

Analysis of the Direct Instruction Model in Mathematics Learning on Number Factors Material in Grade 4A at SDN Mertasinga 06 Cilacap for the 2024/2025 Academic Year

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ABSTRACT

This study was conducted in the fourth grade of SDN Mertasinga 06 Cilacap using the direct instruction model in the Mathematics subject on number factors. It can be concluded that the use of the direct instruction model in Mathematics learning can improve students' learning outcomes. Students showed enthusiasm when lessons were delivered directly, especially when combined with engaging games. Data were collected by the teacher through interviews, direct observation during the learning process, and document analysis in the form of students' learning results. The study findings indicate that the implementation of the direct instruction model enhances students' learning outcomes, particularly in terms of understanding the lesson material and communication skills. Through activities such as reading, answering questions, discussing, and explaining, students were more actively involved in the learning process, which ultimately led to improved learning outcomes. Additionally, the direct instruction model increased students' learning motivation, making them more interested and excited about every learning activity. Based on these findings, it is recommended that the direct instruction model be more widely implemented in elementary schools to enhance the effectiveness and quality of learning.

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1. INTRODUCTION

The direct learning model is a learning model that is specifically designed to support students' learning processes related to well-structured declarative knowledge and procedural knowledge that can be taught with a gradual, step-by-step activity pattern. This model can provide motivation to students to learn actively in understanding and discovering concepts, so that students are able to connect theory and skills. ¹ Learning strategies are very important because strategies are designed to achieve a certain goal.

In delivering learning content, managing strategies and making decisions on delivering strategies must require the right strategy, in order to form a learning model that is in accordance with the conditions and circumstances of the school environment so that the methods, techniques and tactics that will be used can be in

¹ Mutmainnah Hanifah, 'Penerapan Model Pembelajaran Langsung (Direct Instruction) Untuk Meningkatkan Keterampilan Seni Musik Pada Mata Pelajaran Sbdp Siswa Kelas V Upt Sdn 3 Kepulauan Selayar Kecamatan Bontoharu Kabupaten Kepulauan Selayar', *Doctoral Dissertation, Universitas Negeri Makassar*, 2016, P. 84.

accordance with the procedures that we have designed at the beginning.² Efforts to achieve student success in learning mathematics are very necessary. For that, mathematics learning must form students' insights in critical, logical, and creative thinking so that they can develop, collaborate with problems that arise in everyday life.

Problem solving ability is one of the basic mathematical skills that students need to have. Problem solving ability is very necessary for students to have so that they can use it flexibly both to learn mathematics further, and to face other problems.³ Mathematics subjects need to be given to all students starting from elementary school to equip students with the ability to think logically, analytically, systematically, critically and creatively, as well as the ability to work together. To achieve these goals, there needs to be a guideline for teachers in teaching, namely a learning model.

Learning models that can be used as guidelines for teachers in the classroom, for example, the Direct Learning model and the Cooperative Learning model. The Direct Teaching model is one of the teaching approaches specifically designed to support the student learning process related to declarative knowledge and well-structured procedural knowledge that can be taught with a gradual, step-by-step activity pattern.⁴ According to (OECD, 2016 in Khoerunnisa et.al., 2024) direct learning strategies (direct instruction) refer to teaching practices that are very dependent on the teacher's ability to deliver lessons in an orderly and clear manner.

This learning strategy aims to provide a summary of previous learning, fact-based questions to help structure learning. Thus, direct learning strategy is a strategy that prioritizes interaction with students and relies on the teacher's ability to deliver clear and structured learning.⁵ The direct learning model is a teaching approach that is specifically designed to support students' learning processes related to declarative knowledge and procedural knowledge.

Declarative knowledge is knowledge in the form of facts or information stored in memory and can be expressed in declarative sentences. Procedural knowledge is knowledge about how to do something, or the steps to follow to complete a task.⁶ The stages of direct learning, or Direct Instruction, generally consist of several important phases.

