individualism on the student’s construction in modern times.”

4. The theoretical deepening in the concept of analysis, evaluation, creativity, and deconstruction

The reviewer comments and suggestion:

*The core of the problem is how we understand “analysis”, “evaluation”, “creativity”, or “deconstruction” in human thinking*

The authors’ revision:

Regarding the reviewers' suggestion, the authors are deepening the theoretical discussion on the problem of authentication and subjectivity, which had been highlighted on the Derrida as well as Foucault works. The authors discuss those problems by adding the paragraph in the discussion section:

>“This research put forward a supportive finding that the process of analysis and evaluation, as well as creativity, does not merely depend on the authentication and subjectivity of students but it is also affected by the students’ contiguity with others. Students’ contiguity was shown during their activities in deconstruction stage. In that stage, students showed the need to collaborate with others to solve difficult problems. Moreover, in the articulation stage, the students personally learned to accept and take ethical aspect from argumentations and critiques of others. The students’ activities reflect the process of knowledge construction is depending on the presence of others that scaffold students in reaching the highest level of learning. Moreover, the mixture between personal and collective action in the learning stages had a contribution to the development of HOTS by producing an awareness of other. The authors argue that the HOTS is composed by the aspect of students’ subjectivity and the awareness of others presence. Thus, the learning model takes role in decentering the notion of authentication and subjectivity in the learning process as well as reinforcing the understanding of others influence in students’ subjectivity.”

The next pages show the full version of the revised manuscript. The author’s revisions are highlighted with the green mark.
The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students

Dr. Leo Agung Sutimin, M.Pd.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
leoagung@staff.uns.ac.id

Prof. Dr. Hermanu Joebagio, M.Pd.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
hermanu.joebagio@staff.uns.ac.id

Prof. Dr. Sariyatun, M.Pd., M.Hum.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
sariyatun@staff.uns.ac.id

Nur Fatah Abidin, S.Pd., M.Pd.
Postgraduate Student, Postgraduate Program of History Education Department, Sebelas Maret University, Indonesia, nurfatahabidin@student.uns.ac.id

Abstract

This research develops a deconstructive learning history model to promote the Higher Order Thinking Skill (HOTS) of university students. Following Thiagarajan, Semmel, & Semmel’s (1974) approach, the model was developed in four stages: define, design, development, and dissemination. The research participants are 120 students of History Education Department, Sebelas Maret University, Indonesia. The authors found the main problems related to the aspects of chronological thinking, passive attitude of students, and the availability of learning path. Based on those problems, the author designed a deconstructive learning history model, consists of four learning stages: problem statements, deconstruction, construction, and articulation. In the development and summative evaluation stages, the learning model proved feasible and effective in promoting the HOTS, thus, the learning model can solve the problems of time orientation and students passive attitude. Considering the finding and result of research, the authors mention a notion that the learning model becomes a decisive factor in provoking the students to reach the higher cognitive level in Bloom’s taxonomy.

Keywords: Higher order thinking skill, learning history, learning model, deconstructive
Introduction

One of the primary objectives of higher education learning system in the 21st century is to develop higher order thinking skill (HOTS) of students (Collins, 2014). The HOTS can be defined in the framework of cognitive level of Bloom’s taxonomy (1965), which later has been revised by Anderson and Anderson (2001). The HOTS is achieved when the student reached three high levels in the cognitive domain: analyze, evaluate, and create (Yen & Halili, 2015).

In learning history, HOTS is similar to the concepts of historical thinking and history reasoning skill (Drie & Boxtel, 2007; Ercikan & Seixas, 2011). Some researchers, who concerned on the development of learning history process, have developed their own concepts, whether those are intertwined or unrelated to the Bloom’s framework.

Seixas, Morton, Colyer, and Formazzari (2013) constructed six levels of historical thinking, encompassing establishment of historical significance, using primary source evidence, identifying continuity and change, analyzing cause and consequence, taking historical perspectives, and understanding the ethical dimension of historical interpretations. In the same spirits, Masood, and Abdullah (2016) adapted Bloom’s taxonomy for assessment purposes in learning history. They generated six levels of taxonomy encompassing example, pre-structural, uni-structural, multi-structural, relational and extended abstract.

