1. Citation

Author(s), Year, Title: Moore, Mason Michael (2025). *The Relationship Between Passive Internet Consumption and Critical Thinking in Developmental Learners at Historically Black Colleges and Universities*,. **Journal/Conference:** Doctoral Dissertation, Grambling State University.

2. Study Aim & Context

• **Primary Goal:** To explore the relationship between passive internet/social media consumption and the critical thinking skills of freshman developmental learners at Historically Black Colleges and Universities (HBCUs),.

• **Focus:**

◦ **Passive vs active digital interaction:** Using the New Media Literacy Scale to distinguish between mindless scrolling and intentional engagement,.

◦ **Cognitive engagement:** Assessing critical thinking dispositions via the Motivated Strategies for Learning Questionnaire (MSLQ),.

◦ **Academic performance:** Controlling for standardized test scores (ACT/SAT) and socioeconomic status,.

◦ **Social media/mobile platforms:** Focus on "news feeds" and entertainment-focused content,.

• **Field:** Educational Psychology / Learning Sciences,.

3. Core Research Problem & Motivation

• **Problem:** The shift from active searching to becoming "passive information receivers" makes students vulnerable to misinformation and disinformation online,.

• **Motivation:** Educators have identified misinformation in student communication, but there is a gap in understanding the **root cause**, which the author posits is linked to uncritical, algorithmic content delivery (passive consumption),.

4. Methodology

Aspect	Details
Research Type	Quantitative correlational approach with an explanatory design,.
Target Population	First-year freshman developmental learners (underprepared for postsecondary education) at four HBCUs,,.
Digital Platforms	Social media apps (news feeds), Google, and library portals,.

Data Collected	Online surveys (NMLS and MSLQ instruments); demographic data,.
Key Metrics	Passive browsing metrics (scrolling time), active utilization hrs/wk, critical thinking scores, internet self-efficacy,.
Study Setting	Web-based delivery at four distinct university sites,.

5. Digital Usage Patterns Identified

• **Reported Time:** Measured in hours per week for both active and passive use.

• **Dominant Platforms:** Heavily algorithm-driven social media platforms and "news feeds",.

• **Usage Behavior:** High frequency of "mindless or thoughtless viewing" where information is delivered rather than searched for,,.

6. Nature of Digital Interaction

• **Passive:** Mindless scrolling, uncritical acceptance of information, and reliance on social media algorithms,.

• **Active:** Deliberately seeking information, critically analyzing sources, and leveraging internet tools to solve problems or produce content,.

• **Distinction:** The study utilizes **Dual Process Theory**, categorizing passive use as **System 1** (fast/automatic) and active use as **System 2** (slow/analytical),.

7. Cognitive & Educational Effects

• **Impact on Critical Thinking:** Heavy passive use tended to **diminish critical thinking**, while digital literacy and active engagement counteracted this effect,.

• **Cognitive Impacts:** Passive consumption led to uncritical acceptance of false information and reduced active, analytical thinking,.

• **Statistical Findings:** The study hypothesized significant relationships between passive consumption and decreased critical thinking, while digital literacy combined with active use positively influenced these skills,.

8. Behavioral & Psychological Implications

• **Cognitive Dissonance/Bias:** Passive consumption feeds **confirmation bias**; if students are not equipped with literacy skills, they fall into a state of cognitive dissonance where they dismiss refuting evidence,.

• **Self-Regulation:** Internet self-efficacy was found to have a significant relationship with metacognitive self-regulation,.

9. Suggested Interventions or Responses

• **Training:** Promoting critical thinking skills to override "impulsive biases" and reflexive intuitive processing.

• **Media Literacy:** Building a foundation to effectively access, analyze, and evaluate information consumed from visual and social media,.

• **Intentionality:** Encouraging students to transition from System 1 thinking to intentional System 2 analytical utilization,.

10. Limitations of Existing Approaches

• **Non-Curative:** Media literacy is not a "silver bullet" that automatically spots all fake news.

• **Inadequate Filtering:** Simply blocking ads or fact-checking by platforms is insufficient to filter out misinformation entirely,.

11. Strengths & Key Contributions

• **Specific Demographic:** Provides rare data on developmental learners at HBCUs,.

• **Theoretical Depth:** Uses **Dual Process Theory** to provide a cogent framework for distinguishing between reflexive and analytical digital interaction,.

• **Framework:** Presents a conceptual model showing how algorithmic delivery leads to confirmation bias.

12. Research Gaps Highlighted

• **Root Cause Gap:** Previous research identified misinformation but lacked understanding of the behavioral root cause (passive consumption).

• **Generalizability Gap:** Noted that findings may not apply to Black students at Predominantly White Institutions (PWIs).

13. Key Quotes / Definitions

• **Passive Internet Consumption:** "The mindless or thoughtless viewing of the internet... without any critical analysis or engagement",.

• **Active Internet Utilization:** "Deliberately and thoughtfully engaging with online content in an exploratory manner that exercises higher-order thinking skills".

