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How Does Social Media Affect EFL Middle School pupils' Attention And Problem Solving Cognitive Abilities?

Case of Third Year Middle School Pupils of Abdalli Mohamed El Cherif

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A dissertation submitted in partial fulfillment of the requirements for a Master Degree in English: Sciences of Language

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Declaration

I, Noui Abderrahmane Anis, do hereby solemnly declare that the work I am going to present in this dissertation is my own, and has not been submitted before to any other institution or university for a degree.

Dedications

This work is dedicated to:

My beloved parents who helped me in every step of the way

My dear older sisters and my brother who guided me and helped me all these year Thanks

for all the encouragement and the support

Acknowledgements

Before everything i give my full praise and gratitiude to Allah to guide me in this mundane life, and clear all the obstacles that i have ever faced

and facilitate my life

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Abstarct

This research is about how social media influences cognitive abilities of EFL middle school learners that include attention span and problem-solving skills. This is to determine the direct effects of social media on middle school EFL students; especially 3rd year middle school, mostly between 11 and 14 years old. This research is purely quantitative, with the use of a questionnaire that was distributed to 30 learners from third year middle school. It explores the individuals' use of social media throughout years, and their attitudes towards it. It also explores indirectly the effects that social media has on the attention and problem-solving cognitive abilities, which might reflect on the students' level. It has been found that all of the participants use social media, mostly have been using it for more than three years, with more than three hours of daily usage. This drastically impacted them on a cognitive level, specifically the abilities of attention and problem-solving ones, which ultimately affect their level at school. A quantitative approach was used in this research; this led to the confirmation of the given hypothesis.

Keywords: Attention span, Cognitive abilities, EFL learners, Problem-solving skills, Social media

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List of Abberviations

EFL	English as a Foreign Language
ARPANET	Advanced Research Projects Agency Network
M-A-Us	Monthly Active Users
DAUs	Daily Active Users
USD	United States Dollar
NFTs	Non fungible tokens
FOMO	Fear of Missing Out
GPA	Grade Point Average

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General Introduction

There is no question that social media nowadays forms a significant component of people's daily lives all around. Studies show that young people are drawn to Instagram, TikTok, and WhatsApp. Young people's social life and academic background are impacted in great measure by these platforms. Social media presents EFL students' chances for linguistic immersion and interaction, but it also provide possible distractions that could impede important academic achievement. Between 11 and 14 years old, middle school is a turning point for cognitive and linguistic development which that coincides with the development of higher-order abilities including logical reasoning, concentration and attention which are necessary for good language acquisition. Online students' typical multitasking and aimless internet browsing call for the question of cognitive efficiency.

Although studies looking at the possible effects of social media on the problem-solving and attention span abilities of young EFL pupils specifically show mixed results, studies on the influence of social media on learning have been done. Most of the studies published so far, either they focus on college students or general academic success, which offer very minor explanation of how social media affects the younger population.

The purpose of this dissertation is to enhance the existing understanding of how social media usage affects the attention skills and problem-solving capabilities of middle school students who are learning English as a Foreign Language (EFL). This research is centered on two primary questions:

Question (1): How social media usage influences the attention span and problem-solving abilities of EFL middle school students?

Question (2) : How social media affects the learning levels of middle school students?

Hypothesis :

We assume that social media influences middle school EFL students in terms of attention levels and the ability to solve problems which negatively reflects on their studies, and leads to a decrease in their learning levels.

Objectives of the Study

This study mainly aims to explore the effects of social media use on the attention and the problem-solving skills among EFL middle school students. Therefore, the specific objectives include:

1) The dissertation covers the differential impact of social media on specific group of middle school learners.

2) Investigate the correlation between social media usage and students' attention during class learning.

3) Discover the impact of social media on the problem-solving abilities of students.

Research questions

There are three research questions that need to be answered:

1) What are the main causes that promote social media usage among middle school EFL students?

2) How do social media affect the attention levels of students?

3) How do social media affect these students' problem-solving cognitive abilities?

Research Methodology

This research used a quantitative method approach to collect and analyse data in systematic and objective manner. A questionnairee was structured and comprised of closed-ended questions to collect measurable data from participants.

Significance of the Study

By explaining the effects of social media on the cognitive processes of young learners, the results of this study will contribute to the emerging body of literature surrounding digital education and EFL instructions. The gained insights will significantly assist teachers, educational leaders, and curriculum developers who aim to support middle school students in adopting effective digital habits while achieving maximum educational outcomes.

Structure of the Dissertation

The present research consists of two parts:

Theoretical part:

It consists of chapter one and two, the first chapter discusses social media from its emergence and start till nowadays; it includes how it started, early forms of social media, and multiple relevant definitions. Furthermore, it tackled widely spread social media platforms worldwide such as YouTube, Facebook, Instagram, Snapchat, Telegram, TikTok, and WhatsApp, with sufficient information about each platform.

The second chapter discusses cognition and cognitive psychology. Then, the transition that is made into cognitive abilities that defines them generally, and providing satisfactory data concerning it.

In a particular manner, this chapter tackles both cognitive abilities of attention and problem-solving in a sufficient way, and investigates types, steps, and methods of each ability.

Practical part: This part tries to focus on the tool used for collecting data and its aims. In addition, it describes and analyses results.

Literature Review

The application of social media in educational settings has profoundly impacted students' engagement with course content as well as with instructors and peers. Bonk (2009) indicates that social networking sites are one of the most popular online tools that allow individuals to interact with others based on shared attributes, interests, and learning goals.

These sites became part of e-learning systems, thereby fostering both synchronous and asynchronous modes of communication (Salas et al., 2002). Social media provide EFL (English as a Foreign Language) learners with an assortment of resources including videos, text materials, and sound recordings that aid in maximizing exposure to languages as well as casual learning settings. This research that indicates the impact of social media on language learning is positive. For instance, repeated processes of writing on platforms such as Facebook and Instagram allow learners to adjust linguistic choices relative to the audience, hence enhancing writing fluency and stylistic sense (Thompson, 2009).

Lakhal (2021), who believes social media is a supportive tool for developing writing skills, supports the inclusion of social media literacy in language teaching environments. To support this contention, Mustafa, Khan, and Abbasi (2022) determined that Facebook alone facilitated the development of writing skills among EFL learners.

Not all findings are positive. However, Ghouali and Benmoussat (2019) also believe that overuse of social media may destroy linguistic accuracy because some linguistic errors can solidify by being used casually in a repetitive manner. This implies that while social media can enhance expressive abilities, it can simultaneously discourage formal language skills development. One of the experiments employed a survey of 400 Libyan university students to determine whether participants believed social media had a positive impact on language learning, and the majority provided the explanation that there was constant exposure to English outside class. Facebook and Instagram were identified by the participants as being good for practicing writing. The study did not examine the cognitive or behavioral impacts on younger students concerning attention and problem-solving abilities.

According to Ophir et al. (2009), adolescents who often multitask on the media are set to lack suppression of distraction in most cognitive processes. Common video content, as exemplified in an experiment conducted by Chiossi et al. (2023), has been found to adversely affect users' performance in later memory tasks, hence weakening attention recall and implementation. Stanford School of Humanities and Sciences studies have indicated that high-level media multitaskers struggle significantly to complete tasks involving working memory and extended attention spans. Studies have also been done to examine the use of social media on the problem-solving cognitive ability of students.

A study conducted and published in an adolescent journal, Adolescent Social Media Use: Cultivating and Constraining Competence, examined how social media use affects problem-solving competence in adolescents and critical thinking.

The findings showed that while social media can potentially enhance collaborative opportunities and information sharing, it also presents challenges such as distractions and procrastination that can potentially lower problem-solving effectiveness. Studies increasingly indicate the part played by social media use in affecting the problem-solving capacity of teenagers. For example, Wibowo and Santosa (2020) stated that intense online activity among students in middle schools inversely impacted problem-solving capabilities. Equally, Zhao, Tang, and Sun (2021) observed that although social media presents potential for collaborative problem-solving, it dissuades deeper mental engagement, largely on the basis of distraction and information overload.

In addition, research indicates a link between social media addiction and reduced academic self-efficacy, as well as reduced problem-solvingability (Al-Menayes, 2024). Given that social media is widely used among middle school students and other younger groups, consideration of how these websites affect language development must be taken into account. English as a Foreign Language among middle school student is building critical thinking and sustained attention skills needed for the conquest of language-based problems and academic obligations.

Few studies have investigated the cognitive effects of social media used in English as a Foreign Language by students in middle school. The absence of this in the literature acts to emphasize the need for studies that investigate the link between cognitive development and digital media used by young EFL learners.

CHAPTER ONE

SOCIAL MEDIA

1. INTRODUCTION

Chapter one defines and addresses social media from the beginning up to its years of development. Social media constitutes a type of digital communication that enables individuals to have online communities and networks of interaction, information sharing, and the spread of user-generated content (Kaplan and Haenlein, 2010). Various social media websites have been created and have been developed over time, the most notable vehicles for social networking are YouTube, TikTok, WhatsApp, Snapchat, Telegram, Facebook, and Instagram (Satista, 2023). Moreover, this chapter deals with the positive and negative impacts of social media on their users (Kuss & Griffiths, 2015; Anderson et al., 2017).

1.1. What is Social Media?

Social media is a form of digital communication that allows users to form online networks and communities for socializing, sharing information, and posting user-created content (Kaplan and Haenlein, 2010). As of 2025, around 5.24 billion people worldwide are active on social media (Data Reportal, 2025). That means a high percentage of the golbal population uses social media platforms. Even more surprising, they represent 94.2% of all internet users (Pew Research Center, 2022). Up to 95% of adolescents aged between 13 to 17 report engaging with a social media platform, with over one-third indicating that they utilize social media “almost constantly” (Pew Research Center, 2022). Whereas, it is mentioned that the age of 13 is typically the minimum age mandated by social media platforms in the U. S., nearly 40% of children between the ages of 8 and 12 are involved in social media

(Common Sense Media, 2021).

1.2. Origins and Evolution of Social Media

Early social networking platforms, such as MySpace and LiveJournal, were designed to foster connections among friends and family (Boyd & Ellison, 2007). MySpace, which allowed users to create personalized profile pages for sharing their private information, became the first site to reach one million active monthly users in 2004 (Umar, 2024). LiveJournal, permitting users to publish journal entries for public or restricted audiences, exceeded 2.5 million active accounts by 2005 (Kaplan, 2010).

The adoption of social media grew rapidly throughout the 2000s and early 2010s as Facebook and X (formerly Twitter) rose in prominence. Like MySpace, Facebook enabled users to create profiles to share personal information, with others to leave comments. Initially, the platform was mainly used for communication among those in college, but it soon attracted users from both younger and older age groups (Ellison et al, 2007). The launch of X in 2006 featured the introduction of its feed function, which aggregated posts from accounts users followed onto a single page (Johnson, 2022). Shortly after, Facebook released its News Feed feature, which became a standard element across many social media platforms (Madrigal, 2014). A growing number of users began to share links to external sites, facilitating the distribution of news articles, ongoing events, and product details alongside their personal updates. User interactions included liking, sharing, and commenting on various posts. During this era, social media services started to integrate business-focused profile pages and introduced options for targeted advertising, which enhanced their appeal to businesses and increased revenue (Tuten & Solomon, 2017). Users increasingly spent time scrolling through their feeds, consuming current news and commenting on events. By 2024, just over half

(54%) of adults in the U. S. claimed to receive news from social media either occasionally or frequently, while only 28% stated they "never" accessed news from these platforms (Pew Research Center, 2024). On a broader scale, merely 22% of global consumers directly obtained news from news websites or applications, with younger consumers being the least likely to do so (Reuters institute, 2024).

1.3. A Brief History of Social Media

In a relatively brief timeframe, social media has evolved from a means of direct electronic communication into a virtual gathering space, then into a commercial platform, and eventually into a vital marketing tool of the 21st century (Satista, 2023).

In some respects, the origins of social media can be traced back to May 24th, 1844, characterized by a series of electronic dots and dashes manually conveyed through a telegraph system. This initial electronic message sent by Samuel Morse from Baltimore to Washington, D.C. , foreshadowed the significant historical importance of his scientific achievement: “What hath God wrought? ” he wrote (History.com Editors, 2023).

Although the roots of digital communication extend far back in time, most contemporary narratives concerning the modern origins of both the internet and social media emphasize the creation of the Advanced Research Projects Agency Network, commonly referred to as ARPANET, in 1969 (Internet Society, 2023).

This groundbreaking digital framework, developed by the U. S. Department of Defense, enabled researchers from four interconnected universities to share software, hardware, and a variety of information.

