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EFFECTIVENESS OF GROUP INVESTIGATION COOPERATIVE LEARNING METHOD BASED ON CURIPOD APPLICATION FOR CLASS II STUDENTS AT MTS USWATUN HASANAH

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Abstrak

Penelitian ini bertujuan menganalisis efektivitas penerapan metode kooperatif tipe Group Investigation dalam meningkatkan hasil belajar Pendidikan Agama Islam pada siswa kelas II MTs Uswatun Hasanah. Penelitian menggunakan pendekatan penelitian tindakan kelas dengan subjek sebanyak 39 siswa. Hasil penelitian menunjukkan adanya peningkatan signifikan dalam hasil belajar siswa setelah penerapan metode Group Investigation. Rata-rata nilai pre-test awal sebesar 36,63, dengan tidak ada siswa yang mencapai Kriteria Ketuntasan Minimal. Setelah siklus I dengan metode konvensional, 21,4% siswa mencapai Kriteria Ketuntasan Minimal, sedangkan pada siklus II setelah penerapan metode kooperatif tipe Group Investigation, persentase siswa yang mencapai Kriteria Ketuntasan Minimal meningkat menjadi 89,48%. Temuan ini menunjukkan bahwa metode kooperatif tipe Group Investigation efektif meningkatkan hasil belajar Pendidikan Agama Islam siswa. Oleh karena itu, metode ini direkomendasikan untuk digunakan dalam proses pembelajaran guna meningkatkan prestasi siswa.

Kata Kunci: *Metode kooperatif, Group Investigation, hasil belajar, Pendidikan Agama Islam, penelitian tindakan kelas.*

Abstract

This study aims to analyze the effectiveness of the cooperative learning method, specifically the Group Investigation type, in improving learning outcomes in Islamic Religious Education for second-grade students at MTs Uswatun Hasanah. This research employed a classroom action research approach involving 39 students as subjects. The results showed a significant improvement in students' learning outcomes after applying the Group

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Investigation method. The initial pre-test average score was 36.63, with no students meeting the Minimum Mastery Criteria. After the first cycle using conventional methods, 21.4% of students met the Minimum Mastery Criteria, which increased to 89.48% after the second cycle using the Group Investigation cooperative method. These findings indicate that the Group Investigation cooperative learning method is effective in enhancing students' learning outcomes in Islamic Religious Education. Therefore, this method is recommended for use in the learning process to improve student achievement.

Keywords: Cooperative learning, Group Investigation, learning outcomes, Islamic Religious Education, classroom action research.

INTRODUCTION

Education is a vital foundation for national progress, as the welfare and advancement of a nation are often reflected in its educational standards (Erfiyana et al., 2024). It plays a crucial role in shaping individuals who are competent, ethical, and socially responsible (Sangadji, 2020). Therefore, the educational system must continuously innovate in line with advancements in science and technology, while upholding human values (Monoarfa et al., 2024). Through education, individuals can be nurtured to become intelligent, creative, skilled, responsible, productive, and virtuous citizens (Hasim et al., 2023). The Indonesian government has made numerous efforts to improve the quality of national education, particularly through educational innovation (Ayuwanti, 2023). These innovations often aim to enhance efficiency, effectiveness, and comfort in the learning process (Irwan & Sani, 2021). Efficiency involves the optimal use of teachers' time (Arinda et al., 2022), effectiveness ensures the learning process yields meaningful results, and comfort refers to the use of engaging methods and media that can stimulate motivation in both students and teachers (Vidiarti et al., 2021).

In the context of Islamic Religious Education (PAI), learning involves gaining knowledge, skills, and positive values by utilizing diverse learning resources (Astra et al., 2020). The learning process emphasizes the interaction between key components: teachers, students, and subject matter (Anita et al., 2025), supported by instructional strategies, media, and

classroom management (Anam, 2021). The effectiveness of this learning process largely depends on the role of the teacher, who not only delivers content but also serves as the central figure in facilitating meaningful learning (Fathurrohman, 2020). Observations at MTs Uswatun Hasanah revealed several challenges, such as students appearing disengaged during PAI lessons and low academic performance due to uninteresting teaching methods.