14. Tags / Keywords

["passive_consumption", "critical_thinking", "HBCU_students", "misinformation", "dual_process_theory", "confirmation_bias", "media_literacy"]

15. Relevance Score & Applicability (1–5)

• **Relevance to digital consumption problem:** 5

• **Cognitive / educational impact relevance:** 5

• **Support for problem motivation in thesis:** 5

• **Usefulness for gap identification:** 4

16. Notes for Thesis Synthesis

Moore (2025) demonstrates that the algorithmic delivery of information via social media "news feeds" encourages passive consumption, which triggers reflexive System 1 thinking and diminishes critical thinking skills in HBCU freshmen,,. However, his findings suggest that high digital media literacy and active internet utilization act as vital cognitive counter-mechanisms, enabling students to engage in System 2 analytical processing to resist confirmation bias and evaluate information effectively,.

1. Citation

• **Author(s):** Aaroh Marathe & Mr. Rajesh Kanage.

• **Year:** 2024.

• **Title:** Decrease In Attention Span Due To Short-Format Content on Social Media.

• **Journal/Conference:** *Multi-Disciplinary Journal* (Kesari Mahratta Trust).

• **Volume/Pages:** Volume-I, Issue-I, pp. 1–8.

2. Study Aim & Context

• **Primary Goal:** To explore the relationship between social media usage—specifically short-form content consumption—and the ability to maintain focus on demanding, long-form tasks such as academic reading or work-related assignments.

• **Focus:** Passive consumption of short-format media, attention span, cognitive function, and long-form task engagement.

• **Field:** Journalism and Mass Communication.

3. Core Research Problem & Motivation

• **Problem:** Short-form content encourages rapid shifts in focus and provides instant gratification with minimal sustained effort, which may disrupt the brain's ability to engage in deep, focused thought.

• **Motivation:** Increasing concerns regarding "cognitive overload," which reduces the efficiency of information processing and impairs memory retention in educational contexts.

4. Methodology | Aspect | Details | | :--- | :--- | | **Research Type** | Quantitative research approach using an online survey. | | **Target Population** | 23 participants aged 18 to 35 (young adults/digital natives). | | **Digital Platform(s)** | Social media (specifically Instagram, YouTube, and Snapchat). | | **Data Collected** | Self-reported demographics, usage patterns, attention/focus difficulty, and content engagement. | | **Key Metrics** | Daily screen time, content type preference, difficulty focusing on long-form content, and feelings of impatience. | | **Study Setting** | Online survey via Google Forms. |

5. Digital Usage Patterns Identified

• **Daily Screen Time:** 52.2% of participants spend 1–3 hours daily on social media, while 13% spend more than 5 hours.

• **Dominant Content:** 60.9% of participants engage most with short-format content (e.g., Reels, Shorts).

• **Frequency:** 56.5% of respondents scroll through short-form content frequently, and 13% do so "almost all the time".

6. Nature of Digital Interaction

• **Characterization:** Primarily passive consumption of "snackable content" designed for rapid shifts in focus.

• **Behavioral Observations:** Individuals are habituated to constant novelty and "constant partial attention," where the brain is never fully engaged with a single task but divided across multiple sources.

• **Passive vs. Active:** The study highlights a shift toward quick, visual content over demanding, text-heavy long-form material.

7. Cognitive & Educational Effects

• **Attention Span:** A significant correlation exists between higher consumption of short-form content and increased difficulty maintaining attention on tasks requiring sustained focus.

• **Cognitive Engagement:** Frequent exposure to rapidly changing media disrupts the ability to engage in deep, focused thought and follow complex reasoning.

• **Memory/Retention:** Consumption habits influence memory retention and decision-making processes.

• **Impact:** Negative; it can lead to "cognitive laziness," leaving individuals ill-prepared for tasks requiring effortful concentration.

8. Behavioral & Psychological Implications

• **Motivation/Learning Habits:** 34.8% of participants "Strongly agree" and another 34.8% "Agree" that short-form content affects their ability to concentrate for long periods.

• **Digital Distraction:** Multitasking between fragmented media fragments attention and makes it harder to remain dedicated to a single task.

• **Restlessness:** 13% of participants reported experiencing impatience or restlessness "very often" while performing tasks requiring sustained focus, while 34.8% felt this "occasionally".

9. Suggested Interventions or Responses

• **Personal Strategies:** Implementation of scheduled screen time limits and mindfulness techniques.

• **Educational Role:** Institutions should raise awareness about focused attention and provide resources to help students develop concentration strategies.

• **Balanced Approach:** Encouraging "cognitive flexibility" by actively engaging with both short-form and long-form content.

• **Evaluation:** These are proposed as practical strategies to mitigate negative effects rather than evaluated interventions.

10. Limitations of Existing Approaches

• **Traditional Focus:** Shifting attention required for short-form media inhibits the brain's capacity for uninterrupted focus, rendering traditional study methods less effective.

• **Fragmented Research:** The study notes that much previous research focused only on the fragmented nature of stimuli rather than long-term reorganizing of cognitive processes.

11. Strengths & Key Contributions

• **Data Visualization:** Provides clear visual representations (pie charts) of the relationship between content type and concentration difficulty.

• **Focus on Digital Natives:** Specifically targets the 18–35 age group most susceptible to short-form media habits.

12. Research Gaps Highlighted

• **Sample Size:** Future research requires a larger sample size and broader demographics to confirm these findings.

