

# **TESIS**

## **PENGEMBANGAN MEDIA DIGITAL *GENIALLY* AI UNTUK MENINGKATKAN LITERASI MATEMATIS DAN *SELF- REGULATED LEARNING* DITINJAU DARI KONSENTRASI KEAHLIAN**

Diajukan untuk Memenuhi Salah Satu Syarat  
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## QUOTES

يَا أَيُّهَا الَّذِينَ ءَامَنُوا اسْتَعِينُوا بِالصَّبْرِ وَالصَّلَاةِ إِنَّ اللَّهَ مَعَ الصَّابِرِينَ

Wahai orang-orang yang beriman. Mohonlah pertolongan (kepada Allah) dengan sabar dan shalat. Sungguh, Allah beserta orang-orang yang sabar. (Q.S Al-Baqarah: 153)

(Sumber: <https://quran.nu.or.id/al-baqarah/153> )

“Jadilah yang terbaik dengan cara yang baik”

(H. Bana G. Kartasasmita, Ph.D.)

“Kudu boga tuju hulu, ulah boga tuju buntut”

## ABSTRAK

**Ayuniasari (2026). Pengembangan Media Digital Genially AI untuk Meningkatkan Literasi Matematis dan *Self-Regulated Learning* Ditinjau dari Konsentrasi Keahlian.**

Pengembangan teknologi digital dalam pendidikan menuntut pembelajaran matematika yang mampu mengembangkan literasi matematis dan kemandirian belajar siswa Sekolah Menengah Kejuruan (SMK). Penelitian ini dilatarbelakangi oleh kebutuhan akan bahan ajar interaktif yang mendukung pemahaman matematika kontekstual sekaligus pengaturan proses belajar siswa. Penelitian ini bertujuan untuk mengembangkan bahan ajar berbasis media digital Genially AI yang layak digunakan; menganalisis perbedaan literasi matematis berdasarkan penggunaan media pembelajaran dan konsentrasi keahlian serta interaksi keduanya; menganalisis perbedaan *self-regulated learning* berdasarkan kedua faktor tersebut; mengukur efektivitas bahan ajar melalui ukuran efek; serta menguji hubungan antara literasi matematis dan *self-regulated learning* pada siswa yang menggunakan Genially AI. Penelitian menggunakan metode *Research and Development* dengan model ADDIE dan pendekatan *mixed methods* tipe *embedded design*. Subjek penelitian terdiri atas siswa konsentrasi Manajemen Perkantoran dan Desain Komunikasi Visual pada kelompok eksperimen dan kontrol. Data dikumpulkan melalui tes literasi matematis, angket, observasi, dokumentasi, dan wawancara. Analisis data meliputi analisis varians dua jalur, ukuran efek, korelasi Pearson, serta analisis kualitatif. Hasil penelitian menunjukkan bahwa bahan ajar yang dikembangkan memenuhi kriteria kelayakan dan memperoleh respons positif dari siswa. Penggunaan Genially AI menghasilkan literasi matematis dan *self-regulated learning* yang lebih tinggi dibandingkan pembelajaran konvensional. Literasi matematis berbeda berdasarkan konsentrasi keahlian, tetapi interaksi antara penggunaan media dan konsentrasi keahlian tidak signifikan. Pada *self-regulated learning*, tidak ditemukan perbedaan signifikan berdasarkan konsentrasi keahlian. Ukuran efek pada kedua variabel berada dalam kategori sedang, dengan pengaruh relatif lebih kuat terhadap literasi matematis. Namun, hubungan linear antara literasi matematis dan *self-regulated learning* tidak signifikan. Dengan demikian, Genially AI berpotensi menjadi alternatif bahan ajar interaktif untuk mendukung pembelajaran matematika di SMK. Penelitian selanjutnya disarankan melibatkan sekolah dan konsentrasi keahlian yang lebih beragam serta menguji efektivitas media dalam jangka waktu lebih panjang.

**Kata kunci:** Desain Komunikasi Visual, Manajemen Perkantoran, Mixed Method, Model ADDIE, Pembelajaran Inovatif

## ABSTRACT

**Ayuniasari (2026). Development of Genially AI Digital Media to Enhance Mathematical Literacy and Self-Regulated Learning Based on Vocational Specialization.**