In 1987, the precursor to the modern internet emerged when the National Science Foundation launched a more extensive national digital network known as NSFNET (Internet Society, 2023). A decade later, in 1997, the first authentic social media platform was created.

As highlighted in "The History of Social Networking" on the technology news website Digital Trends, the proliferation of the internet during the 1980s and 1990s enabled the emergence of online communication services such as CompuServe, America Online, and Prodigy (Computer History Museum, 2023). These platforms introduced users to digital interactions through various means, including email, bulletin board conversations, and real-time online chats. This development paved the way for the creation of the first social media networks, beginning with the transient service Six Degrees, which permitted profile uploads in 1997 (Smithsonian institution, 2023).

Subsequently, Friendster was launched in 2001. These fundamental platforms attracted millions of users, offering features for email registration and basic online networking.
Weblogs, commonly referred to as blogs, which represent an early form of digital social engagement, began to gain popularity in 1999 with the launch of the LiveJournal publishing website. This development coincided with the introduction of the Blogger platform by Pyra Labs, which Google later acquired in 2003.

In 2002, LinkedIn was founded as a platform aimed at professional networking for career development. By 2020, it had amassed over 675 million users globally. It remains the preferred social media platform for job seekers and human resource professionals searching for qualified candidates (LinkedIn, 2023).

Two notable ventures in the social media landscape experienced a brief spell of initial success before eventual decline. Myspace was introduced in 2003, and by 2006, it became the

most visited website in the world, driven by users' ability to feature new music on their profile pages. However, it was overtaken by Facebook in 2008. In 2011, musician Justin Timberlake purchased Myspace for $35 million, yet it has since diminished into irrelevance as a social media platform.

Moreover, Google aimed to enter the social media sphere with its offering, Google+, which was launched in 2012. This initiative had a rocky path that came to an end in 2018, following a data breach that jeopardized the private information of almost 500,000 Google+ users (Wired, 2019).

1.4. Modern Social Media Platforms

Today's social media environment includes a range of platforms that compete for the attention of over 5 billion users of mobile devices globally. Below is a summary of the leading social media platforms:

1.4.1. Facebook

Facebook is an online social media and social networking platform with its headquarters in the United States of America, under the umbrella of Meta Platforms. Founded in 2004 by Mark Zuckerberg, Eduardo Saverin, Dustin Moskovitz, and Chris Hughes while attending Harvard University, Facebook has expanded to become the largest social networking site in the world, with almost three billion active accounts as of 2021; almost half of these users visit the site daily (Statista, 2023a). The company's headquarters is in Menlo Park, California (Meta, 2023). Access to Facebook is free, and the major source of revenue for the company comes from the ads that appear on the website (Meta, 2023).

New users have the option of creating private profiles, posting photos, connecting to groups already formed, or creating one of their own. The timeline feature offers a designated space on each user's profile page for personal content posting and messaging from friends; the status feature enables users to inform their friends about what they are doing or where they are at the moment; moreover, a user's news feed exhibits information about his friends' profile updates and status, often including news stories, miscellaneous trivia, and other types of media (Meta, 2023). The users can communicate with each other privately by using Facebook Messenger, which also exists as a separate app. The users can use the "like" option to show their approval of various content on Facebook, which has been additionally provided for more "reactions," such as "angry" and "sad" (Meta, 2023). There are about 3.065 billion monthly active users (MAUs) globally, of whom 2.11 billion are daily active users (DAUs) (Statista, 2023b). Today, 32% of teens say they use Facebook, compared to 71% in the years 2014 and 2015, although the share of teens who engage with the site has held fairly constant in more recent times (Pew Research Center, 2023).

1.4.2. TikTok

TikTok, or Douyin in mainland China and Hong Kong, is a social media application that is specialised in short video content and is owned by the Chinese technological company ByteDance (ByteDance, 2023). The application permits users to upload videos between three seconds and 60 minutes in length (TikTok, 2023). Users can access TikTok via its mobile app or its official website.

Since its release, TikTok has become a top global social media platform that applies recommendation algorithms to pair content creators and influencers with larger audiences (Sensor Tower, 2020) .

As of April 2020, the app reached more than two billion mobile downloads globally (Sensor Tower, 2020). Cloudflare named TikTok as the most visited website in 2021, surpassing Google in traffic

use (Cloudflare, 2021). Its major appeal has allowed for the rapid popularity of viral trends across various domains, such as food, fashion, and music, thereby playing a huge role in its global cultural influence. TikTok has been criticized on the issue of data privacy concerns, its mental health implications, misinformation dissemination, objectionable content, and participation during the Gaza conflict (BBC, 2023; The Guardian, 2024). Multiple countries have slapped fines on the company, banned it, or attempted to curb TikTok's activities in order to protect minors or confront national security threats, especially pertaining to the chances of the Chinese government gaining access to user data through ByteDance

(Reuters, 2023). TikTok is utilised by 28.62% of the 5.35 billion individuals around the globe that are online. Among worldwide users of social media, there are 30.27 % who use TikTok (Statista, 2024).

1.4.3. WhatsApp

WhatsApp, also called WhatsApp Messenger, is an American social media application, with emphasis on instant messaging and voice-over-IP services, owned by Meta, founded as a technology giant company. This application enables its users to send messages, voice messages, and video messages, place voice calls and video calls, along with sharing pictures, documents, places, and other types of media.

The WhatsApp application is available free and is pre-installed on mobile phones but can be accessed on desktops as well. It is registered via a mobile phone number. In January

2018, WhatsApp launched a particular business version, WhatsApp Business, designed to coexist with the regular WhatsApp client. The service has been developed by WhatsApp Inc., Mountain View, California-based, acquired by Facebook in February of 2014 for about 19.3 billion USD. At the time of 2015, it had become the world's most popular messaging platform, reaching 2 billion users in February 2020, a benchmark confirmed four years later with 200 million additional new users every month adding to them. It had become the primary method of online communication for large portions of the Americas, the Indian subcontinent, and vast regions of Europe and Africa by 2016.

WhatsApp's user base was increased by 811.74 million to a total of 3.2 billion users in 2025. In the United Kingdom, 73% of those using the internet between 16-64 years old use WhatsApp on a monthly basis, which would be the most used social platform.

1.4.4. **I n s t a g r a m**

Instagram is a US-originated social networking service, emphasizing the sharing of photographs and short videos, and is jointly owned by Meta Platforms. The service enables users to post content, which can be filtered with effects, tagged with hashtags, and geo-tagged with locations.

The users may opt to keep the postings public or limit them to specific followers. Besides, they can also view other people's content by looking for tags and locations, view trending posts, leave comments on their favorite photos, and follow other individuals so that they receive their updates in a personalized feed (Investopedia, 2023).

As a very visual social networking site governed by Meta, Instagram can be viewed on iOS, Android, Windows 10, and even via web browsers. People can take snaps and edit them using the various filters and other features before they post on other social media networks

such as Facebook. It accommodates up to 32 languages such as English, Hindi, Spanish, French, Korean, and Japanese. Initially, Instagram was characterized by its requirement that posts be published in a square (1:1) 640-pixel ratio, which coincided with the width of the iPhone screen then. However, in 2015, this limitation was done away with by an upgrade to 1080 pixels (TechCrunch, 2025). The site also featured messaging functionality, the ability to upload multiple images or videos in a single post, and a feature called Stories like the main competitor Snapchat, which enabled users to post content to a time-sensitive feed, where each entry was viewable by other users for 24 hours. As of January 2019, there were 500 million users interacting with the Stories feature every day (Business Insider, 2025). Instagram was released for iOS in October 2010 by its founders, Kevin Systrom and Mike Krieger.

It rapidly rose in popularity to 1 million registered users in two months, 10 million within less than a year, and 1 billion by June 2018 (Business Insider, 2025). Facebook bought the site in April 2012 for around $1 billion cash and stock (Investopedia, 2023). Its Android counterpart was launched in April 2012, with a desktop-only version of lesser functionality in November 2012, a Fire OS app in June 2014, and a Windows 10 app in October 2016. Praised often for its achievement and influence, Instagram has faced criticisms over its potential negative effects on the mental well-being of adolescents, policy changes and design tweaks, allegations of censorship, and the dissemination of illicit and racy user content.

It is forecast to have 1.44 billion active users on a monthly basis, which comes out to 31.2 percent of the world's population on the internet (TechCrunch, 2025).

1.4.5. Youtube

YouTube is a social media and online video-sharing platform based in the United States and operated by Google. Established on February 14th, 2005, by former PayPal employees Steve Chen, Chad Hurley, and Jawed Karim, it is located in San Bruno, California (Investopedia, 2024). YouTube ranks as the second most visited website globally, following Google Search. As of January 2024, the platform boasted over 2.7 billion users who actively engaged with more than one billion hours of video content daily (Statista, 2024). As of May 2019, uploads to the site occurred at a pace exceeding 500 hours of video every minute (TechCrunch, 2019), and by mid-2024, the total number of videos available exceeded approximately 14.8 billion (Statista, 2024).

On November 13th, 2006, YouTube was acquired by Google for $1.65 billion, an amount that translates to over $2.61 billion in 2025 (Investopedia, 2024). Following the acquisition, Google broadened YouTube's revenue generation strategy from solely advertisement-based to include paid content like films and exclusive productions meant for the platform (Business Insider, 2023). Furthermore, it introduced YouTube Premium, a subscription service that allows users to view content without advertisements. The integration of Google's AdSense program provided an additional revenue stream for both YouTube and registered content creators. In 2023, YouTube's advertising revenue reached $31.7 billion, marking a 2% rise from $31.1 billion in 2022 (Business Insider, 2023). From Q4 of 2023 to Q3 of 2024, the total income from advertising and subscriptions on YouTube surpassed $50 billion (Business Insider, 2023).

Since Google’s acquisition, YouTube has diversified its offerings beyond the main website to include mobile applications, television networks, and partnerships with other

platforms. Various types of content on YouTube span music videos, news clips, short and full-length films, songs, documentaries, movie trailers, teasers, promotional TV spots, live streams, vlogs, and additional formats. The majority of content is produced by individuals, often involving collaborations between 'YouTubers' and corporate entities (TechCrunch, 2023). Traditional media, news outlets, and entertainment firms have also established and enhanced their presence on YouTube by creating channels to engage wider audiences (TachCrunch, 2023).

YouTube has exerted a significant social influence, shaping popular culture, online trends, and fostering multimillionaire personalities. However, despite its remarkable growth and achievements, the platform has faced criticism for enabling the dissemination of false information and copyrighted material, frequently breaching user privacy, implementing excessive censorship, jeopardizing the safety and welfare of minors, and exhibiting inconsistent enforcement of its platform policies (The Guardian, 2023).

YouTube boasts over 2.70 billion monthly active users as of April 2025. The only among the5.17 billion social media users globally, representing 63. 7% of the world's population, 52 % utilize YouTube (Statista, 2025).

1.4.6. Snapchat

Snapchat is an American social media application and instant messaging service created by Snap Inc. , previously known as Snapchat Inc. A key attribute of the application is that images and messages, referred to as "snaps," are typically accessible for a limited duration before they become unavailable to their recipients (Snapchat,n.d; Wikipedia, 2025). The application has progressed from its initial emphasis on individual photo sharing to currently showcasing users' "Stories," which consist of 24 hours of sequential content, alongside

"Discover," which permits brands to present advertisement-supported short-form media. Additionally, it provides users with the option to save images in a secure section referred to as "My Eyes Only. " Furthermore, it has reportedly introduced a limited form of end-to-end encryption, with intentions to expand its implementation in the future (Snapchat, n.d.).

Launched in 2011 by Stanford students Evan Spiegel, Reggie Brown, and Bobby Murphy, this video-sharing application popularized the concept of "stories," consisting of serialized short videos, along with "filters" which offer informative digital effects typically linked to geographical locations (Snapchat, n.d.; Wikipedia, 2025).

According to information released in its advertising planning materials, Snapchat boasted a global user base of at least 709 million individuals as of January 2025. This statistic indicates that 11 percent of the global population aged 13 and older utilized Snapchat (Essential Snapchat statistics and trends for 2025, 2025).

1.4.7. Telegram

Telegram, referred to as Telegram Messenger, is a social media and instant messaging (IM) platform that operates on a cloud-based and cross-platform basis. It was first introduced for iOS on August 14th, 2013, and for Android on October 20th, 2013(Molina, 2024). The application enables users to send messages, share files and media, and conduct private or group voice and video calls, as well as public live streams. It is accessible on Android, iOS, Windows, macOS, Linux, and web browsers. Telegram provides end-to-end encryption for voice and video calls, and optionally for private conversations when both users are utilizing mobile devices (Molina, 2024).

