



## Development of The Integrated Worksheet Based on a Field Trip Aves's Material Topic at Surabaya Zoo To Increase Learning Interest For 10<sup>th</sup> Grade High School Students

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### Abstract

Students' learning interest still needs to be improved, one of the solutions is using the field trip method in a potential learning environment. Surabaya Zoo is a potential learning environment through real objects. The research aimed to produce Integrated Worksheet Based on a Field Trip and describe its validity and practicality. This research was developed used 4D models, without the disseminate stage. The development of the worksheet was conducted in September 2019 to May 2020 at the Biology Department of FMIPA Unesa, while validation and practicality data were collected in May 2020. Validation was carried out by three experts, while practicality was collected through respondents consisting of 5 educational practitioners and 22 students of 10<sup>th</sup> grade high school. The Grasha-Riechmann questionnaire survey was also conducted to determine students' feelings and attitudes through their learning styles. The results showed the validity of the Integrated Worksheet Based on a Field Trip got a score of 4 (very valid) while the practitioner's responses showed the value of mode 4 (very practical) and the results of the students' responses showed an average positive response rate of 91.08% (very good). Based on those results the Integrated Worksheet Based on a Field Trip was declared to be very practical so it's appropriate to use. The most common learning styles among the students according to the Grasha-Riechmann questionnaire were Participant (45.5%) and Collaborative (31.8%).

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## **INTRODUCTION**

One of the learning factors that should be presence in the learning process, is interest. Interest is an attitude of inclination to pay attention and to remember accompanied by a sense of satisfaction and pleasure (Siagian, 2015). Learning that isn't under the student's interest in students will lead to a reluctance to learn (Slameto, 2010), resulting in a sense of dissatisfaction and boredom (Berutu & Tambunan, 2018). Unwillingness to learn can trigger a decrease in the mastery of learning outcomes. Interest is different from motivation. Interest is the tendency to pay attention, remember and want to get involved again with something accompanied by a sense of pleasure. Interest cannot be directly given by others, but rather is formed by oneself from the results of learning (Slameto, 2010). Meanwhile, motivation is an impetus for someone to do something to achieve his goals (Sardiman, 2014). Motivation can come from theirselves or others, so with this motivation can be obtained directly given by others, while interest doesn't.

Animalia's topic is difficult to learn and memorizes so much that students show less interest in the Kingdom Animalia topic compared to other biological material (Sianturi & Gultom, 2016). For these things, the teacher applies a cooperative learning model, which is effective for increasing understanding of difficult concepts that are needed in learning Animalia topic (Rosyidah, 2016). Cooperative learning model applied by teachers in schools was considered ineffective and monotonous so students were not interested in listening to learning so that boredom arose in learning Animalia topic (Nurbaiti et al., 2017). Besides, the lack of media, also play a role cause boredom and reluctance to learn Animalia topics. Media has it function of conveying learning message. The use of appropriate media learning messages can be delivered optimally to achieve learning objectives (Sumiharsono & Hasanah, 2017). One of the learning media that can be used as a learning resource is realia media. Agustina (2018) found that 75% of the respondents' teachers agreed that the realia media was the most suitable for teaching Animalia material topics. Realia media that would stimulate students' senses the possibility of students to understand and remember objects more strongly, last longer and provide direct learning experiences to students (Agustina, 2018). Therefore, Animalia material topic learning used realia media should be reawakened with a different presentation than usual, one of them by using the field trip method.

Field trips defined as all trips held by schools for educational purposes (Morag & Tal, 2012). Learning by the field trip method can create a long-term positive attitude and improve students' classification ability (Pattacini, 2018; Rifqiawati et al., 2017), which becomes the competency in Animalia topic. During field trip method, students have direct experience interacting and observing objects, so the learning process more memorable and would be able to increase students' understanding (Yuliati & Martuti, 2014). This direct experience is valued as a learning experience that gives the most complete and meaningful impression (Kustandi & Sutjipto, 2013). The field trip method is rarely used in schools because it requires more funds than class learning, besides this method can increase students' learning interest (Nadelson & Jordan, 2012), this method So learning Animalia material topic by applying the field trip method can still be applied in learning by considering the intensity of its implementation.