• **Long-term Impact:** Missing longitudinal studies on the effects of these habits on cognitive development and professional productivity.

13. Key Quotes / Definitions

• "Short-form content, by its nature, encourages quick shifts in focus, providing instant gratification while requiring minimal sustained effort".

• "The brain becomes accustomed to shifting focus quickly, making it increasingly difficult to hold attention on one task for extended periods. This phenomenon, known as 'cognitive overload,' can reduce efficiency".

14. Tags / Keywords

• ["attention_span", "short-form_content", "social_media", "cognitive_overload", "digital_natives", "passive_consumption", "long-form_tasks"].

15. Relevance Score & Applicability

• **Relevance to digital consumption problem:** 5/5

• **Cognitive / educational impact relevance:** 5/5

• **Support for problem motivation in thesis:** 5/5

• **Usefulness for gap identification:** 4/5

16. Notes for Thesis Synthesis Marathe & Kanage (2024) demonstrate a significant correlation between the frequent consumption of "snackable" short-form digital media and a decreased ability to maintain sustained focus on complex academic or professional tasks. Their research highlights how habituation to rapid novelty creates "cognitive overload," suggesting that educational institutions must intervene with strategies that promote cognitive flexibility and mindful media consumption to preserve deep-thinking capabilities.

1. Citation

• **Author(s):** Fathir Aspar, Refdinal, Nelvi Erizon, Jasman, Irzal, and Yufrizal A.

• **Year:** 2025.

• **Title:** From passive to critical consumption: The role of educational content in short videos to improve students' critical thinking skills.

• **Journal/Conference:** Jurnal Pendidikan Teknologi Kejuruan.

• **Volume/Pages:** Vol. 8, No. 1, pp. 60-72.

2. Study Aim & Context

• **Primary Goal:** To investigate whether short videos with educational content can improve students' critical thinking skills and act as an entry point for better cognitive habits.,

• **Focus:**

◦ **Passive vs active digital interaction:** Moving from shallow video consumption to active reflection.,

◦ **Cognitive engagement:** Using short videos to stimulate thinking without overloading cognition.

◦ **Academic performance:** Measured through critical thinking ability in a vocational education context.,

• **Field:** Vocational Education / Mechanical Engineering.,

3. Core Research Problem & Motivation

• **Problem:** The popularity of short videos (TikTok, Reels, Shorts) has led to "shallow video content" replacing in-depth reading, causing the intention to think to disappear and lowering critical thinking abilities.,

• **Motivation:** Short videos are easily digested and align with how the human brain remembers visual, concise material, but they often lack the deep reflection necessary for learning.

4. Methodology

Aspect	Details
Research Type	Quantitative / Quasi-Experiment.
Target Population	33 Mechanical Engineering students (freshmen, aged 17–20).

Digital Platform(s)	Short video formats (like TikTok, YouTube Shorts, or Instagram Reels).
Data Collected	Pretest and posttest essays based on engineering drawing cases.,
Key Metrics	**Holistic Critical Thinking Scoring Rubric (HCTSR)**: Weak, Unacceptable, Acceptable, Strong.
Study Setting	Vocational education department at Universitas Negeri Padang, Indonesia.

5. Digital Usage Patterns Identified

• **Dominant Platforms:** TikTok, YouTube Shorts, and Instagram Reels.

• **Content Characteristics:** Engaging, personalized, visual, concise, and of short duration (seconds to a few minutes).

• **User Habit:** Students are accustomed to visual content but often miss out on deep reflection due to the rapid acquisition of core information.

6. Nature of Digital Interaction

• **Characterization:**

◦ **Passive:** Shallow consumption where the intention to think disappears.

◦ **Active Involvement:** Triggered by educational content that encourages asking questions, interactivity, and reflection.

• **Explicit Distinction:** Yes; the study aims to transform "passive consumption" into "critical thinking" habits through specific video syntax.,

7. Cognitive & Educational Effects

• **Reported Impacts:**

◦ **Critical Thinking:** Significant improvement when using educational short videos (ANCOVA p-value < 0.001).,

◦ **Information Retention:** Visual and concise material is more easily remembered than long material.

• **Effect Type:** Positive; educational short videos served as an effective "supporting tool" in education.

• **Key Statistics:** The experimental group showed a higher posttest average (8.25) compared to the control group (6.82) after intervention.

8. Behavioral & Psychological Implications

• **Motivation & Curiosity:** The study used open-ended questions in videos to trigger curiosity and prime students for analysis.

• **Boredom & Fatigue:** Results noted that fatigue or boredom between tests could affect performance, suggesting a need for mental breaks.

• **Adjustment:** Different students have different speeds of adjusting to new ways of learning, requiring repetition for some to internalize content.

9. Suggested Interventions or Responses

• **Educational Short Video Syntax:** A specific 6-step model: **(1) Question, (2) Depth of Analysis, (3) Explanation/Compare arguments, (4) Visual Mapping, (5) Advice/Actionable strategies, (6) Interactive Engagement.**

• **Curriculum Integration:** Integrating these videos into existing curricula to train critical thinking by adjusting learning objectives.

• **Evaluation:** The intervention was evaluated through a quasi-experiment and found to be significantly effective after controlling for pretest variables.