To address these issues, the teacher-researcher implemented the Group Investigation (GI) model using the Curipod application, a web-based platform that leverages artificial intelligence to create interactive teaching materials (Rahayu et al., 2023; Mathisen & Siri, 2025). Curipod supports student-centered learning by allowing collaborative investigation of topics chosen by students, encouraging exploration, communication, and presentation of findings (Hartoto, 2023; Listiana, 2019). Empirical results from previous studies support the efficacy of this approach. Sangadji (2021) found that students using Curipod in GI-based learning showed improved academic performance. Hartoto (2021) also demonstrated a significant increase in student achievement across three CAR cycles—Cycle I (54%), Cycle II (67%), and Cycle III (83%)—showing the positive impact of the GI model via Curipod on student engagement and learning outcomes. Additionally, Arinda et al. (2019) found that integrating GI with digital tools like Curipod enhanced students' scientific work skills, with scores reaching up to 84%.

Based on these findings and the promising preliminary results, this study aims to further explore the effectiveness of the Curipod-based GI model in improving learning outcomes in Islamic Religious Education at MTs Uswatun Hasanah. By integrating digital platforms and collaborative learning strategies, the research seeks to transform the learning environment into a more engaging, interactive, and effective experience for students.

LITERATURE REVIEW

1. Group Investigation (GI) as a Cooperative Learning Method

Group Investigation (GI) is one of the cooperative learning models designed to enhance student activeness through structured group work. This model, developed by Sharan and Sharan (1992), emphasizes collaboration, student-selected topics, and in-depth investigation into those

topics. In GI, students are actively engaged in the learning process, starting from planning, investigating, discussing, and presenting their learning outcomes to the class (Slavin, 2015). The GI model consists of six main stages: (1) topic selection, (2) group work planning, (3) conducting investigations, (4) organizing and analyzing data, (5) preparing reports, and (6) presenting and evaluating (Sharan & Sharan, 1992). This approach has been proven to improve critical thinking skills, communication abilities, and students' responsibility for their learning process (Gillies, 2016).

2. The Role of Technology in Cooperative Learning.

The integration of technology into cooperative learning has shown positive impacts on increasing student motivation and engagement. Educational technologies such as Learning Management Systems (LMS), web-based applications, and artificial intelligence (AI) have been widely utilized to support active and collaborative learning (Raja & Nagasubramani, 2018). Technology serves not only as a tool but also as a medium for building interactive and integrated learning environments (Ally & Tsinakos, 2014).

3. Curipod: An AI-Based Learning Application

Curipod is a web-based learning platform supported by artificial intelligence, designed to assist teachers in creating interactive teaching materials such as presentations, polls, quizzes, and real-time discussions. This platform enables students to participate in active learning, both individually and in groups, while providing immediate feedback during the learning process (Rahayu et al., 2023). Mathisen and Siri (2025) state that Curipod can enhance student engagement through its visually appealing interface and interactive features. Additionally, Curipod supports constructivist learning models, where students become the primary subjects in their own learning processes.

4. Integration of GI with Curipod in Learning Contexts

The integration of the GI method with Curipod creates a new approach to technology-based cooperative learning. In this approach, Curipod is used as a digital tool to facilitate stages of GI, such as topic exploration, collaboration, and presentation. This model is referred to as Group Investigation Based on Curipod Application (GI-Curipod), which combines collaborative learning strategies with the convenience of technology. A study by Hartoto (2023) found that the use of Curipod in the

GI model significantly improved student learning activities. Students became more active in group discussions, more creative in preparing presentations, and showed improved learning outcomes. Similar research by Sangadji (2021) supported these findings, where students demonstrated improved material understanding and teamwork skills after using GI-Curipod. Arinda et al. (2019) found that GI-based digital applications, such as Curipod and PhET, significantly enhanced students' scientific work skills. With the visualization and interactivity provided by Curipod, students found it easier to understand abstract concepts in their learning.

5. Advantages and Challenges in Implementing GI-Curipod

The advantages of integrating GI and Curipod include: (1) Enhancing collaboration and student engagement, (2) Simplifying the design of interactive learning for teachers, (3) Providing immediate feedback that aids student reflection. However, challenges may arise, such as: (1) Dependence on stable internet access, (2) Teachers' readiness to use new technological platforms, (3) The need for training to optimize the use of Curipod.