Although HOTS theoretically has been described, however, in many practical cases, HOTS is hard to be achieved. Weay and Masood (2014) stressed the problem in promoting HOTS, which ironically lies on time orientation paradigm of teachers and students that emphasize on memorizing the chronologic. Meanwhile, Seixas (2017) mentioned local problems, which relate to the differences of temporal orientation, learning environment condition, and the uniqueness of students and teachers.

In facing those problems, some of the researchers had been trying to promote HOTS by developing the role of teachers (Dorren, 2004), the students activity (Pattiz, 2004), the student examination (Demircioglu, 2009), or the students educational experiences (Kim & Seo, 2015). Meanwhile, Drake and Brown (2003) suggested a systematic way by emphasizing the enrichment of learning material and using more than one book reference to present more perspective in the classroom.

Following those endeavors, this research takes another approach by designing a deconstructive learning history model. The basic idea is to transform Bloom’s taxonomy into a learning model that consists of classroom practice and students activities. Following Joyce, Weil, and Calhoun (1972) work, the authors believe that the learning model becomes one of the exponents in the development of HOTS. The design of learning stages should support the students to mastering each level of taxonomy by providing a learning path.

Research Method

The design of instructional development by Thiagarajan, Semmel and Semmel’s (1974) was adopted to develop a deconstructive learning history model. The authors modified the design according to the local condition and research purposes. In the define stage, the authors focused on the problems and analysis of students characteristic related to their level of HOTS. The design stage was focused to generate the prototype of deconstructive learning history model in form of learning stages. The development stage consisted of two steps: expert appraisal and developmental testing. The small group and large group testing were used in the developmental testing to measure feasibility and consistency of the learning model. The last stage was dissemination, consists of summative evaluation to prove the effectiveness of learning model in promoting HOTS of students.
The research participants were 120 students of History Education Department, Sebelas Maret University, Surakarta, Indonesia. The data were collected by interview, open questionnaires, feasibility form, and HOTS’s test. In the define stages, 30 students were interviewed and filled the questionnaire in order to find the problems and contextual factors that influence the level of students’ HOTS. In the development stages, the feasibility form was used to collect responses from experts and students in expert appraisal, small group testing, and large group testing. The feasibility form consisted of the holistic indicator of learning model that arranged by Joyce and Weil (1972), encompassing learning stages, social system, lecturer and students role, supporting system, and nurture effects. The feasibility of the prototype was measured according to these criteria:

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<td>1.76 – 2.50</td>
<td>Feasible enough</td>
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<td>1.00 – 1.75</td>
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In the summative evaluation, 60 students were involved to measure the effectiveness of learning model. They divided into control group and experimental group, each group consists of 30 students. In this stage, the HOTS’s test was used with t-test analysis to measure the effectiveness of learning model. The HOTS’s test was designed by the authors following the revised of cognitive level of Bloom’s taxonomy, the six-level of historical thinking, and the adaptation of Bloom’s taxonomy in learning history. The authors then generated the indicators into a questionnaire and validated it by the SPSS 17.0 program.

**The Findings and Results of Research**

**The Findings of Define Stage**

The authors found several of students’ characteristic in the classroom. The majority of students mostly reiterate historical data and information that was presented during the learning process as the construction of their historical argumentation and reasoning. They had an assumption that all of the historical data, which were presented in the classroom, were generally true. Meanwhile, some of the students not only reiterate but also tried to use historical data, whether it was partially or fully, to construct their historical argumentation and reasoning. However, the students had a tendency to emphasize the chronological aspect of the historical events explanation. The authors also found that few students were able to produce argumentation or historical reasoning based on their analysis and evaluation of historical data. From those data, the authors highlighted the differences in students’ abilities are affected by how the students organize their existing as well as new knowledge during the learning process.

**The Design Stage**

The findings of define stage become an empirical foundation to design a deconstructive learning history model. The framework of the prototype of learning model was generated from revised Bloom’s taxonomy (Anderson & Anderson, 2001), the six-levels of historical thinking (Seixas, Morton, Colyer, & Fornazzari, 2013), and the adaptation of taxonomy in learning history (Weay, Masood, & Abdullah, 2016). Vygotsky’s (1986) approach, particularly the concept of scaffolding, was adopted to design the social system of the learning model, in order to help the students to reach their zone of proximal development by...
providing a space for collective discussion, problems solving, and articulate their finding in the classroom.