Aves's material topic is a submission in Kingdom Animalia so Aves's material topic is included material that is difficult for students to learn. This can be caused by the media and learning resources that are not suitable for studying Aves's material topic. The media commonly used are students' worksheets. The worksheet used in Aves learning currently contains material and assignments as well as sample pictures so that the worksheet has not been able to help students find the Aves concept, classify Aves and carry out a series of scientific activities. Such worksheets can lead to boredom in learning. Meanwhile, learning resources that are commonly used to study Aves's material topic are the surrounding environment. Unfortunately, the surrounding environment may not necessarily be a source of learning that meets expectations, because there is a possibility that Aves is the object of learning not entirely available in the surrounding environment. According to Rochmadhani et al. (2019), learning in the Mangrove Ecotourism environment there are only four orders of Aves while Aves learning in high school is expected that students will be able to recognize 10 Aves orders (Istighfaroh et al., 2015). With this, specific learning media are needed to guide the achievement of Aves's material topic and the Aves learning environment that provides Aves from 10 orders.

The Surabaya Zoo has 55 species of Aves originating from 12 orders so that it can be a representative learning environment for Aves's material topic (Istighfaroh et al., 2015). Aves's learning topic at the Surabaya Zoo can be done by applying the field trip method. The application of the field trip method that is integrated through the worksheet to support mastery of students' scientific knowledge, mastery of inquiry and scientific attitudes can foster students' learning interest (Nugraheny, 2018). The purpose of this study was to produce Integrated Worksheet Based on a Field Trip for Aves's Material Topic At Surabaya Zoo To Increase Learning Interest For 10<sup>th</sup> Grade High School Students and describe its validity and practicality.

## **RESEARCH METHOD**

This research was developmental research that referred to 4D models (define, design, development, and disseminate) without the disseminate stage. The development of the worksheet was conducted in September 2019 to May 2020 at the Biology Department of Faculty of Mathematics and Natural Science, Universitas Negeri Surabaya, while validation and practicality data were collected in May 2020.

Validation was carried out by three experts, i.e. education expert, media expert and Aves's material topic' expert. The instruments used were validation sheets. Validation was analyzed by quantitative descriptive methods. The worksheet declared to be valid if the mode value was  $\geq 3$ .

The practicality data was collected through respondents' assessments and opinions, consisting of 5 educational practitioners and 22 of 10<sup>th</sup> grade high school students. The instruments used were practitioner's response sheets and response questionnaires for the students. The worksheet declared to be practical if the value of mode of educational practitioners was  $\geq 3$ . The worksheet was to be practical if students respond positively  $\geq 61\%$ .

Students' learning styles also determined by Grasha-Riechmann's questionnaire without distinguishing the respondent's gender. Learning styles consist of independent, avoidant, collaborative, dependent, competitive and participant. Data were analyzed by assessing the tendency of learning styles possessed (İlçin et al., 2018). Learning style trends were calculated through the highest average using the following formula:

$$\text{value} = \frac{\text{Score obtained}}{10}$$







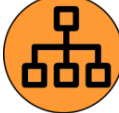


## **RESULTS AND DISCUSSION**

The result of this research was the Integrated Worksheet Based on a Field Trip Aves's Material Topic At Surabaya Zoo To Increase Learning Interest For 10<sup>th</sup> Grade High School Students in two versions. The first version was the Integrated Worksheet Based on a Field Trip for students, and the second version was for the teacher. Generally, the worksheet was composed of an introduction, content and closing section. In students' worksheet, the introduction consisted of preface, table of contents, basic competencies, time allocation, learning objectives, instructions for using the worksheet, Aves at Surabaya Zoo, field trip and learning interest and how to use the worksheet. The contents section consisted of a field trip series activities, namely the pre-trip, field trip and post-trip phases. The closing part consisted of attachments, glossary and bibliography.

Meanwhile, in the teacher worksheet, the introduction consisted of preface, basic competency and indicators, phase of interest and students assignments, time allocation and learning objectives, instructions for using the worksheet, Aves at Surabaya Zoo, field trip and learning interest and how to use the worksheet. The contents section consisted of a field trip series activities, namely the pre-trip, field trip and post-trip phases. In this section also included instructions for activities for teachers so that teachers can guide students to do a field trip series activities using the Integrated Worksheet Based on a Field Trip. Then the closing part consisted of attachments, glossary and bibliography.