RESEARCH METHODS

This study used a Classroom Action Research (CAR) approach, conducted in three cycles following the Kemmis and McTaggart model: planning, action, observation, and reflection. Planning involved identifying problems in the learning process and preparing learning tools using Curipod and the GI model. Action referred to implementing the GI model through the Curipod platform in the classroom. Observation focused on monitoring student engagement, participation, and performance using observation sheets, field notes, and student work. Reflection included analyzing outcomes to determine improvements and revising the next cycle's plan accordingly. Data were collected through observation of student behavior and participation during lessons. Interviews with students to gather feedback about their experiences with Curipod and the GI model. Document analysis of student worksheets, test results, and learning artifacts. Quantitative data such as test scores were analyzed using descriptive statistics to identify trends in student achievement across cycles. Qualitative data from observations and interviews were analyzed thematically to assess changes in student motivation, interaction, and overall learning experience (Aini Safitri, 2021; Fachruddin Azmi, 2021; Mutia Annisa et al., 2021; Wardati & Hanafiah, 2022).

This research was conducted at MTs. Uswatun Hasanah. The study time is targeting in January to February with the following action details: Cycle I of the 1st Meeting on February 11, 2025, Cycle I of the 2nd Meeting on February 15, 2025. Cycle II The 1st Meeting was held on February 20, 2025 and continued with the second cycle of the 2nd meeting on February 23, 2025. Uswatun Hasanah and class II Muslim students totaling 39 people. The approach used in this study is a descriptive qualitative approach that is research that illustrates how a Curipod application based on the website as a medium is applied and how the expected results can be achieved. This type of research is an action research, because the study was conducted to solve learning problems in the classroom. Researchers use several stages ranging from planning, implementing, observing, and reflection as explained by (Arikunto, 2010). The instrument in this study was to use (1) observation techniques, (2) documentation techniques, (3) tests, and (4) student response questionnaires.

RESULTS AND DISCUSSION

Result

Cycle I: Implementation and Findings (Planning Phase)

In Cycle I, the research focused on improving students' learning outcomes in Islamic Religious Education using the Group Investigation (GI) model integrated with the Curipod application, a web-based platform for interactive learning. The material covered in this cycle was *faith in the Prophets of Allah. The planning included: Designing a lesson plan (RPP) based on the GI model and Curipod platform. Preparing group and individual worksheets, assessment tools, and observation instruments. Structuring student groups to be heterogeneous in gender and academic ability. And the last point was providing learning materials both in print and via the Curipod platform to support student investigation.

The implementation consisted of two meetings:

Meeting 1 (January 11, 2025):

Students were divided into six groups (A–F), each with five members. Groups A–C explored the concept of faith in the Prophet, while groups D–F focused on the rulings related to belief in the Prophets. Students collaboratively investigated assigned topics using textbooks and materials provided via Curipod. Each group presented their findings; peers provided feedback, and the teacher reinforced key concepts.

Meeting 2 (January 25, 2025):

The same structure was followed with adjustments based on the reflection from Meeting 1. The topic was ways to believe in the Prophets of Allah. Students produced concept maps and summaries, and class discussions showed increased student involvement.

Data Summary and Analysis

1. Student Activity and Attitudes

Aspects	Meeting 1 (%)	Meeting 2 (%)
Student Participation	60 (Fair)	72 (Good)
Discipline	68 (Fair)	77 (Good)
Responsibility	69 (Fair)	76 (Good)
Communicative Skills	66 (Low)	71 (Satisfactory)
Positive Response (Survey)	82	87.3

The increase in participation and attitude scores indicates that students responded positively to the use of the GI model with Curipod. The initial low score in communicative skills can be attributed to unfamiliarity with collaborative learning models. Improvement in Meeting 2 was achieved through teacher facilitation and reinforcement strategies.

2. Students Learning Outcomes

Group	Meeting 1 Score	Meeting 2 Score
A	60	70
B	63	72
C	67	75
D	69	73
E	66	77
F	69	76

Average Score: Improved from 84 (Meeting 1) to 86 (Meeting 2). Completion Rate: Increased from 56% to 72%.