10. Limitations of Existing Approaches

• **Treatment Fidelity:** Non-uniformity in how long students actually watch the videos can diminish the stimulation of critical thinking.

• **Sample Size:** Small samples (N=33) can only detect large effect sizes and may obscure smaller improvements.

• **Question Difficulty:** Posttest questions that are too difficult can mask the improvement in student skills.

11. Strengths & Key Contributions

• **Proven Efficacy:** Uses **ANCOVA** to statistically isolate the intervention effect from pre-existing student differences.

• **Design Framework:** Provides a clear "Syntax of Educational Short Videos" that other educators can follow.

• **Microlearning Alignment:** Successfully applies microlearning principles to modern social media habits.

12. Research Gaps Highlighted

• **Duration Standardization:** The need to standardize the duration of watching videos for better treatment fidelity.

• **Long-term Impact:** Missing exploration of long-term cognitive effects through extended intervention periods.

• **Question Validation:** The need for more rigorous validation of question complexity in assessments.

13. Key Quotes / Definitions

• "When in-depth reading is replaced by shallow video content, one's intention to think will further disappear, which will eventually lower one's critical thinking ability."

• "Short videos with educational content can be an entry point in the habit of critical thinking."

14. Tags / Keywords

• ["short_videos", "critical_thinking", "passive_consumption", "educational_intervention", "microlearning", "vocational_education"]

15. Relevance Score & Applicability

Category	Rating (1–5)
Relevance to digital consumption problem	5
Cognitive / educational impact relevance	5
Support for problem motivation in thesis	5
Usefulness for gap identification	4

16. Notes for Thesis Synthesis

Aspar et al. (2025) argue that while typical short-form digital consumption is "shallow" and diminishes the intention to think, the same medium can be repurposed through a specific six-step educational syntax to foster critical thinking., Their findings highlight that by integrating interactive questions and visual mapping into short videos, educators can transform passive scrolling into a cognitively active entry point for higher-order reasoning.

1. Citation

• **Author(s):** Daniel Darghan Felisoni & Alexandra Strommer Godoi.

• **Year:** 2018 (Source indicates DOI/Rights from 2017, usually published in 2018).

• **Title:** Cell phone usage and academic performance: An experiment.

• **Journal/Conference:** *Computers & Education*.

• **Volume/Pages:** Vol. 118, pp. 175-187. (Note: Pages inferred from standard publication records for this specific title and DOI).

2. Study Aim & Context

• **Primary Goal:** To test the relationship between the actual average time students spend using smartphones per day and their academic performance using objective measurements rather than self-reports.

• **Focus:**

◦ **Screen time measurement:** Direct measurement via tracking apps.

◦ **Cognitive engagement/Attention:** Impact of multitasking and distraction.

◦ **Academic performance:** Impact on GPA and class ranking.

• **Field:** Educational Technology / Business Education.

3. Core Research Problem & Motivation

• **Problem:** Smartphones are primarily perceived as leisure tools rather than educational ones, leading to distraction during academic activities.

• **Motivation:** Existing literature relies heavily on self-reported data, which significantly underestimates actual usage (by nearly 50% in this study).

• **Cognitive Burden:** Students overestimate their ability to multitask, leading to impaired learning and recall.

4. Methodology

Aspect	Details
Research Type	Mixed strategy: Hierarchical linear regression (correlational) with experimental data collection.
Target Population	43 undergraduate students at Fundação Getúlio Vargas (FGV), a business school in São Paulo, Brazil.

Digital Platform(s)	General smartphone use (integrated platforms including social media, texting, and gaming).
Data Collected	Actual screen-time logs (via 'Moment' and 'App Usage Tracker' apps), surveys on self-efficacy, and official academic ranking.
Key Metrics	Daily usage minutes, class position (0–100 scale), self-efficacy for self-regulated learning (SE:SRL).
Study Setting	Real-world classroom setting.

5. Digital Usage Patterns Identified

• **Reported vs. Actual:** Actual usage was **48.5% higher** than what students self-reported.

• **Daily Average:** 230 minutes (3.8 hours) per day.

• **Range:** Usage varied from a minimum of 38.4 minutes to a maximum of 396.5 minutes per day.

• **Class Time Impact:** Usage during class time had **twice the negative impact** on performance compared to usage during free time or weekends.

6. Nature of Digital Interaction

• **Characterization:**

◦ **Passive/Leisure-oriented:** Primarily perceived as a tool for leisure (social media, texting, gaming).

◦ **Multitasking:** Students frequently connect to social media while performing academic tasks.

• **Explicit Distinction:** The study highlights that the smartphone acts as an **integrated platform** where isolated uses (texting, calling, scrolling) coalesce into a more harmful, constant distraction.

7. Cognitive & Educational Effects

• **Academic Performance:** A significant **negative relationship** was found; every 100 minutes of daily use corresponded to a **6.3 point reduction** in school ranking.

• **Multitasking:** Negatively correlated with the capability to learn effectively and resulted in lower test scores.

• **Learning/Recall:** Real-world classroom studies showed negative effects on both learning and the ability to recall information.

• **Effect Type:** Deeply negative and "alarming" in magnitude.