1. Orientation Phase

At this stage, the teacher provides a learning framework and orientation to the material to be delivered. This can be in the form of preliminary activities to find out students' knowledge, convey learning objectives, explain learning activities to be carried out, and inform the material and learning framework.

2. Presentation or Demonstration

Teachers present the subject matter, either in the form of concepts or skills. This can be done through presentations, demonstrations, examples, or re-explanations of difficult-to-understand material.

3. Structured Training Phase

The teacher plans and provides guidance to students to do the initial exercises. At this stage, the teacher provides reinforcement for students' correct responses and corrects incorrect ones.

4. Guided Practice Phase

Students are given the opportunity to practice concepts or skills and apply those knowledge or skills to real-life situations. This guided practice can also be used by teachers to assess students' ability to perform tasks.

5. Independent Practice Phase

After mastering the guided practice phase, students can do the practice activities independently. This phase requires students to master the stages of completing the task with a certain level of mastery.⁷

From the learning activities carried out in class 4 of SDN Mertasinga 06 Cilacap using the direct instruction learning model in the Mathematics subject on the material of number factors, it can be concluded that the use of the direct instruction learning model in Mathematics learning shows students' enthusiasm in learning activities so that it can improve student learning outcomes. This is in accordance with the application of the direct instruction model, which can improve the learning outcomes of musical arts skills in the SBDP subject of class V students of UPT SDN 3 Kepulauan Selayar, Bontoharu District, Selayar Islands Regency.

² Khoirun Nisah Lubis, Nurmala Sari, And Gusmaneli Gusmaneli, 'Konsep Dasar Strategi Pembelajaran Langsung (Direct Instruction)', *Guruku: Jurnal Pendidikan Dan Sosial Humaniora*, 2.2 (2024), Pp. 60–70, Doi:10.59061/Guruku.V2i2.638.

³ Mohammad Dadan Sundawan, 'Perbedaan Model Pembelajaran Konstruktivisme Dan Model Pembelajaran Langsung', *Jurnal Logika*, Xvi.1 (2016), Pp. 1–11 <<https://jurnal.ugj.ac.id/index.php/logika/article/viewfile/14/13>>.

⁴ T Wahyuningsih And S. Rezeki, 'Perbandingan Hasil Belajar Matematika Siswa Melalui Penerapan Model Pembelajaran Langsung Dengan Pembelajaran Kooperatif', *Jurnal Matematika*, 3.2 (2013), Pp. 1693–1394.

⁵ Khoirun Nisah Lubis, Nurmala Sari, And Gusmaneli Gusmaneli, 'Konsep Dasar Strategi Pembelajaran Langsung (Direct Instruction)'.

⁶ Rizka Faidatun Ni'mah And Mintohari, 'Model Pembelajaran Langsung Untuk Meningkatkan Keterampilan Pengambilan Keputusan Siswa Sekolah Dasar', *Jurnal Jpgsd*, 1.2 (2019), Pp. 1–13 <<https://media.neliti.com/media/publications/251309-Model-Pembelajaran-Langsung-Untuk-Meningkatkan-Keterampilan-Pengambilan-Keputusan-Siswa-Sekolah-Dasar>>.

⁷ Arifin Arifin, 'Implementasi Model Pembelajaran Pengajaran Langsung Untuk Meningkatkan Hasil Belajar Siswa Pada Pembelajaran Pjok Materi Gerak Spesifik Permainan Bola Basket Di Kelas Vii-G Semester 1 Smpn 1 Bolo Tahun Pelajaran 2022/2023', *Jurnal Pendidikan Dan Pembelajaran Indonesia (Jppi)*, 3.1 (2023), Pp. 69–82, Doi:10.53299/Jppi.V3i1.311.

2. METHOD OF THE RESEARCH

This study uses a qualitative descriptive method. This study aims to describe and analyze the phenomena that occur in the application of the Direct learning model, as well as its impact on student learning outcomes. Qualitative research approach is a research used to research the condition of natural objects where the researcher is the key instrument. Qualitative research is descriptive in nature. The data obtained such as the results of observations, interviews, photography, analysis, documents, field notes, are compiled by researchers at the research location, not expressed in the form of numbers.