Telegram was established in 2013 by Nikolai and Pavel Durov. Its servers are spread

across various locations globally, supported by multiple data centers, while the main office is situated in Dubai, United Arab Emirates (Telegram Massenger Inc., 2025). Telegram ranks as the foremost instant messaging application in various regions of Europe, Asia, and Africa. It achieved the status of the most downloaded app globally in January 2021, with a total of 1 billion downloads registered by late August 2021 (Telegram Massenger Inc., 2025). By 2025, joining Telegram necessitates either a phone number or one of a limited set of non-fungible tokens (NFTs) issued in December 2022 (Shakir, 2022).

As of March 2025, Telegram boasts over 1 billion monthly active users, with India holding the title for the largest user base, which represents more than 11 percent off the world population (Durov, 2025; Business Insider, 2025).

1.5. Negative and Positive Effects of Social Media

Among the users of social media there are young teens that social media platforms can affect in both positive and negative aspects.

1.5.1. Negative Effects of Social Media

The most damaging impacts of social media are proved to be affecting mental health especially when it comes to adolescents.

The use of social media, particularly when it becomes excessive, can have adverse effects on our mental well-being. Below are several factors that contribute to these detrimental impacts:

1.5.1.1. Self-Comparison and Feelings of Inadequacy

Despite the awareness that much of the content on social media is fake and not representative of reality, it can still lead to feelings of inadequacy and insecurity. Even with the understanding that individuals who portray a seemingly perfect life do not actually lead

such lives, we often find ourselves comparing our own lives unfavorably to those who appear to be better off (Fardouly et al., 2015; Weinstein, 2017; Vogel et al., 2014).

1.5.1.2. Social Isolation

While social media can appear to be a medium for connecting with others and engaging with the world, it may inadvertently lead individuals to experience social isolation. Research indicates that excessive engagement with social media correlates with increased loneliness, suggesting that decreasing social media use can enhance overall well-being (Primack et al., 2017; Hunt et al., 2018).

The inclination toward loneliness and isolation caused by social media usage may stem from the reduction in face-to-face interactions. Engaging in real-world interactions and communications can foster a sense of connection and help in developing healthier relationships (Nowland et al., 2018).

1.5.1.3. Fear of Missing Out

When observing others on social media accomplishing remarkable feats, enjoying diverse experiences, and leading fulfilling lives, there is often a sensation of missing out on valuable opportunities. Such feelings can negatively impact our self-esteem, heighten anxiety levels, and promote further social media engagement (Przybylski et al., 2013). For instance, if it does happen to have been distracted by a notification on someone's phone while reading an article, he might be experiencing the fear of missing out.

1.5.1.4. Depression and Anxiety

A prevalent reason for the link between social media use and increased levels of depression and anxiety is due to its contribution to the feelings of loneliness and inadequacy.

According to the study, which was published in the journal Lancet, 27 percent of the teens who frequently used social media reported high psychological stress. For teens who used social media less frequently, only 17 percent reported high psychological stress (Twenge et al., 2018). Although the amount of time spent on social media plays a role in the development of these emotional issues, prolonged usage is associated with a greater likelihood of experiencing and worsening these symptoms (Keles et al., 2020).

1.5.1.5. Cyberbullying

Currently, particularly among the youth, individuals are increasingly subjected to cyberbullying via social media platforms. Even a single comment can inflict significant emotional pain and lead to severe consequences. Victims of cyberbullying may exhibit symptoms such as anxiety, depression, diminished self-esteem, and feelings of insecurity (Kowalski et al., 2014; Hinduja & Patchin, 2018).

Today, the impact of cyberbullying extends beyond the younger population to also encompass adults. Nevertheless, the coping mechanisms of adults may be more robust, implying that young individuals might experience cyberbullying's effects more acutely (Campbell, 2015). Among the users of social media there are young teens whom social media platforms can affect them both positively and negatively.

1.5.2. Positive Effects of Social Media

The ramifications of social media are not confined only to negative aspects. Social media also possesses features that can prove to be useful for the users.

Connecting with individuals, engaging with those who share similar interests, promoting awareness on significant matters, seeking the emotional support you require periodically,

fostering your creativity, and facilitating easier self-expression are merely a few of the beneficial impacts of social media on our mental well-being (Best, Manktelow, & Taylor, 2014; Naslund et al., 2016). Employment prospects on social media represent another aspect that positively influences our mental health (Kietzmann et al., 2011).

1.6. CONCLUSION

This chapter presented the history of social media from its inception to the present. It traced the innovation and development of social media sites and apps, their significant benefits to users, along with the drawbacks that particularly affect middle school EFL students. Some of the most widely used social media sites and apps were presented in this chapter, such as Facebook, YouTube, Snapchat, Instagram, Telegram, TikTok, and WhatsApp (DataReportal, 2025).

Researches have proven that nearly the entire globe engages with social media. All of these websites have hundreds of millions of users, maybe even billions (Kemp, 2023).

This chapter allows us to realize the extensive reach of social media over humanity, and how this can be manifested negatively in the form of: bullying, feelings of inadequacy, depression and anxiety, loneliness, etc (Keles et al., 2016; Best et al., 2014). The effect, however, can be positive, for example, promoting creativity, connecting with others, and enabling self-expression, among others (Naslund et al., 2016; Best et al., 2014).

CHAPTER 2

Cognitive Abilities of Problem-solving and Attention Span

2. Introduction

This chapter explains the concept of cognition as it was defined in cognitive psychology, specifically in a 1967 textbook by psychologist Ulric Neisser. He explained cognition as "the processes through which sensory input is transformed, diminished, detailed, stored, retrieved, and utilized" (Neisser, 1967, p. 4). Cognitive psychology seeks to investigate all the mental processes that deal with human thinking and behaviour. It deals with cognitive processes such as decision-making, problem-solving, attention, memory, learning, and others (Anderson, 2020).

These operations can be described completely as the complex coordination of various aspects of mind functioning, such as, but not limited to, the functioning of memorization and recollection; the capacity to inhibit distractions in order to focus on essential information; the complex dynamic of problem-solving; the rate of processing of information; and advanced skills utilized in spatial and causal thinking (Eysneck & Keane, 2015). There are numerous cognitive processes that handle primarily attention and problem-solving.

Problem-solving is the capacity to achieve an end when confronted by a particular problem with no visible solution through the utilization of five steps to adequately solve a problem (Goldstein, 2019). Attention, however, is a basic psychological process that enables one to choose and concentrate on suitable stimuli and reject distractions. There are six particular types of attention: arousal, focused, sustained, selective, alternating, and divided attention (Posner & Peterson, 1990; Mateer & Mapou, 1996).

2.1. The Emergence of Cognitive Psychology

One early theory of cognition was put forward in the very first cognitive psychology textbook, which came out in 1967. The book's author, Ulric Neisser, described cognition as "the processes through which sensory input is transformed, diminished, detailed, stored, retrieved, and utilized."

Cognition encompasses all the unconscious and conscious processes associated with thinking, perception, and reasoning. Examples of cognition are the ability to focus on items in the environment, learning new information, making decisions, interpreting language, sensing

and perceiving environmental stimuli, solving problems, and using memory.

2.2. Cognitive Abilities

Cognitive abilities in cognitive psychology are mental abilities employed by the brain in executing required daily functions, such as thinking, learning, reading, remembering, speaking, and listening. Another definition would state that cognitive abilities comprise aspects of mental functioning, such as activities like memorization and retrieval; attention control and allocation; the speed of processing; as well as spatial and causal thinking. Individual differences are established by analysis of scores from tests of such cognitive abilities. General intelligence tests such as the Wechsler Adult Intelligence Scale draw on a broad range of such cognitive tests, whereas tests for measuring ability for learning in some educational area, such as mathematics or language, concentrate on a more restricted set of abilities for those domains.

Cognitive abilities can be best defined as the advanced combination of numerous aspects of mental functioning, which include a wide variety of skills. These skills encompass processes like information storage and retrieval; the capacity to stay concentrated and distraction-free in order to monitor central features; the intricate nature of problem-solving; the rate at which information can be processed; and the highly advanced skills that are associated with spatial and causal thinking. Individual differences in such mental skills are carefully examined based on the score comparison derived from standardized tests, which measure the different mental abilities. Tests that aim to test general intelligence, such as the Wechsler Adult Intelligence Scale, are theoretically founded on a broad and diverse set of

assessments of mental capacities, whereas measures of specific aptitudes for learning within given teaching domains, such as those relevant to mathematics or language, are based on an extremely limited selection that depends on skill within the domain. (Robinson. P, 2012)

2.3. THEROETICAL BACKGROUND

The theoretical and empirical investigations into memory structure conducted by Hermann Ebbinghaus (1850–1909) and the functions of attention explored by William James (1842–1910) established the groundwork for the creation of operational assessments of cognitive abilities at the dawn of the twentieth century (Anderson, 2020). The identification of a "positive manifold," indicating consistent positive correlations across various ability assessments, led Charles Spearman (1863–1945) to suggest that a singular general intelligence factor, referred to as "g," underpinned performance on each of these tests (Spearman, 1904, as cited in Neisser et al., 1996). This foundational work gave rise to the field of differential psychology, which explored the degree to which measured differences in abilities were associated with performance on academic achievement tests or overall success in intellectual or performative spheres (Robinson, 2012).

'Cognitive' is a term utilized in psychology to denote elements associated with thinking, learning, and comprehension. Thus, when individuals discuss cognitive skills or processes, they are addressing various dimensions of cerebral functioning such as the ability to recall information, acquire new knowledge, maintain focus, and interpret the vast array of information encountered daily (Eysneck & Keane, 2015).

Cognitive abilities are employed in daily life. For instance, when one learns to play a new musical instrument, cognitive skills are being utilized to grasp fundamental music theory, assimilate melodies, identify notes, and amalgamate this information to create music (Goldstein, 2019). Cognitive abilities signifies the mental activities engaged in acquiring knowledge and understanding. Among the many cognitive processes are thinking, knowing,

recalling, evaluating, and solving problems (Anderson, 2020).

These functions represent advanced cerebral activities that involve language, creativity, perception, and strategic planning. The discipline of cognitive psychology examines how individuals think and the mechanisms underlying cognition (Eyesneck & Keane, 2015).

Drawing on these studies and supporting Spearman's theory, an extensive factor-analytic examination of findings has revealed that cognitive abilities are hierarchically organized into three levels or strata of increasing generality, with distinct measures of cognitive abilities positioned in the lower, less general stratum, while "g" signifies the singular highest factor (Carroll, 1993, p. 20). Numerous studies have demonstrated that "g" and elevated intelligence quotients (IQ) primarily derived from performance on a variety of intelligence assessments consistently forecast enhanced academic and lifetime achievements (Deary, Strand, Smith, & Fernandes, 2007).

The measurement of cognitive abilities is just one aspect of differential psychology research that looks for factors that are associated with both academic learning and long-term success. Assessment of individual differences in affection (e.g., emotion and anxiety) and conation (e.g., motivation and self-regulation) are two additional aspects. The intricate interaction of cognition, affection, and conation is widely recognized to be the cause of academic success (Snow, Corno, & Jackson, 1996).

The development of memory, attention, reasoning, and other cognitive skills follows distinct inverted U-shaped developmental trajectories throughout the lifespan, which distinguishes cognitive abilities from affective and conative factors (Salthouse, 2010). For example, the process through which memory capabilities are developed is explicitly outlined. Children in their early years not only lack the capacity to vividly remember and retrieve past occurrences (long-term memory), but they also struggle to retain details about their current

experiences while simultaneously processing previously acquired knowledge.. The latter ability, known as working memory, has been demonstrated to grow and improve during childhood and adolescence before plateauing and then declining in older populations. Similar findings have been made regarding the growth, plateauing, and decline of other cognitive skills throughout childhood, including reasoning, processing speed, and spatial memory (Salthouse 2010).

2.4. Types of Cognitive Processes

There are various types of cognitive processes among which we have:

2.4.1. Attention

Attention is a cognitive skill that allows individuals to concentrate on certain stimuli in the surroundings. This operation is essential as it allows us to concentrate on relevant information while disregarding non-relevant distractions (Anderson, 2020).

2.4.2. Language

Language and language development are cognitive processes involving the ability of understanding and expressing thoughts using oral and written expressions. The role aids people's communication by enabling the expression of personal opinions and the acquisition of ideas concerning other people. It are also critical parts of thinking (Eysneck & Keane, 2015).

