

ABSTRAK

Maria Karina Metta Hanjani, 2010. Uji Coba Pembelajaran dengan Pendekatan PMRI pada Siswa Tunanetra Kelas VIII MTs Yaketunis Yogyakarta dan Hasil Belajar Siswa dalam Materi Fungsi. Skripsi. Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam. Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma, Yogyakarta.

Penelitian ini bertujuan untuk (1) mengetahui cara penerapan pendekatan PMRI pada siswa tunanetra dengan materi ajar fungsi, (2) mengetahui sejauh mana keterlibatan siswa dalam mengikuti pembelajaran, dan (3) mengetahui hasil belajar siswa tunanetra kelas VIII MTs Yaketunis dalam materi fungsi. Subjek siswa dalam penelitian ini adalah enam siswa tunanetra kelas VIII MTs Yaketunis sedangkan subjek guru dalam penelitian ini adalah peneliti sendiri. Penelitian ini menggunakan metode kualitatif deskriptif. Data dikumpulkan melalui 6 tahap, yaitu (1) pengamatan, (2) wawancara, (3) tes awal, (4) latihan soal, (5) tes akhir, dan (6) rekaman video.

Hasil-hasil yang diperoleh dalam penelitian ini adalah:

1. Dalam menerapkan pendekatan PMRI pada siswa tunanetra dalam materi fungsi, perlu memperhatikan beberapa prinsip layanan pendidikan tunanetra, antara lain prinsip kekonkritan dan prinsip individual. Pemberian masalah kontekstual sebaiknya disesuaikan dengan pengalaman hidup siswa tunanetra. Penggunaan alat peraga disesuaikan dengan jumlah siswa, dan dalam membimbing siswa, peneliti lebih mengutamakan pembimbingan secara individual karena kebutuhan setiap siswa berbeda. Selain itu, terdapat adanya keterbatasan kemampuan siswa dalam berkomunikasi secara visual.
2. Dalam pendekatan PMRI, siswa tampak semakin aktif selama pembelajaran. Keaktifan siswa dalam pembelajaran meliputi keaktifan secara umum, yaitu siswa (a) menjawab pertanyaan peneliti, (b) menjelaskan jawaban atas permasalahan secara lisan, (c) mengajukan pertanyaan kepada peneliti, (d)

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menyampaikan usulan atau ide penyelesaian masalah, dan (e) menyimpulkan materi yang sudah dipelajari. Keaktifan dalam penggunaan alat peraga mencakup (a) melakukan instruksi dari peneliti dan (b) mengajukan pertanyaan tentang penggunaan alat peraga. Keaktifan dalam diskusi kelompok mencakup (a) mengajukan pertanyaan ke teman satu kelompok atau kelompok lain, (b) menjelaskan secara lisan ke teman, dan (c) melakukan kerjasama dengan teman satu kelompok.

3. Hasil belajar sebagai suatu perubahan kemampuan kognitif siswa memperlihatkan bahwa: (a) dalam pembahasan relasi, keenam siswa sudah memahami materi, kecuali Siswa 1, yang kurang memahami relasi yang berkaitan dengan bilangan, (b) dalam menyatakan relasi dalam diagram panah, Siswa 1, 5, dan 6 sudah menunjukkan pemahaman yang baik, (c) dalam menyatakan relasi dalam pasangan terurut, Siswa 2, 3, 4, dan 5 sudah dapat menyatakan relasi dengan benar, (d) dalam menyatakan relasi dalam diagram cartesius, para siswa telah mampu melakukannya dengan baik, (e) dalam kaitannya dengan domain dan kodomain, Siswa 1, 3, 5, 6 sudah dapat menyebutkan anggota domain dan kodomain dengan benar, (f) dalam kaitannya dengan *range*, hanya Siswa 5 dan 6 yang mampu menyebutkan anggota *range* dengan benar, dan (g) dalam kajian terhadap materi fungsi, keenam siswa sudah mampu membedakan relasi yang merupakan fungsi dan bukan-fungsi.

ABSTRACT

Maria Karina Metta Hanjani, 2010. A Tryout of Learning Using PMRI Approach for the Visually-impaired Student of Class VIII of the MTs Yaketunis Yogyakarta Related to their Learning Achievement on the Topic of Functions. Thesis. Mathematics Education Studies Program, Department of Mathematics and Science Education. Faculty of Teachers Training and Education, Sanata Dharma University, Yogyakarta.

The aims of this research were (1) to understand the application of PMRI approach to visually-impaired students in the topic of functions, (2) to assess the extent of students' involvement during classroom learning, and (3) to find out the 8th grade visually-impaired students' achievement at MTs Yaketunis in the topic of functions. The student participants in this research were 8th grade visually-impaired students of MTs Yaketunis, meanwhile the teacher participant in this research was the researcher herself. This research used descriptive qualitative approach. Data were collected through six stages, namely (1) observation, (2) interviews, (3) initial tests, (4) exercise, (5) final test, and (6) video recording.

The findings obtained in this research were as follows:

1. In applying the PMRI approach to visually-impaired students in the topic of functions, there was a need to adhere to some principles of visual impairment education services, for example the concreteness principle and the individual principle. The provision of contextual issues should be adjusted to the visually-impaired students' life experiences. The use of the teaching aids should be tailored according to the amount of students' involvement, and in guiding the students, the researcher should give higher priority to individual guidance due to the varieties of the students' needs and their limited ability to communicate visually.
2. Within the PMRI approach, the students seemed to be more active during classroom learning. Students' enthusiasm during the process of classroom learning included general enthusiasm, which was identified by several aspects:

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the students (a) answered the researcher's questions, (b) explained the answer to the problem in a verbal manner, (c) asked questions to the researcher, (d) expressed opinions or problem solving ideas, and (e) summarized the topic of already learned. Enthusiasm in the use of the teaching aids included (a) the students' obedience to instructions from the researcher, and (b) the students' questions about the use of the teaching aids. Enthusiasm in the discussion groups was identified by several aspects: that the students (a) asked questions to their peers ingroup or outgroup, (b) explained verbally to a friend, (c) working together with members of his own group.

3. Students' achievement as a change in students' cognitive abilities showed that:
 - (a) in the discussion of relations, the students were able to understand the concept of relation, except Student 1, who was mystified by relation between numbers, (b) Students 1, 5, and 6 were able to explain the relation using arrow diagram, (c) in the attempt to identify relation in correctly ordered pair, Student 2, 3, 4, and 5 were able to express the relation in correctly ordered pair, (d) in their attempt to express the relation in the cartesius diagram, six students were able to do their task adequately, (e) in the attempt to work with domain and codomain, Students 1, 3, 5, 6 were able to mention the members of the domain and the codomain correctly, (f) in the attempt to study the concept of range, only Student 5 and 6 who were able to specify the range members correctly, and (g) in the attempt to gain comprehension of the the topic of functions, those six students were able to distinguish between the relations that are functions and the relations that are not functions.