

# Development of Auditory Intellectually Repetition (AIR) Collaborative Investigation Learning Model in Improving the Ability of Writing Text Reports of Observation Students of Class X SMK Negeri 11 Medan

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**Abstract.** This research is motivated by the existence of problems in learning to write text reports on observations. The problem stems from the complexity of the material process for writing observational report texts, which often become material that is less attractive and students' enthusiasm in learning non-creative observational report material. Based on this, this study aims to produce an auditory, intellectually, repetition (AIR) collaborative investigative group model in improving the ability to write observational report texts for Class X SMK Negeri 11 Medan. The research method used is the method of research and development of the Thiagarajan system using 4-D Define, Design, Develop, Deseminate. The development stages are the initial study phase, initial product development, and product testing. The results of material expert validation on the feasibility of the material obtained an average of 89.1%. with the category "Very good" For the graphic assessment by design experts obtained an average of 95.1% with the category "very good". Product trials were carried out in three stages: individual testing, small group trials, and limited field trials. Individual trials with an average of 86.1% in the very good category, small group trials with an average of 91.2% in the very good category, and limited field trials with an average of 88.99% in the very good category . The effectiveness of the collaborative AIR model of the investigative group on the text material of the observation report was declared effective. The pretest obtained an average of 63 and the posttest obtained an average of 78. The difference between the pretest and posttest is 15%, which indicates that learning with the Investigation Group Collaborative AIR learning model is better than before.

**Keywords:** learning model, air, investigation group, development

## 1 Introduction

Active learning activities carried out by students are skills in the learning process, where students are able to respond to what is the ongoing and more effective learning goal. Trisdiono

[1] argues that there are several things that must be done in active learning students namely; a) students actively make observations as a step in multiplying information with the help of questions prepared by teachers and students; b) students understand the concept through discussion activities with friends, making products, and presenting learning outcomes; c) the teacher provides reinforcement by ensuring students' understanding; d) the teacher checks the assignment of the material. Effective learning as a supporter of student learning, namely students grow their knowledge and personal experience with the interaction in the surrounding environment<sup>1</sup>. The selection of strategies, methods or learning models that are better and according to the criteria, is a way that must be done by the teacher as a supporter of learning achievement. Not only that, teachers must also be able to master and design learning models well so that the learning process can be carried out better and more structured. the three main problems faced (1) How is the process of developing the AIR model (auditory, intellectually, repetition) of collaborative investigative groups in improving the ability to write text reports on student observations. (2). How are the results of the validation of the development of the AIR model (auditory, intellectually, repetition) of collaborative investigative groups in improving the ability to write text reports on observations that are feasible to use on students. (3). How are the results of the limited trial, the application of the development of the AIR model (auditory, intellectually, repetition) collaborative investigative group in improving the ability to write text reports on the results of observations effectively used by students. AIR learning model (Auditory Intellectually Repetition) Investigation Group Collaboration as problem solving in improving student observation report writing.

### **1.1 Learning Outcomes**

Talking about learning outcomes, the notion of learning outcomes consists of two words 'results' and 'learning'. In KBBI [2] results have several meanings: 1) Something held by a business, 2) income; acquisition; fruit. While learning is a change in behavior or responses caused by experience<sup>2</sup>. while Abdurrahman [3]states that learning outcomes are abilities obtained by children after going through learning activities. According to him, children who are successful in learning are successful in achieving learning goals or instructional goals. <sup>3</sup>Then Subroto [4] means that learning is "(1) leading to change, (2) That the change is essentially the acquisition of new skills, (3) That the change occurs because of a deliberate effort"<sup>4</sup>. Thus, from the opinions of these experts, it can be concluded that learning outcomes are a student effort obtained through a learning process. Where in the process students get achievements and changes in behavior patterns, both attitudes and knowledge

### **1.2 Learning Model Development**

Learning model development is an activity or process carried out to produce learning models based on existing development theories Hamdani <sup>5</sup>[5]. In line with that, Mulyatiningsih [6] also

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<sup>1</sup> Trisdiono, *Strategi pembelajaran abad 21*. (Yogyakarta: Lembaga Penjaminan Mutu Pendidikan Prov. D.I. Yogyakarta, 2013) , 128.