2.4.3. Learning

Learning involves mental activity that entails the acquisition of new knowledge, combination, and relating to already known information. Cognitive psychologists are likely to research the mental activity in the process of assimilating, comprehending, and remembering information (Goldstein, 2019).

2.4.4. Memory

Memory is an essential mental process that allows an individual to retain, store, and recall information. It is a core role in learning since it allows individuals to keep information about their surroundings as well as experience (Baddeley, Eysneck, & Anderson, 2020).

2.4.5. Perception

Perception is a mental process through which individuals receive information via sensory organs and then use the information obtained to react to and interact with their environment (Matlin, 2013).

2.4.6. Thought

Thought is a key component of all cognitive processes. It enables decision-making, problem-solving, and higher-order thinking (Anderson, 2020).

Cognitive processes are sometimes divided into two categories: hot and cold. Hot cognition refers to mental processes in which emotion is involved, like learning driven by rewards. However, cold cognition is used to refer to mental processes uninvolved with emotion, like working memory (Passoa, 2009).

2.5. Applications of Cognitive Processes

Cognitive processes significantly influence all areas of life, from education and profession to social interaction. The Following are some major applications of cognitive processes:

2.5.1. Learning New Information

Gaining knowledge is a function of having the capacity to ingest new information, create new memories, and relate it to things previously learned. Educators and researchers leverage knowledge of these cognitive processes to create curriculum tools that enable individuals to learn new information (Goldstein, 2019).

2.5.2. Creating Memories

Memory is an essential domain of study in cognitive psychology. Having some notion about the method in which we remember, how we determine what to remember and what to forget is greatly revealing as to what goes on in the head.

Whereas people have typically compared memory to some kind of video recording device that accurately records, orders, and plays back personal experience at some later point in time, experiments indicate that difference and how memory actually works (Loftus & Palmer, 1974; Baddeley et al., 2020).

2.5.3. Making Decisions

When people are engaged in the decision-making process, this implies considering information that has already been processed. This may be in the form of comparing new information with old knowledge, combining new knowledge with existing frameworks, or even substitution of old knowledge with new perspectives before arriving at a decision (Kahneman, 2011).

Scientists continue to develop new technologies and treatments designed to prevent significant cognitive loss. However, there are a variety of activities that can help in preventing cognitive loss.

Recent research shows that physical health throughout a lifespan positively affects cognitive resilience. As researchers say, a healthy body supports a healthy mind (Salthouse, 2010; Hertzog et al., 2008). Therefore, as individuals grow older, it becomes even more imperative to exercise regularly, eat nutritiously, and maintain social connections (Hertzog et al., 2008; Salthouse, 2010).

2.6. Tips for Enhancing Cognitive Abilities

Cognitive abilities are influenced by a multitude of factors, encompassing genetic influences and individual experiences. While it is not possible to modify your genetic makeup or the aging process, there are numerous strategies to protect and improve your cognitive abilities (Anderson, 2020).

2.6.1. Maintain Optimal Health

Lifestyle components, such as adhering to a nutritious diet and participating in consistent physical exercise, can have beneficial effects on cognitive functioning (Impact of Diet and Exercise on Cognition and Brain Health in Older Adults, n.d.; Health brain, healthy life, n.d.).

2.6.2. Practice Analytical Thinking

Question your beliefs and analyze your ideas, beliefs, and conclusions.

2.6.3. Stay Curious and Keep Learning

Challenging yourself to learn more about the world on a continuous basis is an excellent way to exercise your intellectual capabilities.

2.6.4. Do not multitask

Even though it may feel as if doing several things at once enhance productivity, it has been discovered that it actually does the opposite by reducing productivity and output quality (Why Multitasking Doesn’t Work Is Actually Making Your Life Worse, 2024; The impact of multitasking on productivity and time management, n.d.).

The human mind has various cognitive capacities, though certain cognitive capacities might be achievable only through language, for example: Problem-solving and attention**.**

2.7. Cognitive ability tests

2.7.1. Numerical reasoning sub-test:

A numerical reasoning test is an aptitude test measuring ability to perform calculations and interpret data in the form of charts. There are five common types of numerical reasoning tests: calculation, estimation, number sequence, word problem, and data interpretation (Numerical Reasoning Tests: Guidelines & Practice Examples, n.d.).

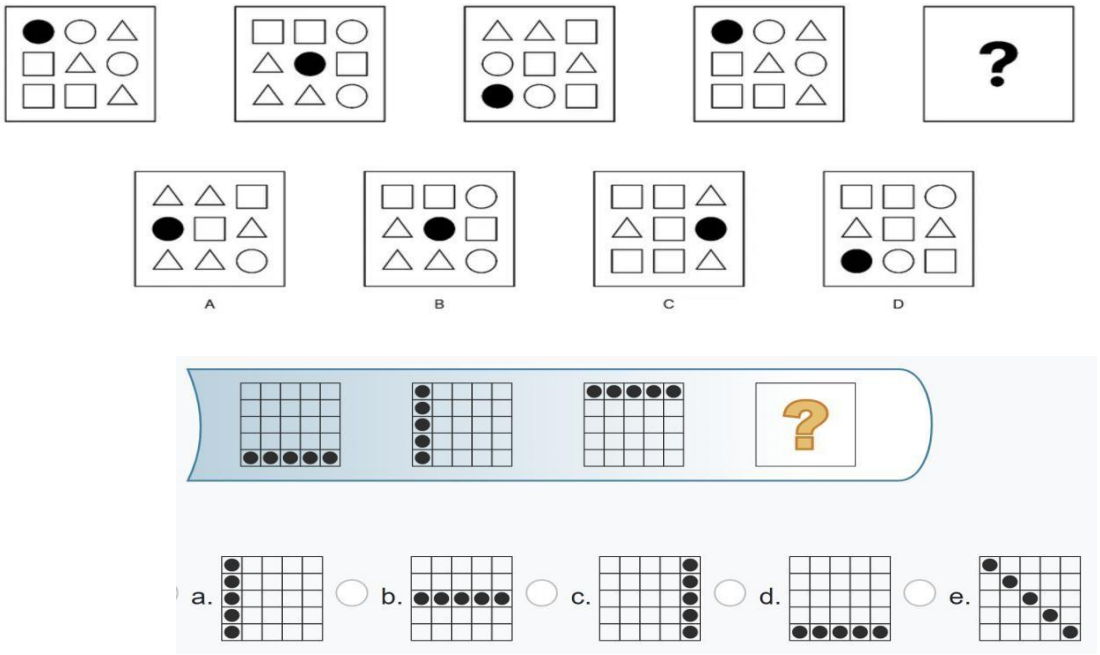


Figure 1: Examples of numerical reasoning sub

-testSource: www.123test.com (2023)

2.7.2. Verbal reasoning sub-test: verbal reasoning tests assess the ability to understand

written information and analyze logical relationships between words to make accurate conclusions. There are five types of verbal reasoning questions: synonym & antonym, word analogy, word association, reading comprehension and making inferences. Most of them are in the form of multiple-choice questions. To pass reasoning tests, candidates are required to have a good vocabulary from B1 to C2 level, master skimming & scanning and make logical inferences (Verbal Reasoning Tests: The Ultimate Guide, n.d.; What is a verbal reasoning test? & Why do employers use them?, n.d.).

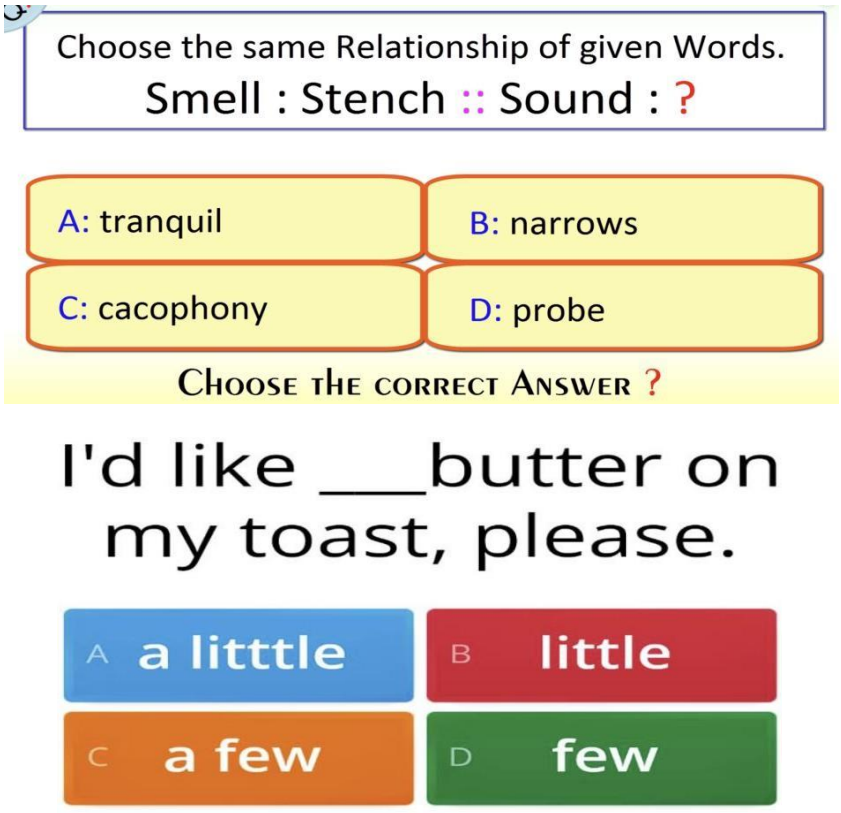


Figure 2: Examples of verbal reasoning sub-test

Source: www.wordwall.net

2.7.3. Spatial reasoning sub-test:

spatial reasoning is a category of reasoning skills that refers to the capacity to think about objects in three dimensions and to draw conclusions about those objects from limited information. Spatial reasoning is a type of non-verbal reasoning often separated into its own category. It is used to assess our spatial awareness and logical thinking – often depicted in questions asking us to work out how an image of shape has moved, rotated, or mirrored (Aptitude-test.com, n.d.; Testlify, n.d.; 123test.com, 2023).

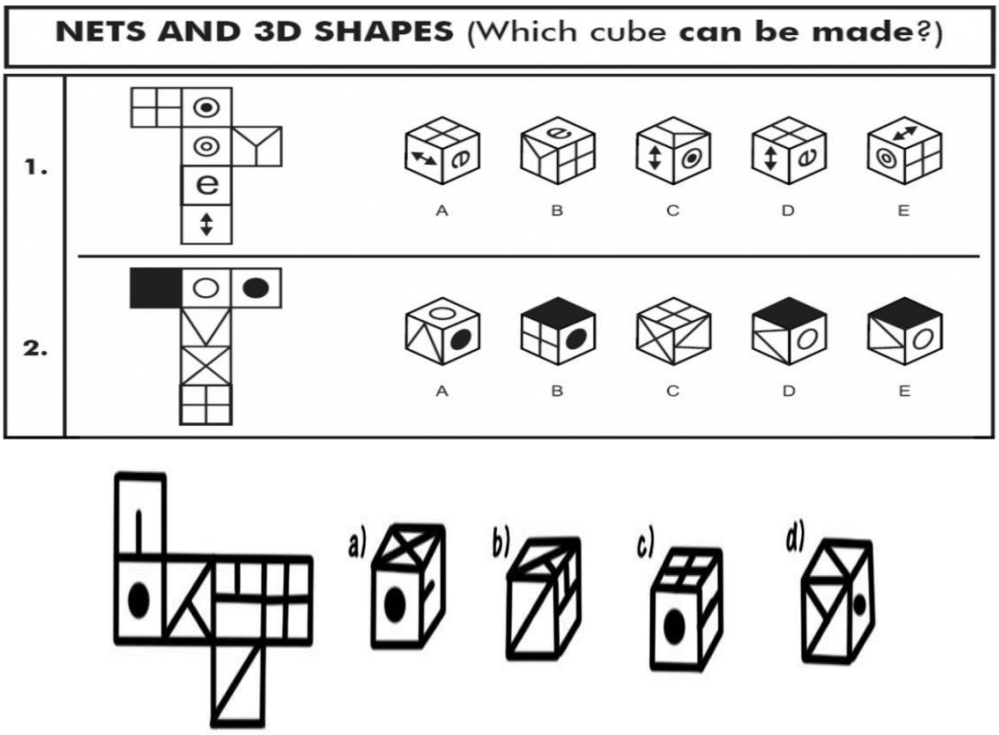


Figure 3: Example of spatial reasoning tests

Source: www.Psychometriq.com

2.7.4. Abstract Reasoning Sub-test:

Abstract Reasoning Sub-test are designed to show how capable the participants are at learning new skills, spot trends in analyzing data, and test their

problem-solving skills. Commonly employers want to test your ability analyses new information and how they will overcome problems; this makes abstract reasoning a standard in nearly all job assessments. This type of test primarily does not require the use of verbal or numerical reasoning, although adaptations may incorporate such elements; often include technical reasoning or job-specific tasks in the financial and managerial sectors (Practice Aptitude Tests, 2025; Cogn-IQ.org, n.d.; Adaface, n.d.).

