

**PENGARUH PROGRAM PELATIHAN METAAFEKTIF YANG
DIFASILITASI KECERDASAN BUATAN TERHADAP
KECEMASAN SAINS DAN EFIKASI DIRI SISWA**

TESIS

*Disusun untuk memenuhi salah satu syarat memperoleh gelar
Magister Pendidikan IPA*



oleh
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NIM 2310963

**PROGRAM STUDI MAGISTER PENDIDIKAN IPA
FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS PENDIDIKAN INDONESIA
2025**

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KECEMASAN SAINS DAN EFIKASI DIRI SISWA**

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Pohaci Puspa Nuwangi

Sebuah tesis yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Magister Pendidikan pada Program Studi Pendidikan IPA
Fakultas Pendidikan Matematika dan Ilmu pengetahuan Alam

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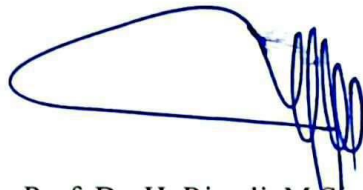
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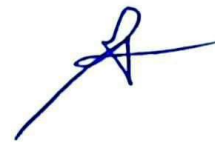
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KATA PENGANTAR

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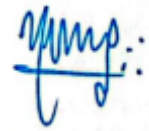
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Pohaci Puspa Nuwangi

ABSTRAK

Pengaruh Program Pelatihan Metaafektif yang Difasilitasi Kecerdasan Buatan terhadap Kecemasan Sains dan Efikasi Diri Siswa

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SDGs nomor 4 tentang Pendidikan Berkualitas membuka peluang penerapan pendekatan humanis dalam pembelajaran Sains, yang mengakui dan mempertimbangkan dimensi afektif siswa. Memahami serta mengelola emosi siswa di kelas krusial untuk meminimalkan dampak emosi negatif dan meningkatkan emosi positif dalam rangka meningkatkan kualitas pembelajaran IPA. Penelitian ini bertujuan mengeksplorasi pengaruh program pelatihan metaafektif yang dipandu ahli, terintegrasi dalam pembelajaran IPA, serta difasilitasi penggunaan kecerdasan buatan (Chat GPT), untuk mengelola kecemasan Sains dan meningkatkan efikasi diri siswa. Melalui desain penelitian *complex mixed-methods* yang menggabungkan *convergent mixed-method*, *embedded mixed-method*, dan metode kualitatif di akhir, studi ini melibatkan 30 siswa di kelompok kontrol dan 60 siswa di kelompok eksperimen. Sementara itu, pelatihan meliputi tiga langkah utama, yakni pelatihan *mindfulness*, pelatihan strategi *coping mechanism*, serta pemberian motivasi dan perumusan tujuan yang dilaksanakan selama tiga pekan. Variabel terikat berupa kecemasan Sains dan efikasi diri Sains diukur menggunakan skala Likert dan dianalisis secara statistik, sementara data kualitatif digali melalui buku harian, observasi, dan wawancara, kemudian dikategorisasi berdasarkan pola-pola tertentu. Kedua data dianalisis bersamaan untuk menghasilkan penjelasan yang utuh dan luas. Meskipun hasil menunjukkan tidak ada perbedaan signifikan pada kecemasan dan efikasi diri Sains antara kelompok kontrol dan eksperimen pasca-pelatihan, yang mengindikasikan tidak adanya pengaruh langsung pelatihan terhadap kedua variabel tersebut, temuan menarik justru terletak pada dampak positif terhadap terciptanya suasana dan emosi positif di dalam kelas setelah intervensi. Hasil ini menekankan potensi optimalisasi aspek afektif dalam pembelajaran IPA, membuka pandangan baru tentang bagaimana intervensi semacam ini dapat memperkaya pengalaman belajar siswa secara holistik.

Kata Kunci: Program pelatihan metaafektif; kecerdasan buatan dalam pendidikan; kecemasan Sains; efikasi diri Sains; dimensi afektif dalam pembelajaran IPA.

ABSTRACT

The Effect of an AI-Facilitated Metaffective Training Program on Students' Science Anxiety and Self-Efficacy

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SDG 4 on Quality Education underscores the importance of integrating affective dimensions into science education through humanistic approaches. This study investigates the impact of a structured meta-affective training program—guided by experts, embedded within science instruction, and facilitated by AI (ChatGPT)—on students' science anxiety and self-efficacy. Using a complex mixed-methods design, involving 60 students in the experimental group and 30 in the control group, the intervention comprised three stages: mindfulness training, coping strategies, and goal-oriented motivation over three weeks. Quantitative data from Likert-scale instruments and qualitative data from diaries, observations, and interviews were analyzed concurrently. While no statistically significant differences were found between groups post-intervention, qualitative findings indicated improvements in classroom emotional climate. These results suggest the potential of affect-oriented interventions to enhance science learning environments and support holistic student development.

Keywords: metaffective training program; artificial intelligence in education; science anxiety; science self-efficacy; affective dimension in science learning.

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