The qualitative approach is a research approach that studies natural sciences and scientific objects descriptively in the form of words through data obtained in the form of observations, interviews, photography, document analysis and field notes.⁸ The type of research data is qualitative data. In qualitative research, data is obtained from words that are described and interpreted. In qualitative research, the instrument or research tool is the researcher himself. Therefore, the researcher as an instrument must also be validated to what extent the qualitative researcher is ready to conduct research and then go into the field.

Validation of the researcher as an instrument includes validation of the understanding of qualitative research methods, mastery of insight into the field being studied, the researcher's readiness to enter the research object, both academically and logistically. To collect data in the field in order to answer the research focus, the following data collection methods are used:

1. Interview

Interviews are a form of verbal communication, so it is a kind of conversation that aims to obtain information or can be interpreted as a data collection technique that is carried out by asking questions between researchers and the objects being studied. In this method, the creativity of the interviewer is very much needed because it can be said that the results of the interview being studied depend a lot on the investigator's ability to find answers, record and interpret each answer.

2. Observation

Observation is a data collection technique that is carried out systematically and deliberately through observation and recording of the symptoms being investigated.

3. Documentation

Documentation is searching for data on things or variables in the form of notes, transcripts, books, newspapers, magazines, inscriptions, meeting minutes, ledgers, agendas and so on. This documentation is used to complement data obtained from interviews and observations sourced from documents and recordings. In qualitative research there are data sources that come from non-humans such as documents, photographs and statistical materials. This documentation method is one of the easiest forms of data collection, because researchers only observe inanimate objects and if there is an error it is easy to revise it because the data source is fixed and does not change. Stages of Qualitative Research Procedures :

1. Identification of Research Problems :

Determine the research questions to be answered and the focus of the research.

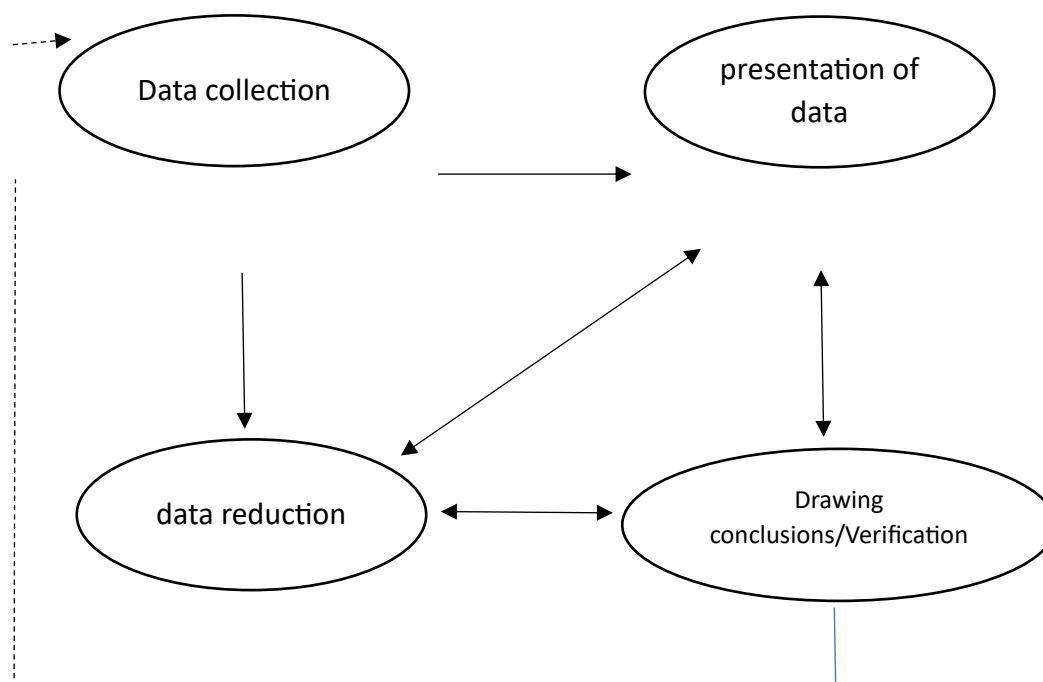
2. Data collection :

- a. In-Depth Interviews : Collect data through in-depth conversations with respondents to understand their experiences and perspectives.
- b. Observation : Observing behavior and interactions in a natural context to obtain descriptive data.
- c. Documentary Research: Collecting and analyzing existing data, such as documents, reports, or archives.