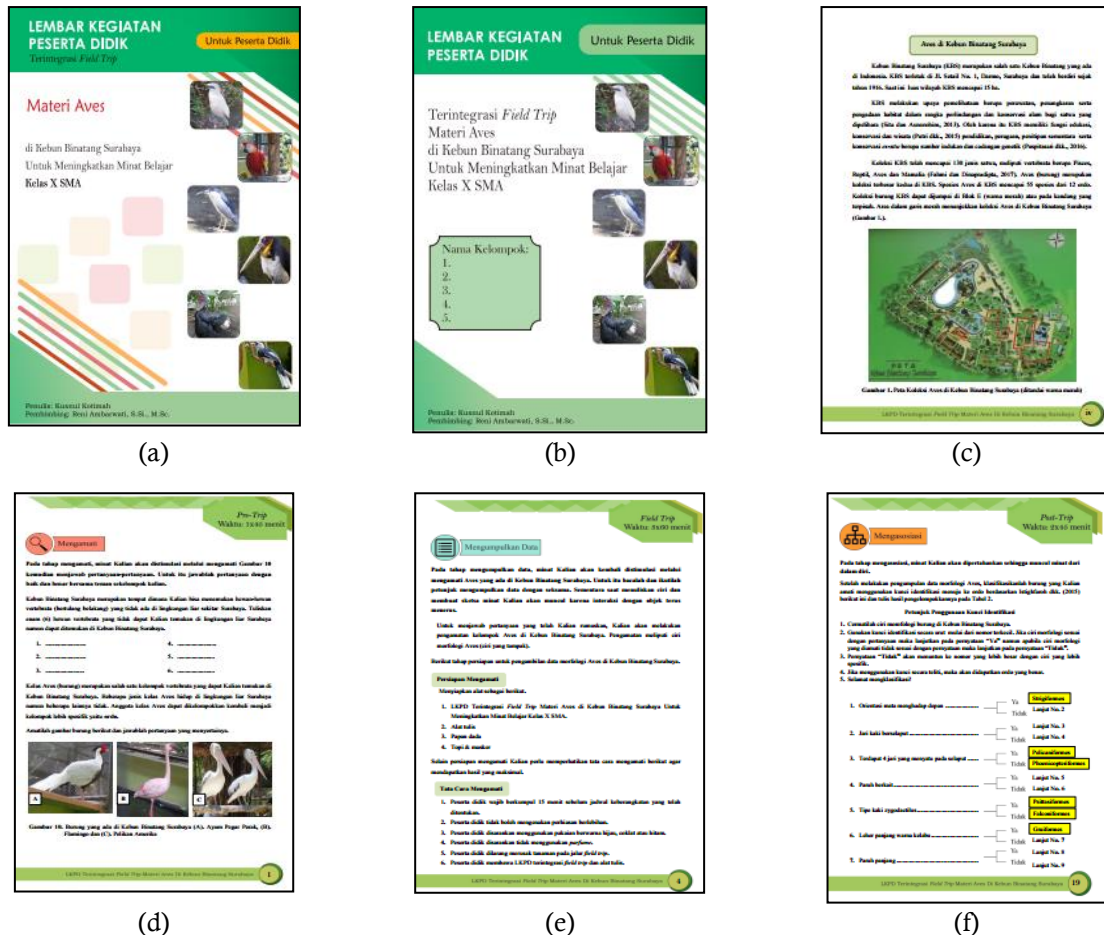
The Integrated Worksheet Based on a Field Trip had several features to facilitate a field trip series activities (**Table 1.**).

**Table 1.** Features on The Integrated Worksheet Based on a Field Trip

No.	Features	Facilitated Activities
1.	 <i>Pre-Trip</i> Waktu: 1x45 menit	Main feature. Facilitating students to do pre-trip activities to find the Aves concept and the basis for classifying Aves at the Surabaya Zoo.
2.	 <i>Field Trip</i> Waktu: 3x60 menit	Main feature. Facilitating students to do field trip activities to study Aves directly at the Surabaya Zoo.
3.	 <i>Post-Trip</i> Waktu: 2x45 menit	Main feature. Facilitating students to do post-trip to increase comprehension of classifying Aves at the Surabaya Zoo.
4.	 Mengamati	Facilitating students to observe the characteristics of Aves as the basis for the Aves concept.
5.	 Menanya	Facilitating students to make questions about the characteristics of Aves as the basis for the classification of the Aves order.
6.	 Mengumpulkan Data	Facilitating students to collect the characteristics of Aves at the Surabaya Zoo.
7.	 Mengasosiasi	Facilitating students to group Aves in the order based on characteristics.
8.	 Mengomunikasikan	Facilitating students to make written reports about the classification of Aves at the Surabaya Zoo.
9.	 Perhatikan	Facilitate the teacher to give focus emphasis on certain activities in the field trip activities.