The authors also adopted problem-based learning (PBL) in contextualizing the learning model. PBL could improve HOTS by posing present and complex problems to solve (Tan, Chye, & Teo, 2009; Duch, 2001), which in the context of learning history must be interrelated with historical events in the past (White, 2008). Meanwhile, the deconstruction approaches of Derrida (1997) and the concept of continuity and discontinuity of Foucault (1972) were adopted as a tool of heuristic phase to analyze the genealogy of the present problems in the past. It affected the design of learning stages that emphasize on the profound analysis of genealogy of problems in order to find a new concept or argumentation from its process. The prototype of deconstructive learning history model is as follow:

### Tabel 2. Prototype of Deconstructive Learning History Model

<table>
<thead>
<tr>
<th>Learning Stages</th>
<th>Learning activities</th>
<th>Competencies</th>
</tr>
</thead>
</table>
| Stage 1: Problem statements | • Lecturer explains present problems as the main topic of learning  
• Lecturer makes a link between the present problems and the past problems | • Remembering and understanding the concept of continuity and discontinuity |
| Stage 2: Deconstruction | • Students discuss the problems collectively  
• Students compare and analyze the problems in historical perspectives  
• Students find and describe roots of the problems. | • Apply the concept of continuity and discontinuity.  
• Analyzing the similarity and differences between the present problems and past problems |
| Stage 3: Construction | • Students give critiques to the existing assumption, perspectives, and concepts based on their findings  
• Students construct new assumptions, perspectives, and concepts in looking at the problems. | • Produce new findings by evaluating old assumptions, perspectives, and concepts based on historical evidence and reasoning |
| Stage 4: Articulation | • Students articulate and share their findings with other students | • Acknowledge and take ethical aspect of the learning process |

### The Result of Development Stage

The result of experts’ appraisal and developmental testing proved that the prototype is feasible. The average result of expert appraisal can be seen in table 3 below:

### Tabel 3. The result of expert appraisal

<table>
<thead>
<tr>
<th>Evaluation Aspect</th>
<th>Result average</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Stages</td>
<td>3.0</td>
<td>Feasible</td>
</tr>
<tr>
<td>Social system</td>
<td>3.16</td>
<td>Feasible</td>
</tr>
<tr>
<td>Lecturer and students role</td>
<td>2.73</td>
<td>Feasible</td>
</tr>
<tr>
<td>Supporting system</td>
<td>3.16</td>
<td>Very Feasible</td>
</tr>
<tr>
<td>Nurture effects</td>
<td>2.66</td>
<td>Feasible</td>
</tr>
</tbody>
</table>

After experts’ appraisal, the prototype was tested in small group testing and large group testing, in order to know the consistency of its feasibility. The result of small group testing and large group testing is represented in table 4 below:
Tabel 4. The result of developmental testing

<table>
<thead>
<tr>
<th>Evaluation Aspect</th>
<th>Result (Average)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Group Testing</td>
<td>Large Group Testing</td>
</tr>
<tr>
<td>Learning Stages</td>
<td>3.25</td>
<td>3.5</td>
</tr>
<tr>
<td>Social system</td>
<td>3</td>
<td>3.25</td>
</tr>
<tr>
<td>Lecturer and students role</td>
<td>2.75</td>
<td>3.10</td>
</tr>
<tr>
<td>Supporting system</td>
<td>3.25</td>
<td>3.5</td>
</tr>
<tr>
<td>Nurture effects</td>
<td>3</td>
<td>3.10</td>
</tr>
</tbody>
</table>

The result of expert appraisal and developmental testing has proven the feasibility and consistency of the prototype. It means the prototype could be tested for its effectiveness in the dissemination stage.