3. Data analysis :

- a. Data Reduction : Summarizing the collected data to simplify and focus the analysis.
- b. Display Data : Arranging reduced data in an easy-to-understand form, such as a table or diagram.
- c. Drawing Conclusions : Drawing conclusions and interpretations from data analysis.

⁸ Ali K Rizky D, 'Jenis Kesimpulan Dan Saran Metode A', *Jenis Kesimpulan Dan Saran Metode A*, 3.5 (2020), Pp. 1–15.



4. Validation :

- a. Validation of Results : Checking the validity of research results to ensure the accuracy and reliability of the findings.
- b. Collaboration with Research Subjects : Asking for feedback from respondents to ensure interpretations are consistent with their experiences.

5. Reporting :

- a. Report Writing : Compile a research report that explains the research process, data collected, analysis, and conclusions.
- b. Presentation of Results : Presenting research results to relevant audiences.⁹

3. RESULTS AND DISCUSSIONS

The results of the study on the use of direct learning models in mathematics learning with the theme of multiplication can increase the enthusiasm and motivation of students in grade IV of SDN Mertasinga 06 Cilacap. In the learning research activities, there are 2 cycles where each cycle has 4 stages, namely the planning stage, the implementation stage, the observation stage, and the reflection stage. This data analysis was carried out descriptively qualitatively. The presentation of this data result is in the form of observation results of teacher and student activities during the learning process and learning outcome data provided at the end of the research cycle.

The planning carried out by the teacher before implementing the learning process is as follows : (1) Teachers make learning implementation plans that are in accordance with the direct learning model and assessment methods in learning. (2) Teachers prepare learning resources and media as well as teaching aids used in learning. (3) Teachers prepare data collection instruments in the form of observations, interview guidelines, and field notes. (4) The teacher informs and directs students about the direct learning model that will be implemented in the next few days. (5) Develop learning evaluation tools in the form of written tests to determine student learning outcomes. (6) In one cycle, two subjects were included, namely Mathematics and Indonesian with the theme of events.

Observation activities were carried out to collect data on the activities of teachers (researchers) and students in the learning process with the assistance of one observer. Observations were conducted using teacher and student research instruments. The ability of teachers (researchers) in managing and implementing learning was observed by one observer. Observation activities are carried out to collect data on the activities of teachers (researchers) and students in the learning process assisted by one observer. Observations are carried out using teacher and student research instruments. Planning is carried out by the teacher before carrying out the learning

⁹ Nursanjaya, 'Understanding Qualitative Research Procedures: A Practical Guide To Make It Easier For Students', *Negotium: Journal Of Business Administration Science*, 04.01 (2021), Pp. 126-141 (In Indonesia).

process and correcting deficiencies in the previous cycle so that the research can run smoothly and achieve the expected indicators.¹⁰

The Make a Match model in direct learning in mathematical multiplication and division provides a significant new atmosphere in the teaching and learning process in the classroom, making it more interesting and effective. With an interactive and collaborative approach. The Make a Match model can increase student engagement and make the mathematics learning process more enjoyable. The card matching activity carried out in this model allows students to be actively involved, which in turn can increase their motivation and understanding of the material. Prior to the implementation of the research, observations were conducted at SDN Mertasinga 06 Cilacap, especially during mathematics lessons in grade IV.