These gains suggest that the GI approach supported by Curipod enhanced conceptual understanding and group accountability. The increase in learning outcomes aligns with Slavin's (2015) assertion that cooperative learning can foster deeper engagement and performance when structured properly.

3. Teacher Performance (Observer Feedback)

Aspect Observed	Meeting 1	Meeting 2
GI Stage Planning	✓	✓
Student Engagement	✓	✓
Resource Organization	✓	✓
Facilitation & Supervision	✓	✓
Reinforcement and Motivation	✓	✓
Assessment Implementation	✓	✓
Encouraging Reflection	✗	✓
Supporting Student Interaction	✗	✓

Observer notes show improvements in the teacher's ability to implement GI steps effectively. By the second meeting, more aspects of the model were fully implemented, including structured reflection and support for student communication. Field observations noted that students appeared more enthusiastic and collaborative in the second meeting. Classroom dynamics improved with fewer distractions and increased focus. Student Questionnaire showed a high level of satisfaction, with 87.3% of students reporting a positive experience with the learning model. Many cited the group-based investigation and interactive presentation via Curipod as motivating.

Discussion

The results demonstrate that the Curipod-based Group Investigation model significantly improved students' engagement, attitudes, and learning outcomes. The structured phases of GI, when supported by digital tools like Curipod, provided students with clear roles, interactive content, and collaborative tasks that stimulated critical thinking. These findings align with research by Sharan & Sharan (1992) and Gillies (2016), who emphasized the value of student-centered inquiry and group interaction in enhancing learning. Moreover, the use of technology—as supported by Raja & Nagasubramani (2018) and Mathisen & Siri (2025)—further increased student motivation and classroom participation.

The initial challenges in student communication likely stemmed from limited exposure to open-ended discussions and peer feedback, which was addressed through repeated cycles and teacher guidance. The cycle-based improvement also confirms Kemmis & McTaggart's (1988) model of action research as an effective framework for iterative instructional

refinement. Cycle I shows promising results in the application of the Group Investigation method using the Curipod platform. However, there remains room for growth, particularly in increasing student confidence in expressing ideas and improving communication during peer evaluations. These insights will guide improvements in the next research cycle.

Planning and Implementation of Cycle I, Meeting 2

In the planning phase of Cycle I, Meeting 2, the researcher continued to utilize the Curipod application-based Group Investigation model, employing a website as the medium. This approach aimed to address issues that arose during Cycle I, Meeting 1. The planning involved: (1) determining the learning material, (2) designing a Lesson Plan (RPP) incorporating the Curipod application-based Group Investigation model, (3) preparing Group Worksheets, (4) preparing individual worksheets, and (5) preparing data collection tools.

Cycle I, Meeting 2 was conducted on January 25, 2025, for 3 x 45 minutes. The activities in this meeting followed a similar structure to Meeting 1, using the selected material on "Ways to Believe in Allah's Messengers." The lesson began with Phase 1, focusing attention, followed by Phase 2, where the teacher wrote the learning objectives on the board. The teacher then guided students in reading and analyzing the material. Subsequently, the teacher assigned group tasks, with each group receiving a different task. The groups worked on tasks such as summarizing and creating concept maps, and the teacher facilitated, guided, and supervised the students.

The assessment of teacher activity was conducted using a teacher observation sheet filled out by Ronika Putra, S.H.I., an Islamic education teacher. The observation sheet included ten aspects, with seven aspects observed during the meeting. The assessment of student activity revealed that 72% of the students were in the "good" category. The assessment of student attitudes showed that discipline reached 77%, responsibility reached 76%, and communicative skills reached 71%. The group scores ranged from 70 to 77. The total score for the written test was 71, with an average score of 76. Students who completed the test reached 72%.

Based on the observation and analysis of the data, the reflection on Cycle I is as follows: (1) the learning steps implemented by the teacher using the Group Investigation model based on the Curipod application showed

improvement from Meeting 1 to Meeting 2, but the teacher needs to enhance the results for aspects that are not yet apparent; (2) student learning outcomes showed improvement, but some aspects still need attention, such as students' hesitation to express opinions and share impressions about the learning process. The student questionnaire showed that 87.3% of students provided positive responses to the implementation of the Group Investigation model based on the Curipod application.