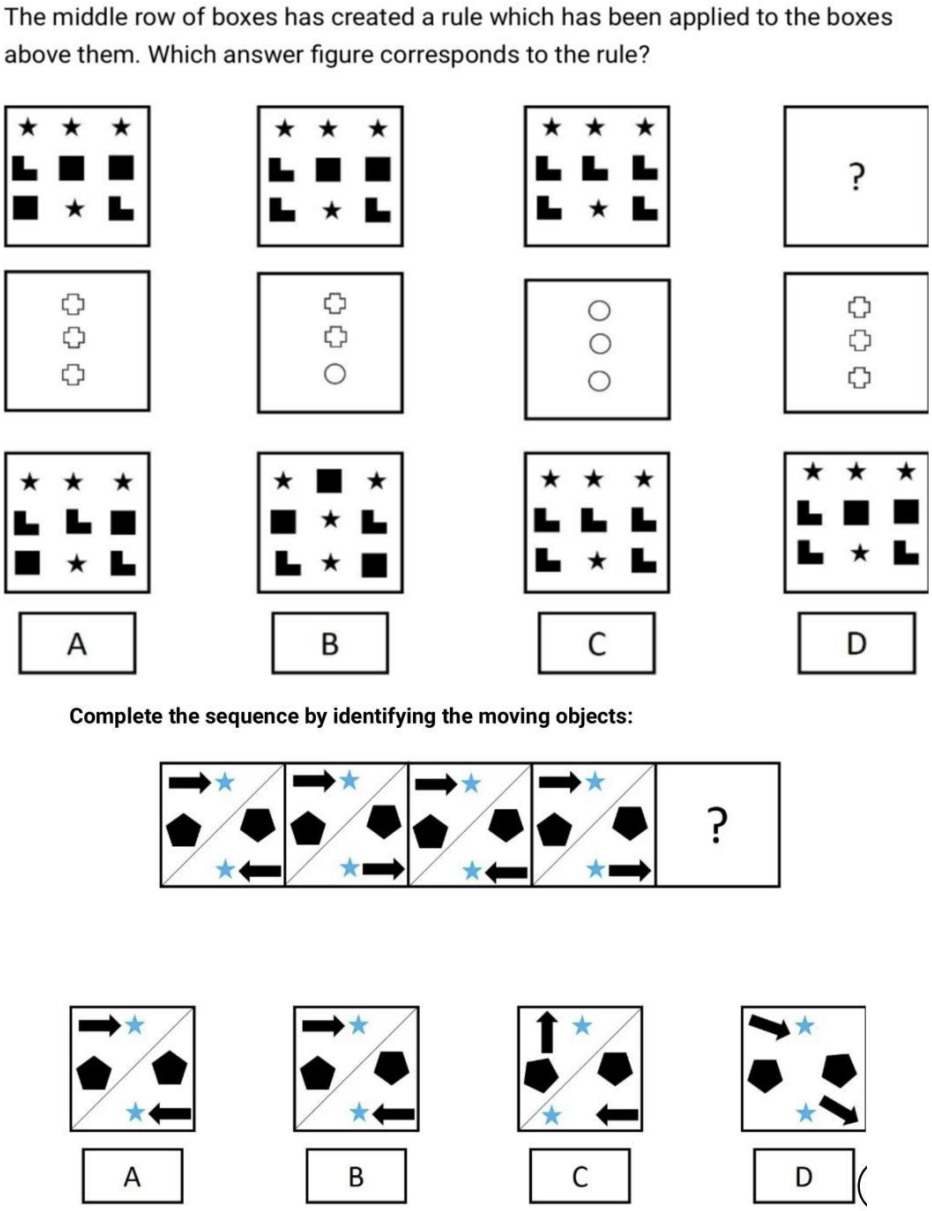


Figure 4: Examples of Abstract reasoning tests

Source: www.123test.com

2.8. Problem-Solving

Problem-solving is an essential competency that one must develop in the fast-changing world, where continuous change, unpredictability, and sudden occurrences have become the norms. Problem-solving is especially significant where there is no predefined reaction (Britannica Editors, 2025). Successful problem-solving entails fine sensing of the situation, planning of efficient learning of new contexts, and inventive adaptation of previously learned or potentially inferable knowledge (Verywell Mind, 2010; Britannica Editors, 2025). The quest for various ambitious goals creates problems in our environment; however, it is also riddled with solutions, because of the amazing capacities of human beings who positively seek and recognize them (Verywell Mind, 2010). Problem-solving entails psychological processes aimed at achieving a specific goal when the human being with the problem has no clue regarding any possible solutions (Britannica Editors, 2025).

A difficulty arises when a person has a wanted outcome but does not know the method to achieve it. Issues may be categorized as routine or non-routine, and well-defined or ill-defined. The core cognitive processes involved in problem solving are representation, planning, execution, and monitoring (Verywell Mind, 2010; EBSCO Research Starters, 2024). The essential types of knowledge necessary for effective problem-solving consist of facts, concepts, procedures, strategies, and beliefs (Verywell Mind, 2010).

Problem solving encompasses five steps:

2.8.1. Defining the Problem

When defining the problem fundamentally, it is essential to clearly express the issue, distinguishing between facts and opinions, and to ascertain the underlying causes to focus on

the root problem rather than just its manifestations. To accomplish this, it is necessary to: Involve all pertinent workgroups affected by the issue and consult specialists to gain a comprehensive understanding of the processes or difficulties involved (EBSCO Research Starters, 2024). Collect and evaluate pertinent data (inclusive of both qualitative and quantitative information). Perform a Gemba visit and record the existing operations of processes (such as who carries out particular tasks, what information is used, which tools are utilized, interactions occurring with specific organizations and individuals, the durations involved, and the formats employed). Here, one can address the following descriptive questions:

- What (what happened) – What is the essence of the problem?
- Which product is defective?
- Where (point of detection)
- Where was the issue discovered?
- When (date/time of detection) – At which time was the problem acknowledged?
- When does the issue arise?
- How (many/much) – How many items are affected?
- What fraction of production is faulty?
- Who (detection only, not cause) – Who recognized the issue?
- Why (high level) – Why does this qualify as a problem?

2.8.2. Brainstorming possible solutions

In making a decision, there is a necessity to approach the issue with an open mind and consider it from different sides. Get feedback from our team members or colleagues with different viewpoints. Moreover, one must consider the long-term effects of each alternative

instead of thinking in terms of short-term effects alone (The Knowledge Academy, n.d.). For example, altering the project scope may appear to be a last-minute fix for an under-schedule project; yet, it is most likely to lead to future delay or jeopardize the project's efficiency in general in the long term.

In the evaluation stage, it is also important to rank solutions in terms of how well they address the problem and how feasible they are.

Take into account available resources, time, and the effort needed to install each solution. Some would be quick-fix solutions to adopt right away, while others are more sophisticated as far as planning and preparation in installing. To have a solution that has significant impact on the problem but still be possible under resource constraints and time frame is highly necessary. Additionally, it should be noted that not all solutions will yield the desired result. Be ready to change or move to a different solution in case the first solution does not yield the desired result. Also, it is vital to ensure that the solution that is put in place is aligned with the organizational values and policies and does not breach any moral principles.

2.8.3. Evaluate the Solutions

While analyzing the options, it is necessary to maintain a loose frame of mind and consider the scenario from various sides. Seek advice from team members or colleagues who might think differently. In addition, one needs to study the long-term implications of each option, as opposed to considering short-term results. For instance, redefining the project scope might seem like a simple solution for an overdue project; however, this could result in additional delays or could threaten the overall effectiveness of the project in the long run (Verywell Mind, 2010).

At the assessment stage, it is also necessary to rank solutions based on their impact on the problem and their viability. We should think about the resources, time, and effort required for each solution's implementation. Some alternatives can be temporary fixes that can be implemented immediately, while others need more detailed planning and preparation. Choosing a solution that has enough impact on the problem but is viable within the resources and the available time is crucial. It is also very important to point out that not every solution is likely to achieve the anticipated results. One has to be prepared to modify or switch to another solution in case the initial attempt fails to deliver the anticipated results. Secondly, ensure that the chosen solution aligns with the firm's values and policies and also does not go against any ethical principles.

2.8.4. Implement the Solutions

Rolling out the chosen solution requires planning and execution. The team will have to work together to ensure that the solution is rolled out efficiently and effectively. The plan should include a timeline, clearly outlined tasks, and deadlines. There should be specific roles and responsibilities allocated to each member of the team to outline their personal contribution to the rollout process (The Knowledge Academy, n.d.).

There should be open communication throughout the implementation stage. Regular meetings should be arranged by the team to monitor progress, identify problems, and refine the plan in response. For example, if the team determines to implement a new customer service plan, it should arrange training for the customer service representatives, provide them with the tools necessary, and instruct the customers in the new plan.

In addition, tracking the progress of the implementation is important to ensure that everything is in order. Periodic checks are capable of detecting any problems early enough,

and therefore, it is possible to rectify them before they develop into major issues.

2.8.5. Monitor and Adjust

Monitoring and adjusting the solution is crucial to ensure that the problem is adequately addressed. Monitoring the solution's progress and reviewing its performance is crucial. If the solution does not perform as expected, it is important to make necessary Adjustments (Verywell Mind, 2010). This stage calls for flexibility and effective communication among team members. For example, when the team wishes to alter the project schedule, they must always inquire about the progress and make alterations whenever necessary. They also need to inform every stakeholder concerning every change made in the project. When the new schedule is not working, the team must be ready to make further changes, which involve altering the project scope or increasing the amount of resource allocation.

Feedback becomes very important in this phase. It is essential to take inputs from both the stakeholders and the team members to confirm that the solution satisfies their requirements. Feedback can also assist in the identification of possible issues that could occur, enabling the team to fix them immediately.

Learning from failure is also a fundamental component of effective problem-solving. Every problem presents the opportunity to learn and get better. Through analysis of the process and outcome, team members are able to identify areas in which they can improve and apply those lessons to future problem-solving efforts.

In certain cases, problems may go unresolved, hence the perception of a deficiency of cognitive problem-solving abilities. People, particularly students' problem-solving abilities, are influenced by several factors, which include patience, teamwork, and logic, amongst

others (BMC Medical Education, 2023).

Earlier researches have proved that problem-solving capacity is highly and positively correlated with academic performance, indicating a higher problem-solving capacity is linked with improved academic performance. However, these problem-solving capacities and capabilities can be impacted by using social media (MDPI, 2023; PubMed, 2023; Springer, 2021).

2.9. Attention

Attention is a simple cognitive process that allows an individual to select and focus on the right stimuli and inhibit distractions. This essay explores the various types of attention, their function in daily activity, and how one can train to develop attention. With the comprehension of the intricacy of attention, we are able to enhance the efficiency of interaction with the environment (Sohlberg & Mateer, 1987, 1989).

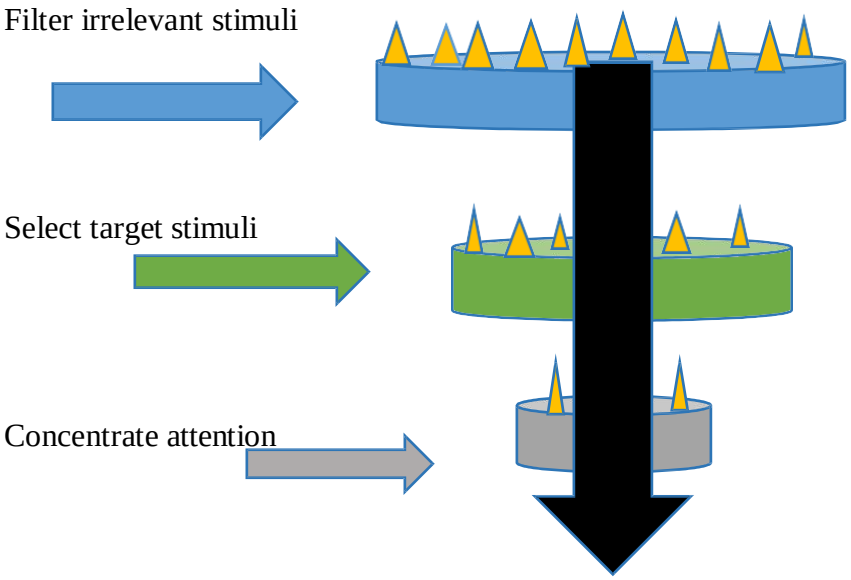
2.9.1. Types of Attention

Attention is not a single process, but rather a set of sub-processes that we all employ in daily tasks such as learning, listening to lectures, and taking notes. Sohlberg and Mateer (1987, 1989) had previously proposed a model that identifies attention as multiple constituents:

2.9.1.1. **Arousal**:

This refers to our level of activation and alertness, indicating whether we feel fatigued or invigorated (Sohlberg & Mateer, 1987).