The advancement of digital technology in education necessitates mathematics instruction capable of fostering mathematical literacy and independent learning among Vocational High School (SMK) students. This study is motivated by the need for interactive teaching materials that support contextual mathematical understanding while facilitating student self-regulation of the learning process. The research aims to develop Genially AI-based digital teaching materials that meet feasibility standards; analyze differences in mathematical literacy based on the type of learning media used, the vocational specialization, and the interaction between the two; analyze differences in self-regulated learning based on these same factors; measure the effectiveness of the teaching materials using effect size; and examine the relationship between mathematical literacy and self-regulated learning among students using Genially AI. The study employs a Research and Development (R&D) method using the ADDIE model and a mixed-methods approach with an embedded design. Research subjects consisted of students specializing in Office Management and Visual Communication Design, divided into experimental and control groups. Data were collected through mathematical literacy tests, questionnaires, observations, documentation, and interviews. Data analysis included two-way analysis of variance (ANOVA), effect size calculation, Pearson correlation, and qualitative analysis. The results indicate that the developed teaching materials met feasibility criteria and elicited positive responses from students. The use of Genially AI resulted in higher levels of mathematical literacy and self-regulated learning compared to conventional instruction. Mathematical literacy differed based on vocational specialization, although the interaction between media usage and specialization was not significant. Regarding self-regulated learning, no significant differences were found based on vocational specialization. Effect sizes for both variables fell within the moderate range, with a relatively stronger impact observed on mathematical literacy. However, the linear relationship between mathematical literacy and self-regulated learning was not statistically significant. Thus, Genially AI has the potential to serve as an alternative interactive teaching resource to support mathematics learning in vocational high schools (SMK). Future research is recommended to involve a more diverse range of schools and areas of specialization, as well as to evaluate the media's effectiveness over a longer period.

**Keywords:** Visual Communication Design, Office Management, Mixed Methods, ADDIE Model, Innovative Learning

## ABSTRAK

**Ayuniasari (2026). Pangwangunan Média Digital Genially AI pikeun Ngaronjatkeun Literasi Matematis jeung *Self-Regulated Learning* Ditilik tina Konsentrasi Kaahlian.**

Kamekaran téknologi digital dina widang atikan nungtut ayana pangajaran matematika anu mampuh mekarkeun literasi matematis jeung kamandirian diajar siswa Sekolah Menengah Kejuruan (SMK). Ieu panalungtikan dumasar kana kabutuhan kana bahan ajar interaktif anu ngarojong pamahaman matematika kontekstual sakaligus kamampuh siswa dina ngatur prosés diajarna. Panalungtikan ieu miboga tujuan pikeun mekarkeun bahan ajar dumasar kana média digital Genially AI anu layak digunakeun; nganalisis bédana literasi matematis dumasar kana pamakéan média pangajaran jeung konsentrasi kaahlian sarta interaksi antara duanana; nganalisis bédana *self-regulated learning* dumasar kana dua faktor kasebut; ngukur éféktivitas bahan ajar ngaliwatan ukuran éfék; sarta nguji hubungan antara literasi matematis jeung *self-regulated learning* dina siswa anu ngagunakeun Genially AI. Métode panalungtikan anu digunakeun nyaéta *Research and Development* kalayan modél ADDIE sarta pamarekan *mixed methods* tipe *embedded design*. Subjék panalungtikan ngawengku siswa konsentrasi kaahlian Manajemen Perkantoran jeung Desain Komunikasi Visual dina kelompok ékspérimén jeung kelompok kontrol. Data dikumpulkeun ngaliwatan tés literasi matematis, angkét, obsérvasi, dokuméntasi, jeung wawancara. Analisis data ngawengku analisis varian dua jalur, ukuran éfék, korélasi Pearson, sarta analisis kualitatif. Hasil panalungtikan nuduhkeun yén bahan ajar anu dimekarkeun nyumponan kritéria kalayakan sarta meunang réspon positif ti siswa. Pamakéan Genially AI ngahasilkeun kamampuh literasi matematis jeung *self-regulated learning* anu leuwih luhur dibandingkeun jeung pangajaran konvensional. Aya bédana literasi matematis dumasar kana konsentrasi kaahlian, tapi interaksi antara pamakéan média jeung konsentrasi kaahlian henteu signifikan. Dina *self-regulated learning*, henteu kapanggih bédana anu signifikan dumasar kana konsentrasi kaahlian. Ukuran éfék dina duanana variabel kaasup kana katégori sedeng, kalayan pangaruh anu rélatif leuwih kuat kana literasi matematis. Sanajan kitu, hubungan liniér antara literasi matematis jeung *self-regulated learning* henteu signifikan. Ku kituna, Genially AI miboga poténsi pikeun dijadikeun salah sahiji alternatif bahan ajar interaktif anu ngarojong pangajaran matematika di SMK. Panalungtikan satuluyna disarankeun pikeun ngalibetkeun sakola jeung konsentrasi kaahlian anu leuwih rupa-rupa sarta nguji éféktivitas média dina jangka waktu anu leuwih panjang.

**Kecap konci:** Desain Komunikasi Visual, Manajemen Perkantoran, *Mixed Methods*, Modél ADDIE, Pangajaran Inovatif.

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