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Cycle II, Meeting 1

In the planning phase of Cycle II, Meeting 1, the researcher implemented a lesson plan based on the Curipod application, utilizing a website as the medium through a group investigation model. The planning involved the following steps: (1) selecting the subject matter, which focused on Faith in the Messengers of Allah (Fitri Perspective), (2) designing the Lesson Plan (RPP) using the Curipod application via a web-based platform with a group investigation approach, (3) preparing group worksheets, (4) preparing individual worksheets, and (5) preparing data collection tools similar to those used in Cycle I. Cycle II, Meeting 1 was conducted on February 9, 2025, over three sessions of 45 minutes each. The activities mirrored those of the previous meeting, using the same selected material centered on cultivating faith in the Messengers of Allah

During the first phase, the teacher engaged students by focusing their attention through a question-and-answer session related to faith in the Messengers of Allah and conveyed the learning objectives. In the second phase, the teacher identified the topic and divided students into groups, maintaining the same group formation as the previous meeting. Group leaders were called to receive the group worksheets (LKK). Unlike the previous meeting, where tasks were assigned sequentially from Group A onward, this session assigned topics in reverse order. Group F was tasked with discussing and summarizing the definition of faith in the Messengers of Allah (fitrah), Group E focused on scriptural evidence for this faith, Group D discussed the number of prophets and messengers, Group C explored methods of believing in the Messengers, Group B examined

attitudes of faith towards them, and Group A covered the concept of messengers classified as ulul azmi (possessors of steadfast determination).

In the following phase, students worked collaboratively in their groups, engaging in discussions and analyzing the material before producing a summary of their group work. The teacher provided guidance to each group to ensure task completion. During the fifth phase, students were given the opportunity to present their group findings. Other group members were encouraged to provide feedback, followed by the teacher reinforcing the material. Teacher activity was assessed using an observation sheet tailored to the Curipod-based web platform with group investigation. Ten aspects were observed, all of which were successfully demonstrated, resulting in a 100% success rate. Student activity was also assessed using an observation sheet; of the ten aspects evaluated, one aspect—students' willingness to share impressions and suggestions about the learning experience—received a score of zero, indicating it was not observed. Consequently, the overall observation score for student activity in this session reached 90%.

Regarding students' attitudes in Cycle II, Meeting 1, the data showed that the discipline aspect reached 78%, classified as "Excellent (A)". Responsibility reached 74%, also "Excellent (A)", while communication skills scored 71%, categorized as "Good". This indicates an improvement in student behavior in terms of discipline, responsibility, and communication. Assessment results by group were as follows: Group A scored 77, Group B 74, Group C 73, Group D 71, Group E 73, and Group F 77. The overall written test score for the Grade II students at MTs. Uswatun Hasanah was 77, with an average score of 78. Twenty-four students met the minimum passing grade, resulting in a success rate of 79%.

This section also discusses field notes concerning the teacher, students, and the Islamic Religious Education learning process using the Curipod-based group investigation model via the website, in addition to student response questionnaires. These elements are outlined below: The teacher effectively initiated the learning process, showing improvement compared to the previous session. The teacher also enhanced efforts to monitor student discipline and classroom management skills. Motivation provided by the teacher during the lesson using the Curipod-based group investigation approach via the website successfully boosted students'

enthusiasm for learning. Group discussions in this session improved, with all students actively participating and no one disengaged or distracted. Students appeared more enthusiastic, making the learning process more enjoyable.

However, from a classical (whole-class) perspective, the session was not yet considered fully successful, as fewer than 53% of students met the learning objectives. Therefore, further improvements are needed in the next session. The results of the student response questionnaire in Cycle I, Meeting 2 indicated that 85% of the students provided positive feedback.

Cycle II Meeting 2

In the planning of Cycle II, Meeting 2, the researcher implemented a Curipod-based group investigation model using a web-based platform as the medium. This planning phase included the following steps: (1) identifying the instructional content, which continued from the previous session, focusing on the implementation of faith in the Prophet (Rasulullah) in daily life; (2) designing the Lesson Plan (RPP) utilizing Curipod-based group investigation through a web platform; (3) preparing the Group Worksheet; (4) preparing the Individual Worksheet; and (5) preparing data collection tools and instruments, consistent with those used in Cycle I.