The Result of Dissemination Stage

The post-test average score and independent sample t-test score of the control class and the experimental class have proved the effectiveness of learning model. The results can be seen in table 5 and 6 below:

Tabel 5. The post-test average score

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Class</td>
<td>30</td>
<td>33.17</td>
<td>1.913</td>
<td>.349</td>
</tr>
<tr>
<td>Experimental Class</td>
<td>30</td>
<td>35.73</td>
<td>3.129</td>
<td>.571</td>
</tr>
</tbody>
</table>

The post-test average score showed the differences between the control class and the experimental class. Mean of the control class (33.17) was smaller than the experimental class (35.73). It proved that the score of experiment class was better than control class. Meanwhile, the result of independent sample t-test showed in table 6 below:

Tabel 6. The result of independent sample t-test

<table>
<thead>
<tr>
<th>Levene’s test for equality of variances</th>
<th>t-test for equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>HOTS Equal variances assumed</td>
<td>4.980</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-3.833</td>
</tr>
</tbody>
</table>

The result of independent sample t-test proved that the control class and experimental class had not been an identical population. It showed in the sig. value of Levene’s test for equality of variances was 0.030 < 0.05. The values proved that deconstructive learning history model was effective in promoting HOTS of students.

Discussion

This study is reflecting a common problem in the development of HOTS, particularly on the subject of learning history. The student’s challenge is to think beyond of the chronological thinking and make connections among historical events in the wider contexts. The problem lies in how the students organize their knowledge in its relation to time.
perceptions and historical sequences. This problem is similar to the time orientation problem found by Weay and Masood (2014) in the context of Malaysian’s learning history.

Meanwhile, as stressed by Seixas (2017), the authors also found local problem relates to the passive learning attitude of students, which was constructed by the students’ assumption of historical data in learning history. The students tend to receive all historical data and did not have a path to retrace and organize all of the historical data that had been accepted during the learning process. The facts that there were differences of HOTS’s level among the students in one classroom, as an epistemic community that intermingled and received same knowledge, had reflected a uniqueness and locality aspect in the development of HOTS. Furthermore, it is reflecting the importance of learning path as student’s cognitive ability to organize their existing knowledge as well as their new knowledge that affects the cognitive level of the students.

This study is confirming the importance of learning model in promoting HOTS. It means, as stressed by Collins (2014) and Budsankom, Sawaboon, Daronpanit, and Chuensringmokol’s (2015), the learning model becomes fundamental aspect in developing HOTS. This also can be perceived in line with an attempt to transform the Bloom’s taxonomy into classroom practice in form of the students’ activities (Mulcare & Shwedel, 2017; Shalaby & Milad, 2017).

Our empirical study proved that the deconstructive learning model affects the level of students HOTS. The result of the summative evaluation showed the effectiveness of the learning model in promoting HOTS of students. The learning model could solve the problems of time orientation and students passive attitude. The learning model improves HOTS of students by providing learning stages that not only emphasize on chronological perspectives but also critically force students to retrace historical data in each learning stages from problems statements, deconstruction, construction, and articulation. In line with Duch (2001) and Pritchard and Woolard (2003), the present problem could be posited as the main topic in learning history to reverse the chronological thinking of the student. It is added by the concept of continuity and discontinuity as a basic thinking to understand the past. Meanwhile, the deconstructive and genealogical approaches are imparted as a heuristic component in the learning model and it proved effectively help the students to analyze problems deeply. In other words, the learning model acted like modeling for students’ activity and a medium of scaffolding to achieve HOTS of students.

In the context of education theory, this research continues Usher and Edward (2003) and Walshaw’s (2007) ideas to use Derrida and Foucault’s thought in the educational field. They theoretically focused on the positions of deconstruction in the matter with subjectivity and individualism of students’ construction in modern times. This research put forward a supportive finding that the process of analysis and evaluation, as well as creativity, does not merely depend on the authentication and subjectivity of students but it is also affected by the students’ contiguity with others. Students’ contiguity was shown during their activities in deconstruction stage. In that stage, students showed the need to collaborate with others to solve difficult problems. Moreover, in the articulation stage, the students personally learned to accept and take ethical aspect from argumentations and critiques of others. The students’ activities reflect the process of knowledge construction is depending on the presence of others that scaffold students in reaching the highest level of learning. Moreover, the mixture between personal and collective action in the learning stages had a contribution to the development of HOTS by producing an awareness of other. The authors argue that the HOTS is composed by the aspect of students’ subjectivity and the awareness of others presence. Thus, the learning model takes role in decentering the notion of authentication and subjectivity in the learning process as well as reinforcing the understanding of others influence in students’ subjectivity.
Based on the discussion above, the authors agree that the learning model should be intensively developed in future research by considering the other learning components, such as curriculum (Casagrand & Semsar, 2017), learning theory and practices (Ganapathy, Singh, Kaur, & Kit, 2014), and technologizing university (Hopson, Simms, & Knezek, 2001; Bolton, 2006). Thus, following Drake and Brown’s (2003) holistic approach, the development of HOTS could be systematically implemented in all aspect of higher education learning system.