This observation aims to understand the existing learning conditions, where it was found that the Direct Learning Model is the dominant method used. In this model, teachers provide direct explanations of the material to students, which often causes student involvement to be limited and learning to feel monotonous. The results of interviews with the fourth grade homeroom teacher confirmed that the Direct Learning Model has become a routinely applied habit. Although this model provides a systematic explanation, the lack of active interaction from students can result in a lack of motivation and engagement.

This study aims to evaluate whether the Make a Match Model in direct learning can offer a more effective alternative by creating a more dynamic and enjoyable learning atmosphere, as well as increasing student engagement and problem-solving abilities at SDN Mertasinga 06 Cilacap. The teacher implemented the Direct Learning model at SDN Mertasinga 06 Cilacap with the material of multiplication and division, as well as the basic competency of explaining and performing multiplication and division of two numbers. At the beginning of the lesson, the teacher used teaching aids such as pieces of paper and colored pencils to explain the concept, then gave independent assignments and went around to help students who had difficulty.

However, only a few students actively explained in front of the class because they had difficulty understanding the material. Based on the results, the Make a Match model proved to be more effective in improving the problem-solving abilities of fifth grade students at SDN Mertasinga 06 Cilacap compared to the Direct Learning model, although both used the same competency standards and materials. The Make a Match Model facilitates deep understanding in an interactive way, allowing students to actively practice and discuss math problems. This approach provides students with ample opportunity to understand concepts more deeply through repeated practice and immediate feedback.

In contrast, the Direct Instruction Model often does not provide enough opportunities for students to practice directly or discuss the material in depth, which can hinder deep understanding. In terms of academic performance, students who use the Make a Match Model tend to score higher on problem-solving ability tests. The varied practice and immediate feedback allow students to correct their mistakes and better understand concepts. The Direct Instruction Model, while effective in delivering material, often provides less opportunity for students to actively engage and correct mistakes quickly, which can result in lower grades.

Student engagement also showed significant differences between the two models. The Make a Match Model creates a more dynamic and fun learning environment, which increases student motivation and engagement. Students are more active and enthusiastic in learning because this method involves interaction and collaboration. In contrast, the Direct Instruction Model, which is more formal and one-way, often results in lower student engagement and motivation.¹¹

Some of the advantages of the direct learning model are as follows : (1) Teachers can control the content and the order of information students receive, so they can maintain focus on what students need to achieve; (2) Can be applied effectively in both large and small classes; (3) It is the most effective way to explicitly teach concepts and skills to low-achieving students; (4) Emphasizes listening activities (lectures) so that it helps students who are suited to learning in this way; (5) Direct learning models (especially demonstration activities) provide the challenge of considering the gap between theory (what should be) and observation (what actually happens); (6) Students who cannot direct themselves can still achieve if the direct learning model can be implemented effectively.

In addition to having advantages, the direct learning model also has a number of disadvantages. The disadvantages of the direct learning model are as follows : (1) It is difficult to overcome differences in students' abilities, prior knowledge, learning and understanding levels, learning styles or interests; (2) It is difficult for students to develop their social and interpersonal skills because they have little opportunity to be actively involved; (3) Since the teacher plays a central role, learning success depends on the teacher; (4) Direct instructional models

¹⁰ Ni Pt. Risma Handayani And I.B. Gede Surya Abadi, 'Pengaruh Model Pembelajaran Langsung Berbantuan Media Gambar Terhadap Kompetensi Pengetahuan Matematika Siswa Kelas Iv Sd', *Mimbar Ilmu*, 25.1 (2020), P. 120, Doi:10.23887/Mi.V25i1.24767.