There were four differences between those versions. The first difference was on the cover, which in the students worksheet there is an identity box for the group name, while in the teacher version there is no identity box. Due to the students' worksheet was designed to be used in groups while teachers worksheet was intended for personal use by teachers. The second difference was the existence of an indicator table, the phase of interest and tasks of students. This section was intended for understanding the relationship of students' tasks to the steps to increase interest by the teacher. The third difference, there was a description of steps to increase interest in the teachers' worksheet. This description aims to provide an overview of the steps to increase interest used by in the Integrated Worksheet Based on a Field Trip. The last difference was a "Perhatikan" section to observing activities in the pre-trip phase and collecting data in the field trip phase in the teacher's worksheet. This section is intended due to the teacher gives the focus of emphasis on both activities.

A profile overview of the Integrated Worksheet Based on a Field Trip showed in figure 1.



**Figure 1.** The Integrated worksheet based on a field trip aves’s material topic at Surabaya Zoo (a) Front cover; (b) Second cover; (c) Introduction: Aves at the Surabaya Zoo; (d) Pre-trip phase; (e) Field trip phase; and (f) Post-trip phase.

The worksheet’s validity was assessed based on the results of the validity by three validators, using the validation sheet. Based on the results of validity, the validity got a score of 4, was obtained as very valid. The practicality of the worksheet was assessed through the results of the responses of education practitioners and students. Based on the results of the response of education practitioners, the mode value was 4 obtained as very valid. Whereas, the average percentage of students questionnaire responses obtained a score of 91.08% (very good).

Validation assessment was based on five criteria, i.e. presentation, content, language, field trip and learning interests. The results of the validity assessment conducted by three validators represent the value of mode 4 as very valid (Table 2).

**Table 2.** Validation Result of the Worksheet by the Experts

No.	Criteria	Score			Mode
		V1	V2	V3	
1.	Presentation	4	4	3	4
2.	Content	4	4	4	4
3.	Language	4	3	4	4
4.	Field Trip	4	4	3	4
5.	Learning Interest	4	3	4	4
<b>Criterion Mode</b>				<b>Very Valid</b>	

**Note:** V1 (Validator 1): Education Expert; V2 (Validator 2): Media Expert; V3 (Validator 3): Aves’s Material Topic Expert

The validators provided comments, suggestions and input on the Integrated Worksheet Based on a Field Trip presented in Table 3.

**Table 3.** The validators comments, to the worksheet

No.	Comments, Suggestions And Input By Validators
1.	The Integrated Worksheet has been arranged properly and thoroughly.
2.	Emphasized on the steps of the field trip activities based on information processing theory by Slavin.
3.	The steps of field trip activities need to be linked with information processing theory to create meaningful, contextual and constructivist learning.
4.	Strengthening the reasons for the field trip activity steps in the Integrated Worksheet Based on a Field Trip.
5.	Improved the morphology of Aves.
6.	Improved the Aves's order description.
7.	The bibliography style needs to be adjusted with the APA format.

Meanwhile, practicality was measured based on the response of education practitioners and students. The results of practitioners' responses to the Integrated Worksheet Based on a Field Trip showed the value of mode 4 in the very practical category (**Table 4.**).

**Table 4.** Practitioners' responses to the integrated worksheet based on a field trip

No.	Criteria	Practitioners' Responses					Mode
		A	B	C	D	E	
1.	Presentation	4	4	4	4	3	4
2.	Content	4	4	4	4	3	4
3.	Language	3	4	4	4	4	4
4.	Field Trip	4	4	4	3	4	4
5.	Learning Interest	4	4	3	3	3	3
<b>Criterion Mode</b>						<b>Very Practical</b>	