<sup>2</sup> KBBI, *Kamus Besar Bahasa Indonesia*, (2016).

<sup>3</sup> Abdurrahman, *Pendidikan Bagi Anak Berkesulitan Belajar*, (Jakarta : Rineka Cipta.), 2010.

<sup>4</sup> Subroto, *Pengantar Metode Penelitian Linguistik Struktural*, (Surakarta: Sebelas maret University Press.), 2007.

<sup>5</sup> Hamdani, *Startegi Belajar Mengajar*, (Bandung: CV Pustaka Setia) , 2010.

states that the research and development stages of learning systems can be analyzed from a series of tasks, in carrying out their main tasks, starting from designing, implementing to evaluating learning<sup>6</sup>. Based on expert opinion regarding the development of learning models, it can be concluded that the development of learning models is a design model that already exists and is carried out in a structured manner in a concept of innovating, producing, designing so that the learning model can later be used as a reference in a learning system.

### **1.3 Learning model AIR (Auditory Intellectually Repetition) Investigation Group Collaboration**

The AIR Learning Model was first introduced by Dave Meier [7]. Meier is an educator, trainer, as well as the initiator of the accelerated learning model. The AIR learning model approach stands for auditory, intellectually and repetition<sup>7</sup>. According to Linuwih & Sukwati [8] the AIR learning model is a cooperative learning model that can increase student activity and can also motivate students to improve student achievement<sup>8</sup>. In line with that Huda [9] the AIR learning model is one of the learning models that emphasizes three aspects, namely auditory (listening), intellectually (thinking), repetition (repetition). In the AIR learning model, there are three things that become the approach in this model, namely: A – Auditory – Hearing, I – Intellectually – Thinking, R – Repetition – Consolidation. Then the learning model that supports the involvement of each student in the learning process, one of which is the group investigation learning model.<sup>9</sup> Talking about the group investigation learning model, this learning model is a learning model that can be used in overcoming a competitive and individualistic learning weakness. The group learning system can make students interrelated or help each other in the learning process Trianto [10]<sup>10</sup>. This model was first developed by Herbert Thelan then updated and researched by Shlomo and Yael Sharan at Tel Aviv University. Sudjana [11] suggests that Group Investigation was developed by Herbert Thelen as an effort to combine teaching strategies oriented to the development of the academic study process.<sup>11</sup> Slavin [12] suggested six learning steps using the Group Investigation Model, namely: grouping, planning, investigation, organizing, presenting, evaluating.<sup>12</sup>

### **1.4 Observation Report Text**

According to Kosasih [13] the observation report is an essay that describes a phenomenon or event based on observations. So the observation report is a record of a written statement as a result of procedures to explain information about facts or results of supervision of certain

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<sup>6</sup> Mulyaningsih, *Metode Penelitian Terapan Bidang Pendidikan*. (Yogyakarta: Alfabeta), 2012.

<sup>7</sup> Meir, *The Accelerated Learning Handbooks. Panduan Kreatif dan Efektif Merancang Program Pendidikan dan Pelatihan*. (Diterjemahkan oleh Rahmani Astuti. Bandung: Kaifa.), 2002.

<sup>8</sup> Linuwih, S., & N.O.E. Sukwati. *Efektifitas Model Pembelajaran Auditory Intellectually Repetition (AIR) Terhadap Pemahaman Siswa Pada Konsep Energi Dalam*. (Jurnal Pendidikan Fisika Indonesia), 2014, 10 (2) : 158-162

<sup>9</sup> Huda. *Cooperative Learning Metode, Teknik, Struktur, dan Model Terapan*. (Yogyakarta : Pustaka Belajar), 2012.

<sup>10</sup> Trianto. *Model Pembelajaran Terpadu*. (Jakarta: PT Bumi Aksara), 2010.

<sup>11</sup> Sudjana. *Penilaian Hasil Proses Belajar Mengajar*. (Bandung: PT Remaja Rosdakarya), 2012.