Focused Attention: This describes our ability to concentrate attention on a specific stimulus (Sohlberg & Mateer, 1989).



2.9.1.2. **Sustained Attention**:

It is the capacity to maintain attention toward a stimulus or an activity over an extended period. Sustained attention helps individuals to stay focused on studying for hours, which helps keep you from losing time and forgetting information that you've read (Sohlberg & Mateer, 1989).

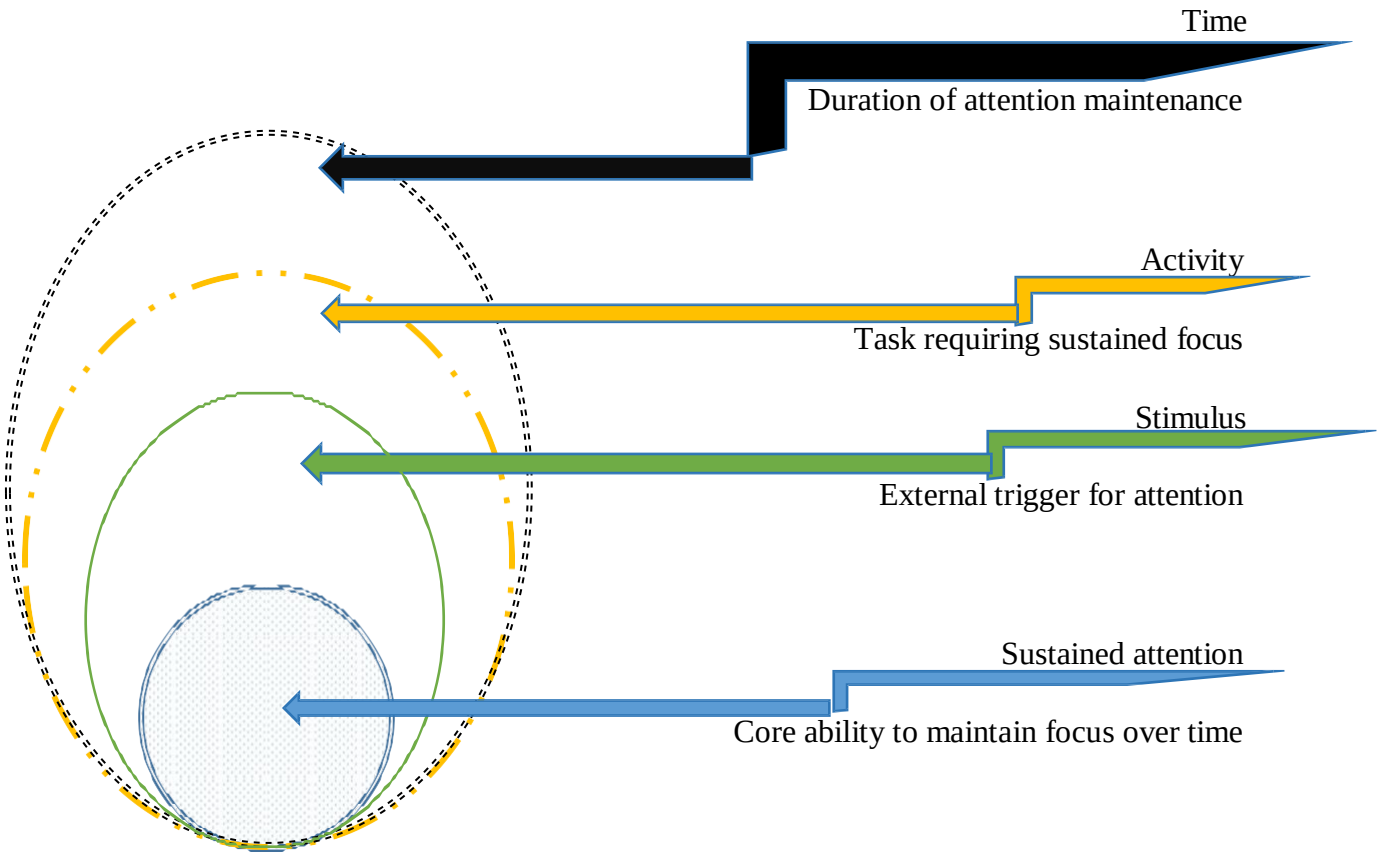


Figure 5: Sustained Attention

2.9.1.3. **Selective Attention**:

It is referred to the skill to focus on a particular stimulus or activity amidst other distracting stimuli

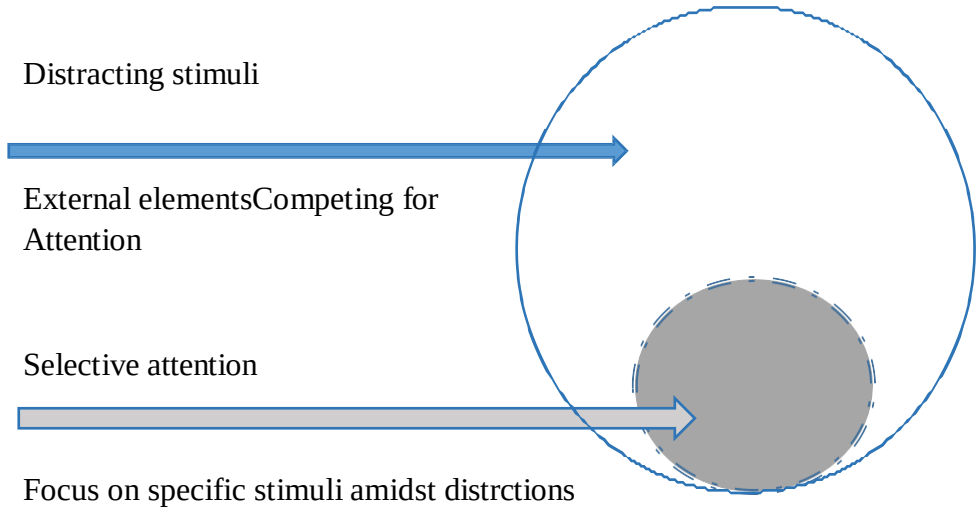


Figure 6: Selective attention

2.9.1.4. Alternating Attention:

It refers to the ability to switch focus between two or more stimili.

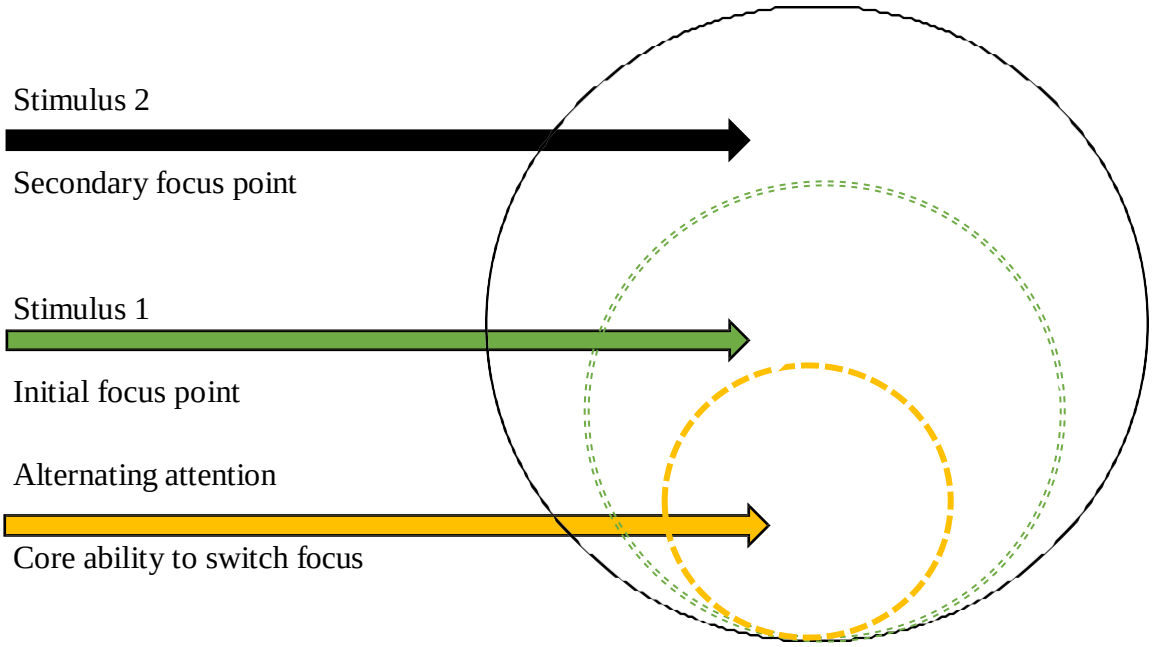


Figure 7: Alternating attention

2.9.1.5. **Divided Attention**: it denotes the capacity to engage with different stimuli or tasks simultaneously.

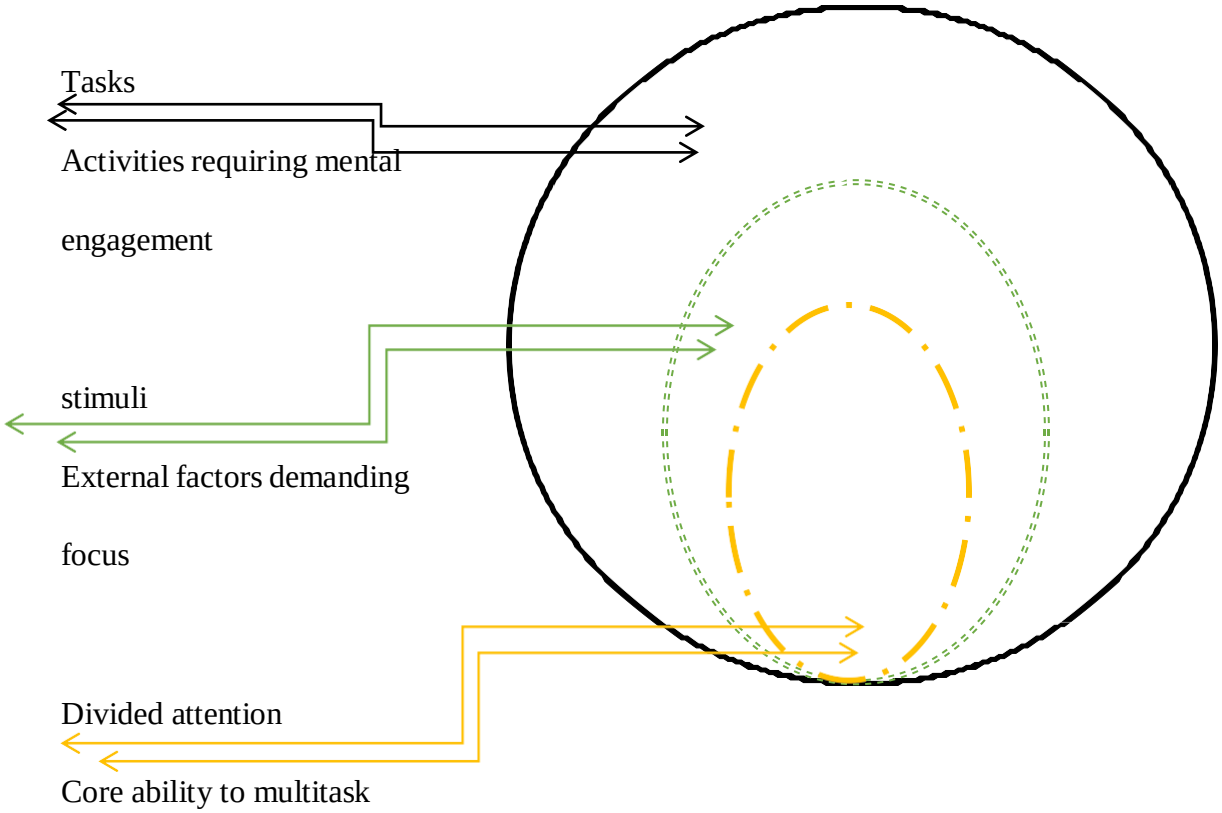


Figure 8: Divided attention

2.9.2. Examples of Attention Use

Attention is important in different activities that human find themselves doing it on a daily basis. For example:

Driving:

While driving, we employ all of our sub-processes of attention all the time. We must remain awake (arousal), maintain focus on the stimuli in front of us on the road (focused attention), maintain attention over extended periods of time (sustained attention), remain distant from distractions by irrelevant stimuli (selective attention), shift focus between lanes, mirrors, and back to our own lane (alternating attention), and perform all the tasks that driving involves, such as using the pedals, turning the wheel, and changing gears (divided attention).