**Conclusion and Recommendations**

The result of the research is reflecting the importance of learning model in the development of HOTS. Our research proves that the deconstructive learning model is effective in promoting the HOTS of students. The learning model could solve two problems in the development of HOTS: time orientation and students’ passive attitude. Thus, the development of learning model should be intensively developed in the future research. However, this notion should be followed by other elements in the university, such as curriculum and policy as well as lecturer’s training and students’ learning support programs, thus, the HOTS of the students could be more systematically promoted.

**References**


The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students

Dr. Leo Agung Sutimin, M.Pd.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
leoagung@staff.uns.ac.id

Prof. Dr. Hermanu Joebagio, M.Pd.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
hermanu.joebagio@staff.uns.ac.id

Prof. Dr. Sariyatun, M.Pd., M.Hum.
Lecturer, History Education Department, Sebelas Maret University, Indonesia
sariyatun@staff.uns.ac.id

Nur Fatah Abidin, S.Pd., M.Pd.
Postgraduate Student, Postgraduate Program of History Education Department, Sebelas Maret University, Indonesia, nurfatahabidin@student.uns.ac.id

Abstract

This research develops a deconstructive learning history model to promote the Higher Order Thinking Skill (HOTS) of university students. Following Thiagarajan, Semmel, & Semmel’s (1974) approach, the model was developed in four stages: define, design, development, and dissemination. The research participants are 120 students of History Education Department, Sebelas Maret University, Indonesia. The authors found the main problems related to the aspects of chronological thinking, passive attitude of students, and the availability of learning path. Based on those problems, the author designed a deconstructive learning history model, consists of four learning stages: problem statements, deconstruction, construction, and articulation. In the development and summative evaluation stages, the learning model proved feasible and effective in promoting the HOTS, thus, the learning model can solve the problems of time orientation and students passive attitude. Considering the finding and result of research, the authors mention a notion that the learning model becomes a decisive factor in provoking the students to reach the higher cognitive level in Bloom’s taxonomy.

Keywords: Higher order thinking skill, learning history, learning model, deconstructive
Introduction

One of the primary objectives of higher education learning system in the 21st century is to develop higher order thinking skill (HOTS) of students (Collins, 2014). The HOTS can be defined in the framework of cognitive level of Bloom’s taxonomy (1965), which later has been revised by Anderson and Anderson (2001). The HOTS is achieved when the student reached three high levels in the cognitive domain: analyze, evaluate, and create (Yen & Halili, 2015).

In learning history, HOTS is similar to the concepts of historical thinking and history reasoning skill (Dri & Boxtel, 2007; Ercikan & Seixas, 2011). Some researchers, who concerned on the development of learning history process, have developed their own concepts, whether those are intertwined or unrelated to the Bloom’s framework.

Seixas, Morton, Colyer, and Fornazzari (2013) constructed six levels of historical thinking, encompassing establishment of historical significance, using primary source evidence, identifying continuity and change, analyzing cause and consequence, taking historical perspectives, and understanding the ethical dimension of historical interpretations. In the same spirits, Masood, and Abdullah (2016) adapted Bloom’s taxonomy for assessment purposes in learning history. They generated six levels of taxonomy encompassing example, pre-structural, uni-structural, multi-structural, relational and extended abstract.

Although HOTS theoretically has been described, however, in many practical cases, HOTS is hard to be achieved. Weay and Masood (2014) stressed the problem in promoting HOTS, which ironically lies on time orientation paradigm of teachers and students that emphasize on memorizing the chronologic. Meanwhile, Seixas (2017) mentioned local problems, which relate to the differences of temporal orientation, learning environment condition, and the uniqueness of students and teachers.

In facing those problems, some of the researchers had been trying to promote HOTS by developing the role of teachers (Dorren, 2004), the students activity (Pattiz, 2004), the student examination (Demircioglu, 2009), or the students educational experiences (Kim & Seo, 2015). Meanwhile, Drake and Brown (2003) suggested a systematic way by emphasizing the enrichment of learning material and using more than one book reference to present more perspective in the classroom.