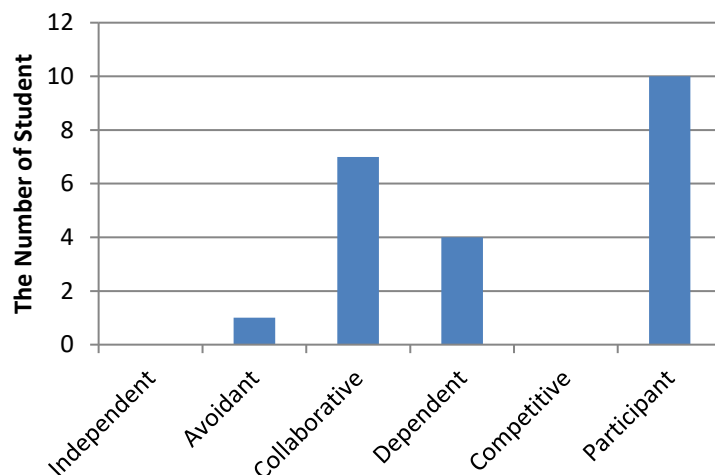
Note: A : Education Practitioner A; B : Education Practitioner B; C : Education Practitioner C; D : Education Practitioner D; E : Education Practitioner E

The practitioners also provided comments and input on the Integrated Worksheet Based on a Field Trip shown in **Table 5.**

**Table 5.** The Education Practitioners Comments and Input to the Integrated Worksheet

No.	Comments And Input By The Education Practitioners
1.	The integrated worksheet was suitable to be used to increase learning interest in Kingdom Animalia topic's materials.
2.	The integrated worksheet was arranged in detail, structured and can be used well.
3.	The integrated worksheet facilitated students to get meaningful learning.
4.	The integrated worksheet was able to present Aves Materials without causing boredom to students.
5.	Learning Aves material becomes fun used in the field trip method.
6.	The consistency of using words and terms need to be revisited.
7.	Worksheet cover needs to be made more attractive.
8.	The description in the Aves at Surabaya Zoo needs to state chronologically.
9.	The post-trip time with Animalia Material needs to be adjusted.
10.	An application-based of Integrated Worksheet Based On A Field Trip needs to be developed.

Based on Grasa-Riechmann Learning Style's questioners, the most common learning styles among the students were Participant (45.5%) and Collaborative (31.8%) (**Figure 2.**).



**Figure 2.** Students Learning Styles Based on Grasha-Riechmann Questionnaire

While the results of students' responses to the Integrated Worksheet Based on a Field Trip showed an average result of a positive response of 91.08% in the very good category (**Table 6.**). Based on the results of practitioners 'and students' responses, the Integrated Worksheet Based on a Field Trip was declared to be very practical so it was appropriate to use.

**Table 6.** Students' responses to integrated worksheet based on a field trip

No.	Criteria	Response	
		Positive	Negative
1.	Presentation	95.45	4.55
2.	Content	90.27	9.73
3.	Language	90.93	9.07
4.	Field Trip	91.37	8.63
5.	Average	92.01	7.99

The students also provide opinions and suggestions on the Integrated Worksheet Based on a Field Trip shown in **Table 7.**

**Table 7.** The Students opinions and suggestion to the worksheet

No.	Opinions And Suggestion	Percentage (%)
1.	The worksheet was innovative and interesting.	18
2.	Aves's material topic was delivered in a short and easy to understand.	40
3.	Aves's images need to be added in the "Aves on KBS" section	14
4.	Aves's specific characteristics need to be explained.	18
5.	No comment.	10

This research was developmental research to product the Integrated Worksheet Based on a Field Trip Aves's Material Topic At Surabaya Zoo To Increase Learning Interest For 10<sup>th</sup> Grade High School Students which valid and practical. The worksheet developed consists of three main phases, namely pre-trip, field trip and post-trip. The three phases of the field trip were the recommended arrangement of field trip activities to obtain maximum learning results. These phases were included in the main features of the Integrated Worksheet Based on a Field Trip. Pre-trips provided information and opportunities to prepare themselves not only for students but also for teachers. According to Achen et al., (2019), the pre-trip aims to make the field trip participants reach agreement and discuss what will be done and learned in the field trip implementation. With this information and agreement, students were better prepared to learn in field trips, compared to the absence of pre-trip sessions. Meanwhile, with a post-trip, students were given the opportunity to ask questions about things that were not yet understood and reflect field trip experiences, so they could have a stronger attachment to learning material (Achen et al., 2019). Therefore, the presence of pre- and post-trip was an important phase and cannot be separated from the field trip phase so that both phases were needed in the arrangement of field trip activities. If the whole series of field trip activities were carried out and the students process the stimulus well, the Aves' learning topic material using the field trip

method has a great opportunity to gave the impression of learning that was fun and will be remembered by students.