¹¹ Vidya Pratiwi, Heldie Bramantha, And Nur Hamidah, 'Perbedaan Kemampuan Memecahkan Masalah Menggunakan Model Make A Match Dengan Model Pembelajaran Langsung Pada Mata Pelajaran Matematika Kelas V Sekolah Dasar', *Dharmas Education Journal (De_Journal)*, 5.2 (2024), Pp. 789–94, Doi:10.56667/Dejournal.V5i2.1410.

rely heavily on the teacher's communication style. Poor communicators tend to produce poor learning, and direct instructional models limit teachers' opportunities to display many positive communication behaviors.¹²

REFERENCES

- Arifin, Arifin, 'Implementasi Model Pembelajaran Pengajaran Langsung Untuk Meningkatkan Hasil Belajar Siswa Pada Pembelajaran PJOK Materi Gerak Spesifik Permainan Bola Basket Di Kelas VII-G Semester 1 SMPN 1 Bolo Tahun Pelajaran 2022/2023', *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, 3.1 (2023), pp. 69–82, doi:10.53299/jppi.v3i1.311
- Hanifah, Mutmainnah, 'PENERAPAN MODEL PEMBELAJARAN LANGSUNG (DIRECT INSTRUCTION) UNTUK MENINGKATKAN KETERAMPILAN SENI MUSIK PADA MATA PELAJARAN SBdP SISWA KELAS V UPT SDN 3 KEPULAUAN SELAYAR KECAMATAN BONTOHARU KABUPATEN KEPULAUAN SELAYAR', *Doctoral Dissertation, UNIVERSITAS NEGERI MAKASSAR*, 2016, p. 84
- Khoirun Nisah Lubis, Nurmala Sari, and Gusmaneli Gusmaneli, 'Konsep Dasar Strategi Pembelajaran Langsung (Direct Instruction)', *Guruku: Jurnal Pendidikan Dan Sosial Humaniora*, 2.2 (2024), pp. 60–70, doi:10.59061/guruku.v2i2.638
- Ni'mah, Rizka Faidatun, and Mintohari, 'Model Pembelajaran Langsung Untuk Meningkatkan Keterampilan Pengambilan Keputusan Siswa Sekolah Dasar', *Jurnal JPGSD*, 1.2 (2019), pp. 1–13 <<https://media.neliti.com/media/publications/251309-model-pembelajaran-langsung-untuk-mening-6fd26d46.pdf>>
- Noor, Aisjah Juliani, 'Kemampuan Pemecahan Masalah Matematika Siswa Dalam', 2 (2014), pp. 250–59
- Nursanjaya, 'Understanding Qualitative Research Prosedures: A Practical Guide to Make It Easier for Students', *Negotium: Journal of Business Administration Science*, 04.01 (2021), pp. 126-141 (In Indonesia)
- Pratiwi, Vidya, Heldie Bramantha, and Nur Hamidiah, 'Perbedaan Kemampuan Memecahkan Masalah Menggunakan Model Make a Match Dengan Model Pembelajaran Langsung Pada Mata Pelajaran Matematika Kelas V Sekolah Dasar', *Dharmas Education Journal (DE_Journal)*, 5.2 (2024), pp. 789–94, doi:10.56667/dejournal.v5i2.1410
- Risma Handayani, Ni Pt., and I.B. Gede Surya Abadi, 'Pengaruh Model Pembelajaran Langsung Berbantuan Media Gambar Terhadap Kompetensi Pengetahuan Matematika Siswa Kelas IV SD', *Mimbar Ilmu*, 25.1 (2020), p. 120, doi:10.23887/mi.v25i1.24767
- Rizky D, Ali K, 'Jenis Kesimpulan Dan Saran Metode A', *Jenis Kesimpulan Dan Saran Metode A*, 3.5 (2020), pp. 1–15
- Sundawan, Mohammad Dadan, 'Perbedaan Model Pembelajaran Konstruktivisme Dan Model Pembelajaran Langsung', *Jurnal Logika*, XVI.1 (2016), pp. 1–11 <<https://jurnal.ugj.ac.id/index.php/logika/article/viewFile/14/13>>
- Wahyuningsih, T, and S. Rezeki, 'Perbandingan Hasil Belajar Matematika Siswa Melalui Penerapan Model Pembelajaran Langsung Dengan Pembelajaran Kooperatif', *Jurnal Matematika*, 3.2 (2013), pp. 1693–1394

¹² Aisjah Juliani Noor, 'Kemampuan Pemecahan Masalah Matematika Siswa Dalam', 2 (2014), Pp. 250–59.