8. Behavioral & Psychological Implications

• **Multitasking Illusion:** Students overestimate their ability to multitask between social media and academic work.

• **Self-Regulation:** Better time-management and self-efficacy skills are correlated with lower (or better regulated) cellphone usage.

• **Focus:** High usage reflects an inability to effectively regulate focus and attention.

9. Suggested Interventions or Responses

• **Solutions:** The study provides evidence for educators and stakeholders to understand the harm of excessive use, though it does not evaluate a specific intervention.

• **Nature:** Primarily focused on **awareness** and the need for schools to address technology's impact on learning.

10. Limitations of Existing Approaches

• **Methodological Bias:** Previous studies rely on self-reports where students report an access rate of 3 times per class while the actual rate is closer to **21 times**.

• **Lack of Integration:** Most past research focused on isolated apps (just Facebook or just texting) rather than the smartphone as a whole.

• **Causality Issues:** Difficulty in determining if high usage causes poor grades or if struggling students turn to their phones more often.

11. Strengths & Key Contributions

• **Objective Accuracy:** First of its kind to use app-tracking logs to eliminate self-reporting bias.

• **Control Variables:** Controlled for past academic results and **self-efficacy**, strengthening the link between usage and performance.

• **Class-Specific Data:** Distinguished between the impact of use *in* class versus *outside* of class.

12. Research Gaps Highlighted

• **Coalesced Impact:** The need to explore how different apps used together (integrated platform) influence behavior more than isolated uses.

• **Causal Mechanisms:** While some lab studies exist, real-world causal mechanisms remain complex and under-investigated.

13. Key Quotes / Definitions

• "Students tend to significantly underestimate the number of times they access their phones... the actual observed rate is close to stunning twenty-one times [per class]."

• "Each 100 min spent using the device on average per day corresponded to a reduction in a student's position at the school's ranking of 6.3 points."

14. Tags / Keywords

• ["smartphone_usage", "academic_performance", "multitasking", "digital_distraction", "self-efficacy", "objective_measurement", "class_ranking"]

15. Relevance Score & Applicability

Category	Rating (1–5)
Relevance to digital consumption problem	5
Cognitive / educational impact relevance	5
Support for problem motivation in thesis	5
Usefulness for gap identification	4

16. Notes for Thesis Synthesis

Felisoni and Godoi (2018) provide alarming evidence that actual smartphone usage is nearly **50% higher** than students perceive, and this excessive use directly degrades academic ranking. Their findings emphasize that usage during class is twice as detrimental as usage during free time, highlighting a critical need for educational strategies that address the smartphone as a persistent, integrated platform of distraction.

1. Citation Iqra Tu Zahra, Malik Mureed Hussain, Abaid Ur Rehman, & Tahira Rafiq, (2025), "Impact of Social Media Engagement on Attention Span Among Young Adults: The Mediating Role of Fear of Missing Out," *Policy Journal of Social Science Review*, Vol. 3 No. 7.

2. Study Aim & Context

• **Primary Goal:** The study examined how social media involvement influences attention spans in young adults, specifically investigating the role of **Fear of Missing Out (FoMO)** as an intervening variable.

• **Focus:** The research focused on screen time measurement, the negative impact of social media involvement on attention, and the emotional-cognitive interaction of FoMO.

• **Field:** Applied Psychology.

3. Core Research Problem & Motivation

• The study investigates the **fragmentation of attention** caused by the fast-paced, visual nature of platforms like TikTok and Instagram.

• It addresses a gap in understanding how **FoMO serves as a mediating mechanism** between digital engagement and the cognitive depletion/distraction reported even by moderate users.

• The rise of **short-form content** is specifically noted for making it difficult for users to pay attention to longer, more professional or academic tasks.

4. Methodology | Aspect | Details | | :--- | :--- | | **Research Type** | Quantitative study using correlation, regression, and mediation analysis. | | **Target Population** | **220 young adults** aged 18 to 30. | | **Digital Platform(s)** | Instagram, TikTok, Snapchat, and X (formerly Twitter). | | **Data Collected** | Standardized online questionnaires: Social Media Engagement Questionnaire (SMEQ), Mind Wandering Questionnaire (MWQ), and Fear of Missing Out Scale (FoMOS). | | **Key Metrics** | **Mind wandering scores** (as a proxy for lower attention span), levels of social media engagement, and FoMO intensity. | | **Study Setting** | University networks and social media outlets via purposeful sampling. |

5. Digital Usage Patterns Identified

• **Reported Screen Time:** 46.8% of participants spend **3–4 hours** daily on social media, while 37.7% spend **5 or more hours**.

• **Dominant Platforms/Content:** Platforms with **infinite scroll** and short-form videos (Instagram Reels, TikTok) were central to the analysis.

• **Purpose of Use:** The primary driver for engagement was **entertainment (54.1%)**, followed by communication and information seeking.

6. Nature of Digital Interaction

• The sources characterize engagement as involving **active behaviors** (posting, commenting) and **passive activities** (browsing streams or viewing stories).

• Interaction is reinforced by **algorithm-curated content** and notifications designed to provide unpredictable rewards, which makes it difficult to disengage.

• Frequent task-switching and **"cognitive drift"** are observed as users move rapidly between short, stimulating visual posts.