There also other features of the Integrated Worksheet were the scientific approach (5M), namely Mengamati, Menanya, Mengumpulkan Data, Mengasosiasi and Mengomunikasikan. "Mengamati" section contains pictures and questions that directed students to the Aves concept. "Menanya" section was intended for students to make questions that are the aim of learning Aves Materials. "Mengumpulkan Data" section would facilitate a stronger sensory memory stimulus because students would observe Aves' morphology in the Surabaya Zoo. Observation activities categorized as active activities. These active activities could increase the likelihood of information being stored in more complex memory processes (Slavin, 2012). The observations of students were presented in the form of Aves morphology which consists of a sketch of a picture. Through it, students were facilitated and trained to remember words, sentences, shapes, images so that information was more complex, whole and meaningful. Therefore, making sketches of Aves morphology was better than just writing morphological features (Çeliköz et al., 2019). "Mengasosiasi" section were facilitated to recall Aves's morphological characteristics to classify Aves in the Surabaya Zoo in the order, because information about the Aves feature was active in short-term memory. In the "Mengomunikasikan" section students would be reminded of the overall field trip activities through making a simple report, so students had the opportunity to recall the characteristics of Aves through stimulus information that has been stored in the memory system. This remembering activity can be the reinforcement needed for Aves's learning information to be stored and remembered in long-term memory (Çeliköz et al., 2019).

The Integrated Worksheet was created to increase students' learning interest, which refers to the interest development model by Hidi & Renninger (2006). The model consists of 4 phases, namely triggered interest, maintained interest, emerging individual interest and well-developed interest. The triggered interest phase was the first phase of this model. This phase was appeared twice in the worksheet, in "Mengamati" and in "Mengumpulkan Data" section, while direct Aves observing at the Surabaya Zoo. In this phase, students will be recognizing the concept of Aves through the characteristics by the Aves picture at Surabaya Zoo. Students who have never seen that before were more likely to get surprising information. Obtaining unusual information could also be categorized in surprising information. This was consistent with Hidi and Renninger's description that the characteristics of the emergence of interest in this phase were the introduction of unexpected and unusual information and features. The second phase was maintained interest. This phase was appeared in "Menanya" section. In these activities, students make questions about the characteristics of Aves as the basis for the classification of the Aves order, which could give a meaning of field trip activities. The third phase was emerging individual interest, was appeared while the students sketching in "Mengumpulkan Data" and in "Mengasosiasi". The emerging individual interest was defined as the desire of students to reengage and begin to develop curiosity towards learning. This phase was following the students' assignments in these activities, which writing characteristics and sketching Aves and classifying Aves in Surabaya zoo. The well-developed interest was the fourth phase of this model, also the stronger interest level. This phase was appeared in "Mengomunikasikan", when students make a report. This phase guides students to solve problems based on the context and content they have learned. Students with well-developed interests can work well to answer questions or do assignments (Hidi & Renninger, 2006). Then making reports can be an indicator of students having a well-developed interest.

Based on the results of the validation (**Table 6.**), the validity of The Integrated Worksheet Based on a Field Trip was included in the very valid category. The first criterion was the presentation, got a 4 scores of mode with a very valid category. However, two criteria got a value of 3 (valid). These criteria were image quality and font type. This could be due to the images contained in the Integrated Worksheet Based on a Field Trip that were less meaningful or unclear. This statement was supported by the suggestion of Aves's material topic expert who states that Aves's morphological picture was less clear. Follow-up researchers, were to improve the quality of the image so that it was clearer so that users of The Integrated Worksheet Based on a Field Trip are easier to interpret images in the worksheet.