Following those endeavors, this research takes another approach by designing a deconstructive learning history model. The basic idea is to transform Bloom’s taxonomy into a learning model that consists of classroom practice and students activities. Following Joyce, Weil, and Calhoun (1972) work, the authors believe that the learning model becomes one of the exponents in the development of HOTS. The design of learning stages should support the students to mastering each level of taxonomy by providing a learning path.

Research Method

The design of instructional development by Thiagarajan, Semmel and Semmel’s (1974) was adopted to develop a deconstructive learning history model. The authors modified the design according to the local condition and research purposes. In the define stage, the authors focused on the problems and analysis of students characteristic related to their level of HOTS. The design stage was focused to generate the prototype of deconstructive learning history model in form of learning stages. The development stage consisted of two steps: expert appraisal and developmental testing. The small group and large group testing were used in the developmental testing to measure feasibility and consistency of the learning model. The last stage was dissemination, consists of summative evaluation to prove the effectiveness of learning model in promoting HOTS of students.
The research participants were 120 students of History Education Department, Sebelas Maret University, Surakarta, Indonesia. The data were collected by interview, open questionnaires, feasibility form, and HOTS’s test. In the define stages, 30 students were interviewed and filled the questionnaire in order to find the problems and contextual factors that influence the level of students’ HOTS. In the development stages, the feasibility form was used to collect responses from experts and students in expert appraisal, small group testing, and large group testing. The feasibility form consisted of the holistic indicator of learning model that arranged by Joyce and Weil (1972), encompassing learning stages, social system, lecturer and students role, supporting system, and nurture effects. The feasibility of the prototype was measured according to these criteria:

<table>
<thead>
<tr>
<th>Range</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.26 – 4.00</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.51 – 3.25</td>
<td>Feasible</td>
</tr>
<tr>
<td>1.76 – 2.50</td>
<td>Feasible enough</td>
</tr>
<tr>
<td>1.00 – 1.75</td>
<td>Not feasible</td>
</tr>
</tbody>
</table>

In the summative evaluation, 60 students were involved to measure the effectiveness of learning model. They divided into control group and experimental group, each group consists of 30 students. In this stage, the HOTS’s test was used with t-test analysis to measure the effectiveness of learning model. The HOTS’s test was designed by the authors following the revised of cognitive level of Bloom’s taxonomy, the six-level of historical thinking, and the adaptation of Bloom’s taxonomy in learning history. The authors then generated the indicators into a questionnaire and validated it by the SPSS 17.0 program.

The Findings and Results of Research

The Findings of Define Stage

The authors found several of students’ characteristic in the classroom. The majority of students mostly reiterate historical data and information that was presented during the learning process as the construction of their historical argumentation and reasoning. They had an assumption that all of the historical data, which were presented in the classroom, were generally true. Meanwhile, some of the students not only reiterate but also tried to use historical data, whether it was partially or fully, to construct their historical argumentation and reasoning. However, the students had a tendency to emphasize the chronological aspect of the historical events explanation. The authors also found that few students were able to produce argumentation or historical reasoning based on their analysis and evaluation of historical data. From those data, the authors highlighted the differences in students’ abilities are affected by how the students organize their existing as well as new knowledge during the learning process.

The Design Stage

The findings of define stage become an empirical foundation to design a deconstructive learning history model. The framework of the prototype of learning model was generated from revised Bloom’s taxonomy (Anderson & Anderson, 2001), the six-levels of historical thinking (Seixas, Morton, Colyer, & Fornazzari, 2013), and the adaptation of taxonomy in learning history (Weay, Masood, & Abdullah, 2016). Vygotsky’s (1986) approach, particularly the concept of scaffolding, was adopted to design the social system of the learning model, in order to help the students to reach their zone of proximal development by
providing a space for collective discussion, problems solving, and articulate their finding in the classroom.