7. Cognitive & Educational Effects

• **Attention Span:** Increased social media engagement is strongly linked with **reduced attention spans** and higher levels of mind wandering.

• **Cognitive Engagement:** Constant digital stimulation may **fragment attention**, making it harder to razon properly or solve problems.

• **Academic Performance:** Fragmented attention is noted as a factor that may lower school performance and productivity in the long run.

• **Effect:** The overall effect is recorded as **negative**, suggesting that digital habits are shaping cognitive focus toward distraction.

8. Behavioral & Psychological Implications

• **FoMO** serves as an emotional driver that explains a significant part of why social media use leads to inattention.

• High FoMO leads users to **check phones compulsively**, even when they should be focusing, out of fear of social exclusion.

• This creates **mental strain** and utilizes mental resources that would otherwise be used for deep thinking.

9. Suggested Interventions or Responses

• The study suggests addressing **emotional drivers like FoMO** to improve attention in educational settings.

• **Digital wellness strategies** and teaching **mindfulness** are proposed to help young people control their well-being and time.

• The interventions mentioned are **suggested** rather than evaluated in the study itself.

10. Limitations of Existing Approaches

• The sources identify a **lack of cross-cultural data**, noting that most existing studies are conducted in Western contexts.

• There is an **overreliance on self-report questionnaires**, which can lead to bias or inaccurate recall.

• The cross-sectional nature of current data means it is difficult to determine if social media *causes* short attention spans or vice versa.

11. Strengths & Key Contributions

• The research provides **statistical evidence** for FoMO as a mediator, explaining *how* emotional anxiety links digital habits to cognitive depletion.

• The study uses a **diverse cultural context** by gathering data outside of Western societies.

• The scales used (SMEQ, MWQ, FoMOS) demonstrated **high internal consistency and reliability**.

12. Research Gaps Highlighted

• There is a **missing link** in longitudinal research to determine the long-term effects of social media use on brain development in young adults.

• Few researchers have explored the **"why"** behind digital habits leading to poor focus, specifically regarding the emotional bridge provided by FoMO.

13. Key Quotes / Definitions

• "Short-form content sharing... may lead people to quickly move on to new information which can make it harder for them to pay attention to longer tasks".

• "By interacting more with social media we are losing our ability to sustain attention on study related and professional tasks".

14. Tags / Keywords ["social_media_engagement", "attention_span", "FoMO", "young_adults", "mind_wandering", "digital_behavior", "cognitive_focus"].

15. Relevance Score & Applicability | Category | Rating (1-5) | | :--- | :---: | | Relevance to digital consumption problem | 5 | | Cognitive / educational impact relevance | 5 | | Support for problem motivation in thesis | 5 | | Usefulness for gap identification | 4 |

16. Notes for Thesis Synthesis Zahra et al. (2025) demonstrate that social media engagement negatively impacts sustained attention in young adults, primarily by increasing instances of mind wandering. Their findings highlight that Fear of Missing Out (FoMO) acts as a critical mediator, where the emotional anxiety of being excluded drives the compulsive checking and task-switching that ultimately depletes cognitive resources.

1. Citation Nabung, A. (2024). **The Impact of Multitasking With Digital Devices on Classroom Learning: A Critical Review on the Future of Digital Distraction in Education**. *US-China Education Review A*, Vol. 14, No. 6, 369-383.

2. Study Aim & Context

• **Primary Goal:** To offer a synthesized examination of existing literature and theoretical perspectives to unravel the **complex dynamics underlying multitasking** with digital devices and its impact on classroom learning outcomes.

• **Focus:**

◦ Interplay between **multitasking behaviors and academic performance**.

◦ **Frequency and nature of digital distractions** in classrooms.

◦ Students' **motivations and cognitive processes** during multitasking.

• **Field:** Educational Science / Pedagogy.

3. Core Research Problem & Motivation

• **Problem:** The widespread practice of **multitasking with digital devices** (laptops, tablets, smartphones) during instructional sessions.

• **Motivation:** Digital technology has blurred the boundaries between academic tasks and extraneous distractions, causing **cognitive overload** and reduced information retention. There is a critical need to bridge the gap between isolated laboratory studies and the complex dynamics of **real-world educational contexts**.

4. Methodology | Aspect | Details | | :--- | :--- | | **Research Type** | **Mixed-methods approach** (quantitative surveys + qualitative interviews/focus groups) and multifaceted research (literature analysis + library research). | | **Target Population** | Students in educational settings, specifically **university students**. | | **Digital Platform(s)** | **Smartphones, laptops, and tablets**. | | **Data Collected** | Quantitative survey data, qualitative interviews, observation, and systematic analysis of relevant scientific literature. | | **Key Metrics** | **Academic performance (grades)**, comprehension levels, information retention, and attention lapses. | | **Study Setting** | **Authentic learning environments** (classrooms) and university settings. |

5. Digital Usage Patterns Identified

• **Reported Screen Time: 75% of students** use digital devices for non-class related activities during lectures, with **40% admitting to multitasking** in every single class.

• **Dominant Platforms/Content: Social media browsing, texting, web surfing**, checking emails, and watching videos.

• **Frequency:** Students send and receive an **average of 2.4 text messages** per class session.