<sup>12</sup> Slavin. . *cooperative learning teori, riset dan praktik*. (Bandung: Nusa Media), 2005.

activities or events.<sup>13</sup> in line with Priyatni [14] the text of the observation report is a text that conveys information about something as it is as a result of systematic observation and analysis, not embellished with a personal response about the object being reported<sup>14</sup>. From the descriptions of the opinions of these experts, it can be concluded that the observation report, it can be concluded that the observation report is an activity or act of seeking a truth or fact on an event, occurrence, or an object with a systematic observation or research process as accurate handle to be able to provide knowledge information.

## 2 Research Method

This research was conducted from October to December 2021 at SMK Negeri 11 Medan involving 32 students of class X. The types of research carried out by the author in this study were quantitative research, qualitative research and development research. Research The development of this learning model will also be supported by using guidelines Thiagarajan system development research method uses 4-D Define, Design, Develop, Disseminate. The types of research conducted by the author in this research are quantitative research, qualitative research and development research.

## 3 Result and Discussion

The process of developing the collaborative AIR model of the investigative group on the text of the observation report is carried out in four stages, namely the definition stage, the design stage, the development stage and the dissemination stage. we can see in Figur 1 below:

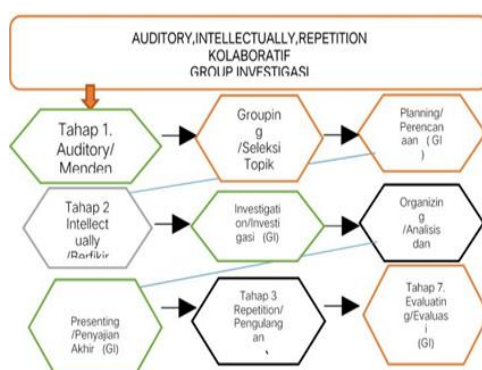


Fig. 1. Syntax of Group Investigation collaborative AIR learning model.

The process of developing the collaborative AIR model of the investigative group on the text of the observation report was carried out in four stages, namely the definition stage, the design

<sup>13</sup> Kosasih. *Dasar-dasar Keterampilan Menulis*. (Bandung: Yrama Widya), 2012.

<sup>14</sup> Priyatni. *Desain Pembelajaran Bahasa Indonesia Dalam Kurikulum 2013*. (Jakarta : Bumi Aksara.), 2014

stage, the development stage and the dissemination stage. the results of the development of the AIR learning model Investigation group collaboration in the form of syntax (steps of learning model) from 3 steps to 9 steps of learning model stages. At the ini product to 2 material experts there are 2 design experts. The results of material expert validation on the feasibility of the material obtained an average of 89.1%. with the category "Very good" For the graphic assessment by design experts obtained an average of 95.1% with the category "very good". tial product development stage, product design and validation are carried out. At the product trial stage, there are three ways, namely individual trials, small group trials and limited field trials. Individual trials obtained an average percentage of 86.1 in the "Very good" category, small group trials obtained an average percentage of 91.2 in the "Very good" category. The limited field trial obtained an average percentage of 88.99 with the "Very Good" category. Based on these data, it is found that the AIR learning model is suitable for use by teachers and students in learning. Then the development of the collaborative group investigative AIR model on the observation report text material was declared effective

**Table 1.** . Frequency of Learning Outcomes.

<b>trials</b>	<b>Pre-test</b>	<b>Pos-test</b>	<b>Difference</b>
individual test 86,1%	Average (63)	Average (78)	15%
small group test 91,2%	Percentage (50%)	Percentage (65)	
limited test 88,9%			

This is evidenced by the test of student learning outcomes in writing the text of the observation report. At the time of the pretest, the average was 63 and at the posttest, the average was 78. The difference between the pretest and posttest was 15%, which indicates that learning with the Investigation Group Collaborative AIR model is better from the previous

#### **4 Conclusion**

The effectiveness of the collaborative investigation group AIR model on the text material of the observation report was declared effective. This is evidenced by the test of student learning outcomes in writing the text of the observation report. At the time of pretest obtained an average of 63 and at the time of posttest obtained an average of 78. The difference between pretest and posttest is 15. Thus, the results of learning to write the text of the observation report after using the AIR Collaborative Group Investigation learning model improved better than before using it.

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