The authors also adopted problem-based learning (PBL) in contextualizing the learning model. PBL could improve HOTS by posing present and complex problems to solve (Tan, Chye, & Teo, 2009; Duch, 2001), which in the context of learning history must be interrelated with historical events in the past (White, 2008). Meanwhile, the deconstruction approaches of Derrida (1997) and the concept of continuity and discontinuity of Foucault (1972) were adopted as a tool of heuristic phase to analyze the genealogy of the present problems in the past. It affected the design of learning stages that emphasize on the profound analysis of genealogy of problems in order to find a new concept or argumentation from its process. The prototype of deconstructive learning history model is as follow:

**Tabel 2. Prototype of Deconstructive Learning History Model**

<table>
<thead>
<tr>
<th>Learning Stages</th>
<th>Learning activities</th>
<th>Competencies</th>
</tr>
</thead>
</table>
| Stage 1: Problem statements | • Lecturer explains present problems as the main topic of learning  
|                        | • Lecturer makes a link between the present problems and the past problems | • Remembering and understanding the concept of continuity and discontinuity |
| Stage 2: Deconstruction | • Students discuss the problems collectively  
|                        | • Students compare and analyze the problems in historical perspectives  
|                        | • Students find and describe roots of the problems. | • Apply the concept of continuity and discontinuity.  
|                        |                                                               | • Analyzing the similarity and differences between the present problems and past problems |
| Stage 3: Construction  | • Students give critiques to the existing assumption, perspectives, and concepts based on their findings  
|                        | • Students construct new assumptions, perspectives, and concepts in looking at the problems. | • Produce new findings by evaluating old assumptions, perspectives, and concepts based on historical evidence and reasoning |
| Stage 4: Articulation | • Students articulate and share their findings with other students | • Acknowledge and take ethical aspect of the learning process |

**The Result of Development Stage**

The result of experts’ appraisal and developmental testing proved that the prototype is feasible. The average result of expert appraisal can be seen in table 3 below:

**Tabel 3. The result of expert appraisal**

<table>
<thead>
<tr>
<th>Evaluation Aspect</th>
<th>Result average</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Stages</td>
<td>3.0</td>
<td>Feasible</td>
</tr>
<tr>
<td>Social system</td>
<td>3.16</td>
<td>Feasible</td>
</tr>
<tr>
<td>Lecturer and students role</td>
<td>2.73</td>
<td>Feasible</td>
</tr>
<tr>
<td>Supporting system</td>
<td>3.16</td>
<td>Very Feasible</td>
</tr>
<tr>
<td>Nurture effects</td>
<td>2.66</td>
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</tr>
</tbody>
</table>

After experts’ appraisal, the prototype was tested in small group testing and large group testing, in order to know the consistency of its feasibility. The result of small group testing and large group testing is represented in table 4 below:
Tabel 4. The result of developmental testing

<table>
<thead>
<tr>
<th>Evaluation Aspect</th>
<th>Result (Average)</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small Group Testing</td>
<td>Large Group Testing</td>
</tr>
<tr>
<td>Learning Stages</td>
<td>3.25</td>
<td>3.5</td>
</tr>
<tr>
<td>Social system</td>
<td>3</td>
<td>3.25</td>
</tr>
<tr>
<td>Lecturer and students role</td>
<td>2.75</td>
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</tr>
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<td>3.10</td>
</tr>
</tbody>
</table>

The result of expert appraisal and developmental testing has proven the feasibility and consistency of the prototype. It means the prototype could be tested for its effectiveness in the dissemination stage.

**The Result of Dissemination Stage**

The post-test average score and independent sample t-test score of the control class and the experimental class have proved the effectiveness of learning model. The results can be seen in table 5 and 6 below:

Tabel 5. The post-test average score

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Order Thinking Skill</td>
<td>30</td>
<td>33.17</td>
<td>1.913</td>
<td>.349</td>
</tr>
<tr>
<td>Control Class</td>
<td>30</td>
<td>35.73</td>
<td>3.129</td>
<td>.571</td>
</tr>
</tbody>
</table>

The post-test average score showed the differences between the control class and the experimental class. Mean of the control class (33.17) was smaller than the experimental class (35.73). It proved that the score of experiment class was better than control class. Meanwhile, the result of independent sample t-test showed in table 6 below:

Tabel 6. The result of independent sample t-test

<table>
<thead>
<tr>
<th>Levene’s test for equality of variances</th>
<th>t-test for equality of means</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>4.980</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
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</table>

The result of independent sample t-test proved that the control class and experimental class had not been an identical population. It showed in the sig. value of Levene’s test for equality of variances was 0.030 < 0.05. The values proved that deconstructive learning history model was effective in promoting HOTS of students.