The implementation of the action in Cycle II, Meeting 2 took place on February 23, 2025, for a duration of three class periods (3 x 45 minutes). The activities mirrored those conducted in the previous session. The lesson began with greetings, student attendance, and a brief review (apersepsi). The teacher presented the lesson objectives and introduced the day's topic. During the apersepsi phase, the teacher facilitated a question-and-answer session regarding the concept of faith in the Prophets of Allah. Subsequently, the teacher directed students to read related material from the textbook and reiterated the lesson objectives.

The teacher then instructed a representative from each group to collect the Group Worksheet. Each group was tasked with discussing, analyzing, and summarizing the practical application of faith in the Prophet in everyday life. In the third and fourth phases of the lesson, students engaged in group tasks. Together with their peers, students analyzed and discussed the assigned content, while the teacher provided guidance and monitored student engagement. Afterward, representatives from each group were invited to present their findings to the class, and members of

other groups were encouraged to respond and provide feedback. Teacher performance was assessed using a teacher observation sheet. The observation form included 10 components aligned with the group investigation model utilizing the Curipod web-based application. All components were successfully demonstrated, indicating a 100% implementation rate. Student activity was evaluated using a student observation sheet, which also included 10 assessment components. All components received a score of one, signifying full participation and a 100% success rate, categorized as excellent.

The teacher showed improvement in monitoring student discipline and classroom management skills. Group discussions during this session were highly effective, with all students actively participating and no students observed engaging in off-task behavior. The students appeared more enthusiastic, contributing to a more engaging and enjoyable learning atmosphere. Results from the student response questionnaire in Cycle II, Meeting 2 indicated that 98% of students responded positively to the Curipod-based group investigation learning model.

Research Discussions

The learning process uses the CURIPOD application based using the website as the medium of the Group Investigation based on the CURIPOD application

Implementation of Learning Based on Curipod Applications Using the Website as the Media Group Investigaton in this study is shown from (1) Observation of Teacher Activities in Implementing Learning (2) Observation Results of Student Activities in following learning and (3) Student questionnaire results after learning with the Group Investigation model based on the CUPOD application. The implementation of learning in this study was shown by the results of observations of teacher activities as mandatory data and observations of student activities as supporting data and equipped with the results of student responses as a visitor data.

Data on the implementation of the implementation of learning produced in this study always shows a consistent increase in results and criteria starting from the 1st meeting, the 2nd meeting of the first cycle and meeting 1, the 2nd meeting of the second cycle. Based on the indicators of success that have been determined it can be concluded that the application of learning-based learning using the website as the medium of the Group

Investigation Based on the Curipod application has been proven to be effective in the subject of Islamic Religious Education, especially the material of faith to the Apostles of God. Student Learning Outcomes of Islamic Religious Education Subjects Faith material to the Apostles of Allah after being implemented based on the CURIPOD application using the website as the medium of the Investigation Group Based on the Curipod Application (GI).

The average work results of the first cycle group meeting of 82 and increased at the 2nd meeting to 86. The average group work of group work. The average group work in cycle II was 88. The results of the completeness of learning from individual test scores for the first 1 meeting of 73% and increased at the second meeting to 75%. The average result of learning completeness from individual tests is 80%. The results of the learning value of learning from the individual test Cycle II of the 1st meeting by 71% and increased to 83%. The average mastery of learning in cycle II is 79%. Based on these data it can be seen that there is a consistent increase in each cycle. So that we can conclude that the application of learning the group Investigation Group Model based on the Curipod application can improve the learning outcomes of class II students in Islamic religious education subjects, especially the material of faith to the Apostles of God..

CONCLUSION

From the results of the learning activities that have been carried out as many as two cycles with each cycle consisting of two meetings and based on all discussions and analysis that has been carried out, conclusions can be taken as follows: 1) By applying the Cigipod application using the website as the medium of the Investigation group based on the Curipod application can improve student learning outcomes. This is indicated by the increasing percentage of all data sources obtained. 2) Increasing student learning outcomes by applying the CURIPOD application based on the website as a medium of the Investigation Group Based on the Curipod application is characterized by an increase in the percentage of group work results from the first cycle by 71 and increased to 75 in cycle II. The results of the completeness of learning in the first cycle by 76% and increased in cycle II to 83%.

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