In summary, attention is a sophisticated and essential cognitive process that plays a determining role in our capability to multitask efficiently on a daily basis. Through knowledge of its multifaceted nature and cognitive training, we can enhance our attentional capabilities and succeed in various tasks.

2.9.3. Attentional Issues

Attention is also necessary for the everyday functioning of many cognitive tasks, and so any disturbance to attentional mechanisms can make day-to-day tasks more difficult to execute. That being said, it is also important to note that variations in attention are quite

normal over the period of a day, and finding it more difficult to focus in the afternoons does not signify any inherent issue.

There are a number of factors that may affect the attention levels, including fatigue, tiredness, high temperatures, use of drugs or other substances, and a variety of other factors.

2.9.4. Attention and Learning

Attention plays a significant function in how information is encoded within memory, hence promoting learning. By concentrating on the pertinent things and relationships between the information, attention enhances the efficiency of the utilization of information. In addition to selecting specific chunks for processing, top-down attention also determines what elements of the cognitive network are to be selectively activated during processing. The interaction between learning and attention is reciprocal; attention determines what is learned in relation to the external world, while internal cognitive representation dictates the allocation of attention. The global workspace theory of consciousness stipulates that there is only a limited set of information drawn from the activity of the brain, which can, at any given time, be incorporated into working memory and hence made accessible for further integrated processing (Baars, 2005).

Conscious attention is important for the acquisition of complex skills, such as playing a musical instrument. Nevertheless, once the skills are fully in place, these operations can become automatic, possibly enabling the allocation of attention to other tasks (Treisman et al., 1992). The precise mechanisms involved in the shift are not well understood, but they seem

to involve transferring the cognitive load of the task to other, potentially more automatic, brain regions. Social media, first, plays an important role in students' learning life.

A report from Santa Maria College indicates that decreased attention span adversely affects the performance of students on tests and ability to hold information over extended periods (Oaten, 2024). This is not good nor is it desirable to the growth of youth, as learning is fundamental to the acquisition of skills, learning, and deeper understanding. The principal source of this issue appears to be social media, whose influence permeates the educational environment. The constant online distractions that individuals encounter on a daily basis magnify the rates of stress and mental exhaustion (Oaten, 2024). Oaten states, "When the brain is in a state of continuous over-activity, struggling to flip between various stimuli, it is ever-harder to find the calm and focused state of mind required for peak learning and happiness."

This is a growing issue in society as social media is increasingly becoming a part of daily life, with teenagers most often dealing with mental illnesses during this critical time. By adolescence, individuals are yet to discover themselves and deal with the puberty changes (\"The Social Dilemma: Social Media and Your Mental Health,\" 2024). Social media platforms acknowledge the issue and have implemented measures to help, such as Instagram creating a feature that hides the number of likes on a post. Although this is a minor progress, there are other risks that exist since users are still exposed to mental health impacts through comments or by comparing themselves to the users.

The prevalence of FOMO (fear of missing out) is increasingly prevalent in adolescents as social media acts as a platform to exchange personal experiences, which may

lead to feelings of inadequacy if they believe that others are experiencing more or are being left out of social activities (Social Media's Impact on Our Mental Health and Tips to Use It Safely, 2024).

FOMO can also compel users to check social media constantly in a bid to stay updated on the activities of their acquaintances, family, or friends. Social media also has an indirect impact on attention by impacting psychological wellbeing. Cyberbullying is rife on most social media platforms and can cause "depression, anxiety, extreme isolation, and, sadly, suicide" (O'Keeffe et al., 2011). A new form of depression, known as "Facebook depression," has been discovered by researchers where preteens and teenagers spend excessive amounts of time on social networking sites and begin to show signs of depression (O'Keeffe et al., 2011). It also predisposes them to social exclusion and will lead them further to access social media or seek help from problematic web sources, which can provoke substance use, unsafe sex, or self-harm (O'Keeffe et al., 2011).This is detrimental to the health of preteens and teens, which has a negative impact on their daily lives. Thus, it becomes increasingly difficult to focus. Learning through schools with social media and their negative impacts on their mental well-being engaged at all times. This affects their real interaction in life with people such as friends, relatives, teachers, etc. They do not understand the importance of being off for once, something which could only tensed them in order to continue being active online.

The love for short video clips is adding more fuel to the issue of allegedly diminishing attention spans. In recent times, TikTok has significantly contributed to the social media environment. As it revolves around short video formats, such platforms are very vulnerable to too much user engagement or addiction. Short videos are made to be more engaging, and the

viewer can switch to another video at any time if they get bored or uninterested (Xie et al., 2023). This leads to prolonged viewing sessions as TikTok's algorithm itself is designed to show the user content based on their preference or past activities, engaging them until they themselves log out.

This negatively impacts viewers by making seamless transitions between personalized videos possible, reducing their attention span. Viewers have access to instant reward within an extremely short duration (Xie et al., 2023). If they are not happy, they are immediately offered the option of watching another video. Social media has transformed communication and access to information; it has also brought with it serious challenges, especially to young audiences. With the rapid growth of sites like Facebook, Instagram, and now TikTok, the specter of addiction and its consequences on attention span, mental well-being, and overall well-being has become an important issue.

It is significant to examine the influence these platforms have on the behavior and thinking processes among teens. From the research of recent discoveries, one can gain essential information regarding the impact of online engagement and the need for therapeutic interventions for the mental health of adolescents. In this section, a summary of the results of research from neuroimaging and psychometric tests conducted to investigate the connection between social media use and focus. Attention is inherently connected and to, essential for decision-making, learning, and problem-solving. This would mean that any factor which impairs or disturbs the cognitive capacity for attention would necessarily influence learning, problem-solving, and decision-making as well.

In a research paper titled "Effect of online social networking on student academic performance," researchers at Kennesaw State University conducted a study on undergraduate students who were pursuing business programs. A confidential questionnaire was distributed to students in fifteen various class sections of lower, middle, and upper academic standing.

The participating students' mean age was 26.73, and the gender ratio was 48.52 with a predominance of females, and a mean grade point average (GPA) of 3.19 (Paul et al., 2012). The survey contained inquiries related to social media time usage, influence behaviors, time management ability, study capacity, concentration power, student profile, and overall study performance.

The outcome reported a positive direct relationship for some variables but the others were considered not significant. For example, more time spent on social media was discovered to have a negative impact on academic performance, hypothesizing, "As time spent on social networking sites increases, the academic performance of the students is seen to deteriorate" (Paul et al., 2012). A correlation was also discovered between time spent on social media and attention span. Those who spent more time on social media had a lower attention span. Aware of how harmful the use of social media for academic work can be, a positive relation was also seen between lower attention span and academic performance. Lower attention span individuals were related to poorer academic performance.

Another study sought to examine the effect of social networks on cognitive processes, that is, attention mechanisms (Lee et al., 2021). This study recruited 78 participants aged 16 to 27 years and were categorized into two different groups. One group consisted of

participants classified as problematic social media users based on the Korean Smartphone Addiction Proneness Scale, and the second group consisted of healthy users with moderated habits. Assessments were conducted on smartphone addiction and other psychological factors among all the participants. One of the main assessment instruments employed was the Korean Smartphone Addiction Proneness Scale (SAPS), which assesses excessive smartphone use. The scale predominantly focuses on individuals who predominantly use smartphones for communication and social networking purposes. Questions were posed to the participants regarding their social media activities, i.e., how frequently and how long they used to do their activities. Furthermore, MRI scans were conducted to explore brain areas involved with attention networks.

The findings provided evidence that the PSMU group demonstrated reduced connectivity between some of the brain areas involved with attention control. Moreover, increased connectivity in other brain areas was observed, which provided evidence for a shift in attention control processes. Lastly, the findings indicated that PSMU straightaway affects thinking, particularly pertaining to brain areas involved in the regulation of attention and impulse control. One specific study was conducted in Chungbuk province of South Korea focusing on male middle school students. Internet addiction was first assessed via the Korean Adolescent Internet Addiction Scale (K-AIAS), which is a standard scale. Based on this evaluation, 15 participants who showed signs of addiction and 15 who were not addicted were selected, forming pairs based on their ages. Exactly, these participants were separated into 6 pairs of 13 year old, 5 pairs of 14-year-olds, and 4 pairs of 15-year-olds (Kim et al., 2014). Next, they were given a task where they were instructed to find out whether a symbol

shown on the screen was on the right or left side.

Various versions of the task involved conditions without rewards, with feedback indicating "Correct" or "Right," social reinforcement by words like "Great" or "Good," and a material reward that gave money incentives for correct responses (Kim et al., 2014). The amount of time allowed for the test was approximately 6 minutes.

Results indicated addicted participants experienced lower activation in a number of areas of the brain compared to their non-addicted counterparts (Kim et al., 2014). The non-addicted group was found to benefit from feedback that may have been beyond the notice of the addicted participants in a similar manner. The reduced brain activity that was witnessed in the addicted group was blamed on their prolonged use of the internet.

It is clear that prolonged use of the internet negatively affects cognitive function. The ongoing research into the effects of social media on attention levels and overall mental health is extensive and complex. While many studies show a negative correlation between overuse of social media and problems with attention, including impulsivity, reduced school performance, and risk of addiction, other studies show more multifaceted findings, with some showing no straightforward relationship.

The existing body of evidence indicates that while social media has the potential to negatively impact attention mechanisms, its effect is not uniform, and more research is needed to fully understand its long-term effects.

2.10. CONCLUSION:

This chapter tackled the earliest start of cognition and cognitive psychology which includes studies conducted on attention and memory that led to the study of cognitive abilities and processes, mainly including problem-solving and attention. There are applications of cognitive processes such as: learning new information, creating memories, making decisions,etc.

Problem-solving refers to the capacity to achieve an end when confronted by a particular problem with no visible solution through the utilization of five steps to adequately solve a problem:

Defining problem, brainstorming solutions, evaluate solutions, implement solutions, and monitor and adjust.

Attention is a simple cognitive process that allows an individual to select and focus on the right stimuli and inhibit distractions. This cognitive process has multiple types that are: arousal attention, focused, sustained, selective, divided, and alternating.

The upcoming chapter will discuss methodology and data collection method, in addition to analysing and interpreting results.

Chapter Three

Analysis and Discussion of Results

Introduction

The present chapter concerns the data analysis and the discussion of the field of investigation concerning our conducted study, after an overview of our case study here in Biskra. This phase is more focused on the analytical part of the dissertation. It is based on analyzing and interpreting the collected data from the questionnaire that was distributed to

middle school EFL students. Through using quantitative approach via a questionnaire, data has been collected and converted with Excel into graphs and charts in order to facilitate the interpretation of the study's results.

3.1. The Reason of Choosing the Sample

Due to time limitation and shortage in financial resources, the conducted sample was limited to 30 middle school students of **Abdelli Mohamed El Cherif**. The sample is restricted to 3rd year middle school learners. The main objectives are to diagnose and detect the impact of social media on their cognitive abilities specifically on problem- solving and attention abilities. The obtained results may or may not confirm the hypothesis postulated in the general introduction part and remain an initiation of the study and cannot be generalized on other samples of EFL students.

Furthermore, the choice of the EFL middle school learners was intentional in our study, because their brain capacities are under development and some experts believe that mental health concerns may be an unexpected side effect of increased social media use. Due to their sensible age, they can be damaged by the destructive impact of social media , the decreasing of their cognitive capacities can be the least negative side of it, comparatively to more serious effects such as; depression, anxiety, harassments, and cyber bullying.