The second criterion was the content criteria to get a mode 4 value with a very valid category. However, there was one aspect that got a mode of value 3 (valid) namely, Introduction to Aves at the



Surabaya Zoo. The section was intended to make The Integrated Worksheet Based on a Field Trip users aware of the situation of the Surabaya Zoo so that it could provide opportunities to prepare field trips that will take place. In the opinion of the students the respondents felt the introductory part was able to give an idea of the atmosphere of the Surabaya Zoo, especially the Aves collection section. This criterion gets a positive response of students by 100%. However, in the opinion of one practitioner, the introduction section of Aves at the Surabaya Zoo needs to be described chronologically so that users could feel the atmosphere of field trips at the Surabaya Zoo. The chronological description was better to build the atmosphere at the Surabaya Zoo. Furthermore, a chronological description could be written as "after you arrive at the Water Birdcage, then across the road you can see the Bent Beak cage", so that students could be stimulated to imagine the state of the field trip phase location by just reading. By imagining, the students have been able to map the locations of the Aves cages in the Surabaya Zoo. In this way, it's easier for students to digest the sentences given during the series of field trip activities listed on the worksheet. Thus, by mapping something students are expected to have memories of experiences related to time and place. This memory was referred to episodic memory and included in long-term memory (Slavin, 2012). Furthermore, according to Martin-Ordas & Call (2013), episodic memory is memory which oriented to past experience so that it allows someone to re-experience that have occurred in the past. The researchers' follow-up on this matter was to improve the introductory part of Aves at the Surabaya Zoo to chronological description.

The third criterion was the linguistic to get a mode 4 value with a very valid category. This value was also strengthened by the results of students' responses. The linguistic criteria get a positive response of 95.5%, by stated that the sentence used in the worksheet can be understood. In the opinion of one student, the sentences used in worksheet were easy to concise, clear and understood. Also, the explanation given in the section of Introduction to Aves at the Surabaya Zoo was able to provide an understanding of the types of Aves in detail.

The field trip criteria also get a mode 4 value with a very valid category. One aspect was the suitability of the Surabaya Zoo as a learning environment gets a value of 4 with a very valid category from all validators. The results of this assessment indicate that the Surabaya Zoo environment was considered very suitable for Aves studying. This was also expressed by Istighfaroh et al. (2015), where Surabaya Zoo has 55 species of Aves originating from 12 orders, while 10<sup>th</sup> grade high school students were expected to get to know 10 Aves orders. So by learning Aves in the Surabaya Zoo environment, students be able to learn the Aves order beyond expected. In this case, the Surabaya Zoo had become a potential learning environment. The situation of the Surabaya Zoo was under its function, namely the function of education, conservation and tourism, other functions were education, demonstration, temporary care and ex-situ conservation in the form of breeders and genetic reserves (Putri et al., 2015; Puspitasari, et al., 2016).

The fifth criterion was the learning interest criterion that gets a mode 4 value with a very valid category. However, there were several aspects that get a mode of value 3 (valid). The first was the aspect of observing images. The evaluation criteria on this aspect was observing Aves' morphology through images triggers short-term interest because of something new. This activity appears in the "Mengamati" section and includes the pre-trip phase. This aspect aims to assess the suitability of the preparation of steps and presentation in worksheet with the phase of interest and the field trip phase. This assessment could be because the Aves collection image stimulus was not strong enough to make students have short-term interest by the validators. Meanwhile according to the results of practitioners' responses, this aspect also gets a mode 3 value with a valid category. This shows that the results of the validator's assessment were directly proportional to the results of the practitioners' questionnaire.

The next aspect, questioning activity was carried out in groups and the gave meaning to the field trip activities. These two aspects were appeared in the "Menanya" section and include the pre-trip phase. This aspect aims to make students make several questions that lead to the purpose of Aves observation at the Surabaya Zoo so that students discover the meaning of the series of field trip activities undertaken by and for themselves. Thus, students and groups pay more attention to learning using the field trip method. The purpose made by these students was also expected to make students understand why it's necessary to do a field trip activities at the Surabaya Zoo while also teaching to make research objectives that will be written on a simple report. According to Jocz et al. (2014), giving task meaning makes students realize the

importance of carrying out the task. Teaching conditions that gave meaning to learning and personal involvement are a project-based learning, cooperative group work and one-on-one tutoring (Hidi & Renninger, 2006).