• **Context:** The constant presence of devices has normalized "simultaneous engagement" with non-academic activities.

6. Nature of Digital Interaction

• **Characterization:**

◦ **Passive/Semi-active:** Browsing social media and watching videos.

◦ **Active:** Texting and concurrent digital activities.

• **Passive vs. Active Distinction:** The study distinguishes between **focused engagement** with course content and **extraneous distractions** or "non-academic diversions".

• **Behavioral Observations:** Multitasking is often a **habitual smartphone use pattern** or a coping mechanism for boredom and stress.

7. Cognitive & Educational Effects

• **Reported Impacts:**

◦ **Attention Span:** Divided attention, attentional fragmentation, and increased rates of **attentional lapses**.

◦ **Cognitive Engagement:** Reduced critical thinking skills and **cognitive overload**.

◦ **Memory/Retention:** Impaired memory encoding and lower retention of information.

◦ **Academic Performance:** Significant correlation with **lower grades** and reduced comprehension.

• **Effect Type:** Significantly **negative**.

8. Behavioral & Psychological Implications

• **Motivations:** Perceived task efficiency, social connectivity, and the **Fear of Missing Out (FOMO)**.

• **Self-Regulation:** Students with higher **self-regulatory skills** are better able to resist distractions, while those with lower self-regulation suffer greater cognitive costs.

• **Mental Health:** Excessive media multitasking is associated with symptoms of **depression, fatigue, and social anxiety**.

9. Suggested Interventions or Responses

• **Self-Regulated Learning (SRL):** Promoting SRL strategies to help students manage their own digital behaviors.

• **Mindfulness:** Incorporating **mindfulness-based interventions** and attention training into the curriculum.

• **Policy/Guidelines:** Establishing clear **technology policies**, rules, and norms for device usage during class.

• **Technological Tools:** Using **classroom management software** and distraction-blocking apps.

• **Active Learning:** Designing interactive and **experiential learning activities** that minimize external distractions.

10. Limitations of Existing Approaches

• **Isolated Focus:** Many existing studies focus on single aspects of behavior rather than the **multifaceted nature** of multitasking.

• **Artificial Settings:** Heavy reliance on **controlled laboratory settings** that fail to capture real-world classroom dynamics.

• **Methodological Bias:** Reliance on **self-report measures** may introduce inaccuracies or biases compared to objective tracking tools.

11. Strengths & Key Contributions

• **Synthesis:** Provides a comprehensive examination that **triangulates findings** from quantitative, qualitative, and literature-based sources.

• **Holistic Approach:** Connects cognitive psychology (cognitive load theory) with practical **pedagogical implications**.

• **Contemporary Relevance:** Addresses how the **COVID-19 pandemic** accelerated reliance on digital devices and increased distractions.

12. Research Gaps Highlighted

• **Authentic Contexts:** Lack of research in **authentic learning environments**.

• **Objective Metrics:** Need for more **objective measures**, such as eye-tracking, digital tracking tools, or observational methods, instead of just self-reports.

• **Demographic Diversity:** Need to explore **diverse student populations** across varying educational contexts to enhance generalizability.

13. Key Quotes / Definitions

• **Digital Distraction:** "The phenomenon where individuals become diverted, unfocused, or interrupted by the use of digital devices such as smartphones, computers, or tablets".

• **Multitasking:** "The simultaneous engagement in multiple activities... often discouraged because it can lead to decreased focus, reduced comprehension, and lower retention of information".

14. Tags / Keywords ["multitasking", "digital_devices", "classroom_learning", "academic_performance", "digital_distraction", "self-regulated_learning", "cognitive_overload"].

15. Relevance Score & Applicability | Category | Rating (1–5) | | :--- | :---: | | Relevance to digital consumption problem | 5 | | Cognitive / educational impact relevance | 5 | | Support for problem motivation in thesis | 5 | | Usefulness for gap identification | 4 |

16. Notes for Thesis Synthesis Nabung (2024) synthesizes extensive evidence demonstrating that classroom multitasking—driven by **habitual smartphone use and FOMO**—directly results in **diminished academic performance and impaired information retention**. The research highlights a critical shift needed in pedagogy: moving away from simple device restriction toward the active cultivation of **self-regulated learning and mindfulness** to help students navigate modern digital distractions.

1. Citation

Author(s), Year, Title: Martin, F., Long, S., Haywood, K., & Xie, K. (2025). Digital distractions in education: a systematic review of research on causes, consequences and prevention strategies. **Journal:** *Education Tech Research Dev*, 73:3423–3451.

2. Study Aim & Context

• **Primary Goal:** To synthesize existing research on the **causes, consequences, and prevention strategies** associated with digital distraction in educational settings.,

• **Focus:**

◦ **Passive vs. Active Digital Interaction:** Analyzes the loss of focus due to engagement with non-academic content (off-task behavior).

◦ **Cognitive Engagement:** Focuses on interrupted attention spans and superficial understanding.,

◦ **Academic Performance:** Examines consequences like lower grades and ineffective reading.

• **Field:** Educational Technology, Educational Psychology, and Research Methodology.

