

**ANALISIS AKTIVITAS KOGNITIF DAN STRATEGI MEMBACA  
VISUAL SERTA HUBUNGANNYA DENGAN PEMAHAMAN  
SISWA SMA TERHADAP DIAGRAM MORFOLOGI  
TUMBUHAN MAGNOLIOPHYTA**

**TESIS**

*Diajukan untuk memenuhi sebagai syarat dalam  
memeroleh gelar Magister Pendidikan  
Program Studi Pendidikan Biologi*



**oleh**

**Luthfi Azmi**

**1707099**

**PROGRAM STUDI PENDIDIKAN BIOLOGI  
DEPARTEMEN PENDIDIKAN BIOLOGI  
SEKOLAH PASCA SARJANA  
UNIVERSITAS PENDIDIKAN INDONESIA  
BANDUNG**

**2019**

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Oleh :

Luthfi Azmi, S.Pd.

Universitas Pendidikan Indonesia, 2019

Sebuah Tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar  
Magister Pendidikan (M.Pd) pada Program Studi Pendidikan Biologi  
Sekolah Pascasarjana

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**LEMBAR PENGESAHAN**

**ANALISIS AKTIVITAS KOGNITIF DAN STRATEGI MEMBACA VISUAL  
SERTA HUBUGANNYA DENGAN PEMAHAMAN SISWA SMA TERHADAP  
DIAGRAM MORFOLOGI TUMBUHAN MAGNOLIOPHYTA**

Oleh:

Luthfi Azmi  
NIM. 1707099

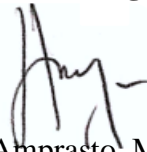
disetujui dan disahkan oleh:

**Pembimbing I**



Dr. rer.nat. Adi Rahmat, M.Si.  
NIP. 196512301992021001

**Pembimbing II**



Dr. Amprasto, M.Si.  
NIP. 196607161991011001

Mengetahui,  
Ketua Departemen Pendidikan Biologi  
Sekolah Pascasarjana  
Universitas Pendidikan Indonesia



Dr. Bambang Supriatno, M.Si.  
NIP. 196305211988031002

## ABSTRAK

Beberapa faktor yang menunjang keberhasilan siswa dalam memahami representasi visual berbentuk diagram dalam buku pelajaran diantaranya adalah aktivitas kognitif dan strategi membaca visual. Pada pelajaran Biologi diagram merupakan salah satu media visual yang digunakan untuk merepresentasikan bentuk sebenarnya seperti pada morfologi tumbuhan. Saat ini masih banyak ditemukan siswa yang gagal dalam memahami diagram morfologi tumbuhan. Penelitian ini bertujuan untuk menganalisis aktivitas kognitif, strategi membaca visual serta hubungannya dengan pemahaman siswa SMA terhadap diagram morfologi tumbuhan Magnoliophyta. Jenis penelitian menggunakan metode deskriptif yang melibatkan 20 orang siswa dari salah satu SMA swasta di Kota Bandung. Proses penelitian meliputi pengumpulan data aktivitas kognitif melalui laporan verbal dengan instrumen *Think aloud protocol*, selanjutnya data strategi membaca visual diperoleh melalui hasil analisis aktivitas siswa berdasarkan hasil rekaman video dan hasil coretan siswa pada lembar diagram yang disajikan. sementara itu pada data pemahaman siswa dikumpulkan melalui hasil pengskoran jawaban siswa berdasarkan tes soal berbentuk uraian. Berdasarkan hasil penelitian diketahui sebanyak 90% siswa memunculkan aktivitas kognitif mengidentifikasi detail gambar saat mempelajari diagram. Selanjutnya hasil pengamatan strategi membaca visual saat mempelajari diagram sebanyak 90% siswa menggunakan aktivitas menghafal yang merupakan bagian dari strategi tingkat rendah. Hasil temuan terkait pemahaman siswa tentang materi morfologi tumbuhan masih dikategorikan rendah dan belum mencapai nilai standar kelulusan. Data hubungan korelasi positif dan negatif ditemukan pada data aktivitas kognitif dan strategi membaca visual dengan pemahaman siswa. Hasil ini mengindikasikan rendahnya pemahaman siswa terkait materi morfologi tumbuhan di tingkat SMA dikarenakan materi yang dipelajari siswa masih didominasi dalam bentuk hafalan.

**Kata kunci:** *Aktivitas kognitif, Strategi membaca visual, Pemahaman siswa, Diagram morfologi tumbuhan Magnoliophyta.*

## ABSTRACT

Several factors that increase students' success in understanding diagrammatic visual representations in textbooks are cognitive activity and visual reading strategies. In Biology, the diagram is one of the visual media used to represent its true form, as in plant morphology. At present, there are still many students who fail to understand plant morphology diagrams. This study aims to analyze cognitive activity, visual reading strategies and their relationship with high school students comprehension of Magnoliophyta plant morphology diagrams. Descriptive method used in this study involved 20 students from one private high school in the city of Bandung. The research process includes the collection of cognitive activity data through verbal reports with Think Aloud protocol instruments, then visual reading strategies data obtained through the analysis of student activity based on video recordings and student activity results on the diagram sheet presented. meanwhile the students' understanding data were collected through the results of scoring student answers based on essay test questions. Based on the results of the study found that as many as 90% of students gave rise to cognitive activities identifying detailed images when studying diagrams. Furthermore, the results of observing visual reading strategies when studying diagrams as much as 90% of students use memorization activities that are part of low-level strategies. The findings related to students' comprehension of plant morphology material are still categorized as low and have not yet reached the graduation standard value. Data on positive and negative correlations were found in cognitive activity data and visual reading strategies with student comprehension. These results indicate the low understanding of students related to plant morphology material at the high school level because the material student's study is still dominated in the form of memorization.

**Keyword:** *Cognitive activity, Visual reading strategies, Student comprehension, Plant Morphology Diagram.*

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