The next aspect was the aspect of collecting data triggering the individual interests, the activity of collecting data raises positive feelings and the classifying activity triggers the individual student's interest in Aves's material topic. Both data collection activities appear in the "Mengumpulkan Data" section and include the field trip phase while classification activities appear in the "Mengasosiasi" section and include the post-trip phase. Individual interest to be improved by the worksheet was described as an interest that arises from within a person, without direct stimulus, but still requires expert guidance, teacher in education cases (Hidi & Renninger, 2006). One characteristic of the emergence of individual interest was the emergence of a variety of positive feelings. Based on the results of the students' questionnaire responses, The Integrated Worksheet Based on a Field Trip was able to cause a variety of positive feelings, such as pleasure, satisfaction and enthusiasm to study Aves's material topic with a percentage of responses in a row by 100%, 86.4% and 95.5%. The results of the questionnaire indicate that The Integrated Worksheet Based on a Field Trip has been able to stimulate the emergence of individual interests. However, researchers still follow up on the assessment of these two aspects by improving the layout and instructions to make it more clear. This was also supported by the opinion of one respondent students who suggests improving the instructions and work steps available in the field trip phase. As for the improvements to the "Mengasosiasi" section, include the Aves classification table so that it has a more attractive and organized look.

The Grasha-Riechmann questionnaire was used to determine students' feelings and attitudes towards the field trip method used the Integrated Worksheet Based on a Field Trip through their learning styles. According to Azarkhordad & Mehdinezhad (2016), learning styles had a role as general behavior and differ in each style to gain knowledge, skills, or attitudes through learning or experience as the preferred method of learning. So, by knowing one's learning style, a teacher could adjust learning style to strengthen learning interest, motivation and academic achievement. Grasha-Riechmann questionnaire showed the dominant learning style was participant, as many as 10 students with a percentage of 45.5% have this learning style, as many as 7 students (31.8%) have a collaborative learning style, 4 learners (18.2%) have dependent learning styles and a learner has avoidant learning styles (4.5%). While there were no respondent students who had independent and competitive learning styles. These results indicate the respondent students were more responsive to active and guided learning so that students can be a participant in the learning section. Furthermore, participation is important in every group activity and learning discussion. One method that was suitable for facilitating partaker's learning styles is the cooperative model (Azarkhordad & Mehdinezhad, 2016). This learning model has the advantage of allowing the students to interact with a group of friends so that they could provide opportunities for interaction compared to the lecture method.

The validity of the worksheet shows the very valid category was directly proportional to the practicality of the worksheet results in terms of the response of practitioners and students. The results of the percentage of students' responses showed an average value of positive responses of 92.01% included as very good (Table 7.) hence that the worksheet was appropriate to use.

The high positive response could be indicated as the enthusiasm of students used The Integrated Worksheet Based on a Field Trip. Based on the students' opinion (Table 8), this worksheet was an innovative and interesting so that by use the worksheet learning Aves's material topic become easy and fun. The opinions of these students were eye to eye with the practitioners' opinions. According to him, the used of the field trip method was a great way to teach Kingdom Animalia topic. In this way arises a sense of interest in students because they can have more interaction with the object directly. This opinion was also supported by practitioner A who states direct observations in learning Kingdom Animalia topic so that learning interest, learning process and learning outcomes can be maximized. The opinions of these two practitioners were directly proportional to the previous research conducted by Agustina (2018), which suggested that 75% of the respondents' teachers thought that realia media or direct objects were the most suitable learning media for teaching the Kingdom Animalia material topic. These opinions also support

the application of the Integrated Worksheet Based on a Field Trip on other material in Kingdom Animalia.

According to Behrendt & Franklin (2014), field trips have the main function of providing direct experience so as to increase learning interest in science. This is because the experience gained is based on the senses so as to obtain authentic knowledge. Experience based on the senses and directly because through field trips students interact with objects using the senses to explore, see, hear and touch through direct interaction with the subject matter in order to obtain authentic and reliable knowledge of the truth. Such learning experiences allow students to achieve deeper learning experiences and are able to develop students' interest in the subject matter. This statement is supported by the results of Mills & Katzman's (2015) and Kenna (2019) research which revealed that the existence of field trips can help generate learning interest towards the subject matter. Meanwhile, according to Achen et al. (2019), learning using the field trip method provides enjoyable learning opportunities for students. The feeling of joy that can be generated can lead to a feeling of wanting to be tied back to learning material (Siagian, 2015) which can be identified as the beginning of learning interest.

## CONCLUSION

Based on the results of data analysis and research discussions, the Integrated Worksheet Based on a Field Trip Aves's Material Topic At Surabaya Zoo To Increase Learning Interest For 10<sup>th</sup> Grade High School Students concluded to be valid and practical. Validity was based on five criteria, i.e. presentation, content, language, field trip and learning interests. Practicality was assessed based on education practitioners' and students' responses. Therefore, the worksheet was appropriate to be used in the learning of Aves.

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