3. Core Research Problem & Motivation

• **Problem:** The **omnipresence of notifications** and the habit of constant connectivity contribute to a culture of "**continuous partial attention**," leading to fragmented research on how to mitigate these effects.,

• **Motivation:** As digital technologies (including **AI chatbots like ChatGPT**) become embedded in student life, there is a risk of deeper **cognitive offloading** and AI-induced disengagement that complicates the boundary between learning enhancement and distraction.,

4. Methodology

Aspect	Details
Research Type	**Systematic Review** of 26 peer-reviewed empirical articles using the DISCAR process.,,
Target Population	Primarily **college and university students** (69.23%), with some focus on K-12 and instructors.,
Digital Platform(s)	**Smartphones** (most common), tablets, laptops, and smartwatches.,
Data Collected	Synthesis of research using surveys, interviews, grades/assessment scores, and observations.,

Key Metrics	**TPE Framework dimensions** (Technology, Personal, Environment), attention loss, and academic performance scores.,,
Study Setting	Predominantly **higher education** (92.3%) and in-person classroom environments.,

5. Digital Usage Patterns Identified

• **Dominant Platforms: Smartphones** and tablets are the primary technological distractors.,

• **Frequency:** Technology-use behavior is characterized by **frequent task-switching**.

• **Context:** Students frequently use devices for **off-task purposes** during instructional time, such as social networking, texting, and watching videos.,,

6. Nature of Digital Interaction

• **Characterization:**

  ◦ **Passive:** Watching online videos, cyberloafing, and reading non-academic content.,,

  ◦ **Semi-active:** Constant social networking and off-task communication (texting/emailing).

• **Passive vs. Active:** The study distinguishes between **academic focus** (on-task) and **non-academic distraction** (off-task).

• **Key Observation:** Digital distraction often results in a **superficial understanding** of topics because students are less engaged with deep processing.

7. Cognitive & Educational Effects

• **Attention Span: Frequent shifts or loss of focus** (16.67%) and multitasking (13.33%).,

• **Cognitive Engagement:** Declines in **flow status/recall** and superficial processing of text.,,

• **Academic Performance: Lower academic performance**, less accurate note-taking, and ineffective reading behaviors.,

• **Effect:** Overwhelmingly **negative**, impacting the effectiveness of instruction and peer learning.,

8. Behavioral & Psychological Implications

• **Motivation:** Distraction is often triggered by **boredom**, apathy toward material, or a **lack of motivation**.,

• **Self-Regulation:** Identifying a **habitual technology use** pattern that overrides academic intent.,

• **Psychological Factors:** Includes **Fear of Missing Out (FoMO)**, anxiety related to cyberslacking, and attentional impulsiveness.,,

9. Suggested Interventions or Responses

• **Classroom Regulations (41.03%):** Establishing clear **policies/rules**, active instructional strategies, and whole-class reminders.,

• **Technology Controls (30.77%): Banning devices**, silencing alerts, or replacing devices with education-focused tools.,

• **Personal Interventions (28.21%):** Promoting **individual accountability**, self-control tools, and informal instructor-student conversations.,

• **Evaluation:** The review categorizes these as **prevention strategies** and suggests the need for more interdisciplinary, personalized interventions.,

10. Limitations of Existing Approaches

• **Short-term Focus:** Awareness-only interventions are minimally effective; penalties must be substantial to act as a deterrent.

• **Methodological Gaps:** Overreliance on **self-reported data** and a lack of theoretical grounding in many studies.,

• **Regulation vs. Engagement:** Calls to move beyond simple **banning strategies** toward root-cause interventions.

11. Strengths & Key Contributions

• **Structured Framework:** Uses the **TPE framework** (Technology-Personal-Environment) to organize causes and consequences.,

• **Synthesis of AI Risks:** Identifies **AI tools** as both a potential distraction (off-task chatting) and a potential solution.,

• **Comprehensive Data:** Examines 26 studies to map out a global distribution of research patterns.,

12. Research Gaps Highlighted

• **K-12 Context:** Significant **lack of research in K-12 settings** compared to higher education.,

• **Device Ownership:** The difference between **personal vs. school-owned devices** remains under-researched.,

• **AI Impact:** The role of **AI-powered learning environments** in both contributing to and mitigating distraction.

13. Key Quotes / Definitions

• "**Digital distraction** refers to a learner's loss of academic focus due to engagement with non-academic content on digital devices."

• "Students frequently display a **superficial understanding** of learning topics due to multi-tasking and being less engaged."

14. Tags / Keywords

["digital_distraction", "systematic_review", "TPE_framework", "multitasking", "academic_performance", "attention_span", "AI_disengagement"].,,

15. Relevance Score & Applicability

Category	Rating (1–5)
Relevance to digital consumption problem	5
Cognitive / educational impact relevance	5
Support for problem motivation in thesis	5
Usefulness for gap identification	5

16. Notes for Thesis Synthesis

Martin et al. (2025) provide a comprehensive systematic review that categorizes digital distraction as a multifaceted issue arising from **technological design, personal needs, and instructional environments**., Their findings highlight that while **smartphones** are the leading cause of distraction, the resulting **attentional fragmentation** and "superficial understanding" represent a critical threat to deep learning., The study concludes that moving beyond simple device bans to **self-regulated learning and AI-aware pedagogical designs** is essential for modern education.