**Discussion**

This study is reflecting a common problem in the development of HOTS, particularly on the subject of learning history. The student’s challenge is to think beyond of the chronological thinking and make connections among historical events in the wider contexts. The problem lies in how the students organize their knowledge in its relation to time
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This study is confirming the importance of learning model in promoting HOTS. It means, as stressed by Collins (2014) and Budsankom, Sawaboon, Darongpanit, and Chuensiringmokol’s (2015), the learning model becomes fundamental aspect in developing HOTS. This also can be perceived in line with an attempt to transform the Bloom’s taxonomy into classroom practice in form of the students’ activities (Mulcare & Shwedel, 2017; Shalaby & Milad, 2017).

Our empirical study proved that the deconstructive learning model affects the level of students HOTS. The result of the summative evaluation showed the effectiveness of the learning model in promoting HOTS of students. The learning model could solve the problems of time orientation and students passive attitude. The learning model improves HOTS of students by providing learning stages that not only emphasize on chronological perspectives but also critically force students to retrace historical data in each learning stages from problems statements, deconstruction, construction, and articulation. In line with Duch (2001) and Pritchard and Woolard (2003), the present problem could be posited as the main topic in learning history to reverse the chronological thinking of the student. It is added by the concept of continuity and discontinuity as a basic thinking to understand the past. Meanwhile, the deconstructive and genealogical approaches are imparted as a heuristic component in the learning model and it proved effectively help the students to analyze problems deeply. In other words, the learning model acted like modeling for students’ activity and a medium of scaffolding to achieve HOTS of students.

In the context of education theory, this research continues Usher and Edward (2003) and Walshaw’s (2007) ideas to use Derrida and Foucault’s thought in the educational field. They theoretically focused on the positions of deconstruction in the matter with subjectivity and individualism of students’ construction in modern times. This research put forward a supportive finding that the process of analysis and evaluation, as well as creativity, does not merely depend on the authentication and subjectivity of students but it is also affected by the students’ contiguity with others. Students’ contiguity was shown during their activities in deconstruction stage. In that stage, students showed the need to collaborate with others to solve difficult problems. Moreover, in the articulation stage, the students personally learned to accept and take ethical aspect from argumentations and critiques of others. The students’ activities reflect the process of knowledge construction is depending on the presence of others that scaffold students in reaching the highest level of learning. Moreover, the mixture between personal and collective action in the learning stages had a contribution to the development of HOTS by producing an awareness of other. The authors argue that the HOTS is composed by the aspect of students’ subjectivity and the awareness of others presence. Thus, the learning model takes role in decentering the notion of authentication and subjectivity in the learning process as well as reinforcing the understanding of others influence in students’ subjectivity.
Based on the discussion above, the authors agree that the learning model should be intensively developed in future research by considering the other learning components, such as curriculum (Casagrand & Semsar, 2017), learning theory and practices (Ganapathy, Singh, Kaur, & Kit, 2014), and technologizing university (Hopson, Simms, & Knezek, 2001; Bolton, 2006). Thus, following Drake and Brown’s (2003) holistic approach, the development of HOTS could be systematically implemented in all aspect of higher education learning system.

Conclusion and Recommendations

The result of the research is reflecting the importance of learning model in the development of HOTS. Our research proves that the deconstructive learning model is effective in promoting the HOTS of students. The learning model could solve two problems in the development of HOTS: time orientation and students’ passive attitude. Thus, the development of learning model should be intensively developed in the future research. However, this notion should be followed by other elements in the university, such as curriculum and policy as well as lecturer’s training and students’ learning support programs, thus, the HOTS of the students could be more systematically promoted.

References


Dear Authors,

I am pleased to inform you that your article titled “The Development of Deconstructive Learning History Model to Promote the Higher Order Thinking Skill of University Students” will be published in The New Educational Review, Vol. 51, No. 1/2018. The issue with your article will be visible within 2 months on journal website: http://www.educationalrev.us.edu.pl/issues/

Respectfully yours,
Anna Brosch, PhD
Executive Editor of The New Educational Review