3.2. Contextual study

Biskra is located 470 Km southeast from Algiers. It is the chief town of Wilaya with an area of 21 671 Km², and its population is about 600 000 inhabitants. It is nicknamed *"The Queen of the Zibans"*, *"The Door of the Desert»*, because of its location at the beginning

of the Sahara Desert. Due to its geographical location, its climate and natural resources, particularly farming, Biskra has always been a crossroad between the cities in the north and south.

Figure 9: Biskra City Map
Source: Google Map 2025

Abdelli Mohamed El Cherif Middle School

Figure 10: The Location of the Case Study

Source: Google Earth 2025

The middle school of **Abdelli Mohamed El Cherif** is located in the East-south of Biskra city, near an area called Trik Sidi Okba next to National Road of (RN83).

3.3. Description of the Questionnaire

The participant's questionnaire includes twenty (20) questions for middle school learners in form of structured questions. Practically, 20 closed-ended questions in which learners are limited to choose the appropriate choice for themselves among the given options, for the simple reason of their age and limited cultural level, choosing options as answers are simpler and clearer for the participants. The questionnaire has been completely structured.

3.3.1. SECTION ONE: General Information

The questionnaire was divided into three sections; the first one is including general information about the middle school learners which contains two (2) basic questions concerning: their gender and age.

3.3.2. SECTION TWO: Social Media

The second section is about the perception of middle school learners towards social media which consists of six (6) questions. At the very beginning, they were asked about their usage of social media. Then, the researcher wanted to know how long they have been using it. In addition, they were asked about their daily average usage. Moreover, learners were demanded to choose their mostly used platforms among multiple choices. Lastly, the researcher wanted to find out the main reason that pushed learners to use social media frequently.

3.3.3. SECTION THREE: Attention and Problem Solving

The third section includes twelve (12) questions, the first question attempts to know the school level of the participants prior using social media. The second question, we tried to find out their recent average for this year. After that we asked them if they became less efficient in classrooms due to social media usage. Then, we wanted to know if they think that social media affected their performance in the classroom or not.

Moreover, we asked them to define the modules that have difficulty in comprehending them, especially scientific modules as Mathematics, Physics or both. After that, we asked them if they think that they are having a problem of attention during sessions. Lastly, we asked if they believe if their educational level would improve if they spend less time in social

media platforms, and if they use social media during classes, also how social media benefit them and finally, we asked them to choose the activities that would substitute or minimize their usage of social media.

3.4. Analysis

Gender	Number of respondents	Percentage
Male	17	53.33
Female	13	46.67

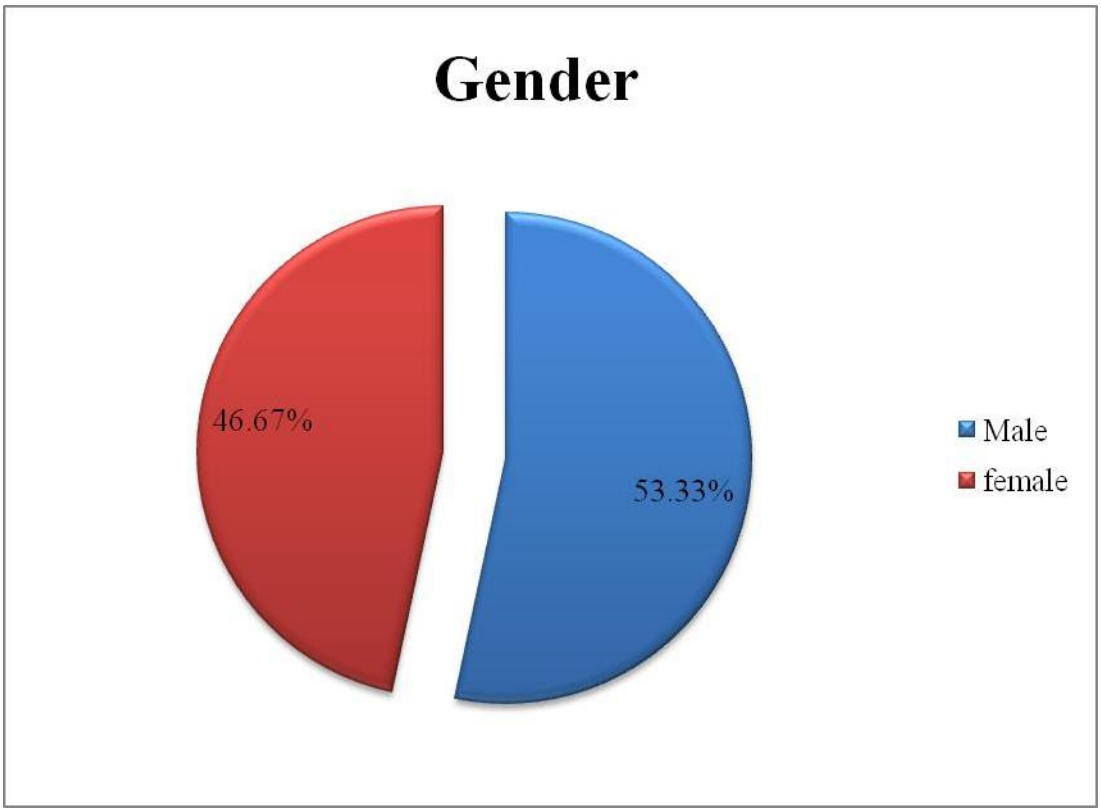


Figure 11: Gender

We can see that this particular sample has more males with percentage of approximately 53% and females with almost 47%.

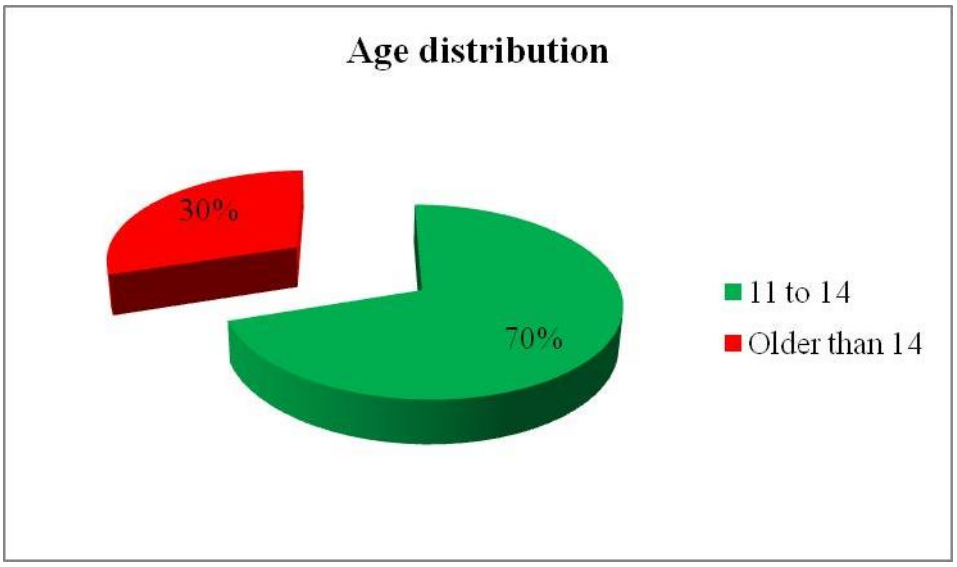
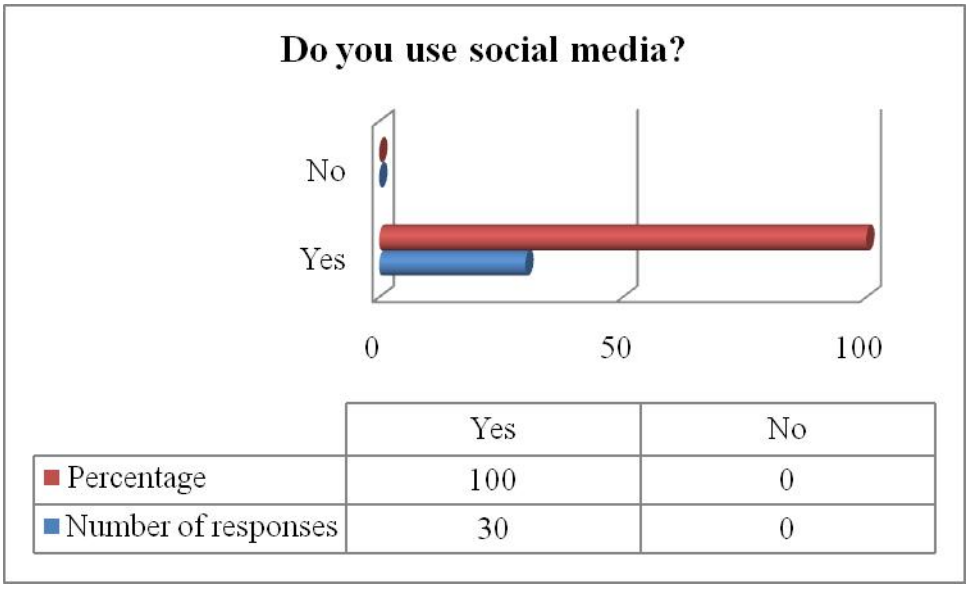


Figure 12: Age

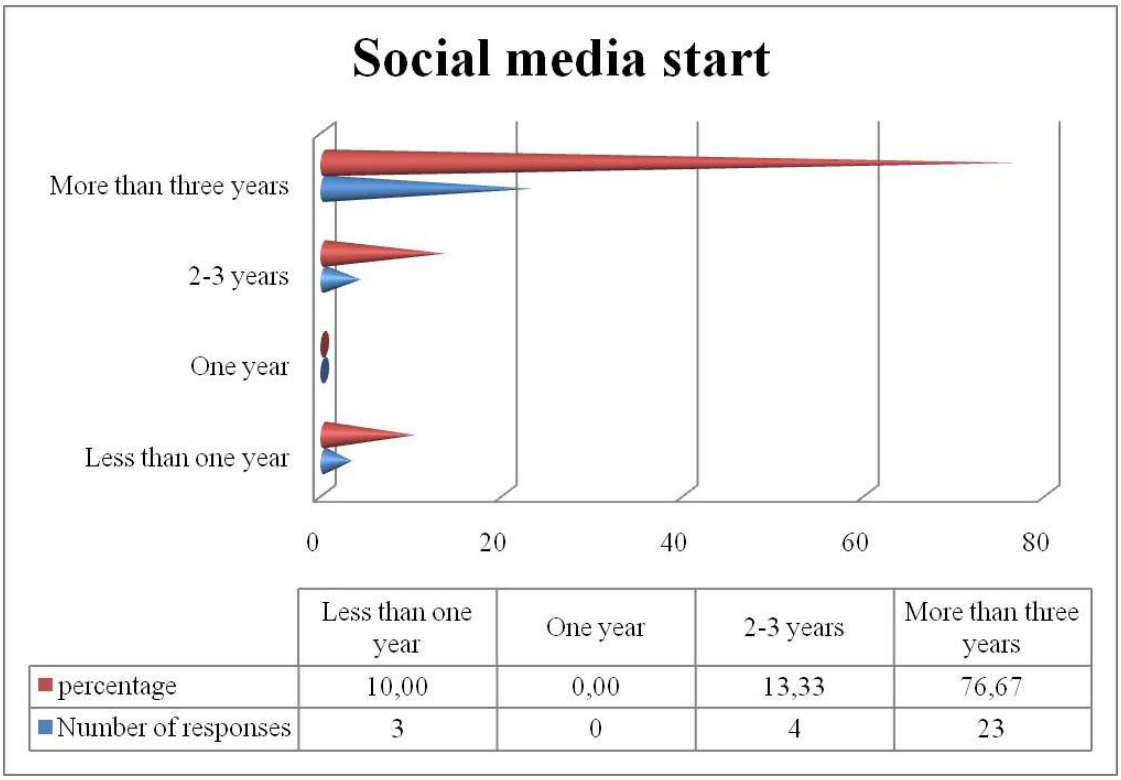
In this sample most of the middle school students has ages which range from 11 to 14 years old with a value estimated by 70%. The rest are older than 14 years old with a low percentage of 30%.



	Yes	No
Percentage	100	0
Number of responses	30	0

Figure 13: Usage

All of the participants of this sample answered positively with an overwhelming percentage of 100% using social media.



	Less than one year	One year	2-3 years	More than three years
percentage	10,00	0,00	13,33	76,67
Number of responses	3	0	4	23

Figure 14: Start of usage

From these cone bars, we can confirm that most of the participants with a total number of 22 used social media for over 3 years with a total percentage of 74.08%. Lower in percentage, there are paticipants who used social media platforms from two to three years and less than one year with a percentage equals to 14.81 and 11.11 respectively.

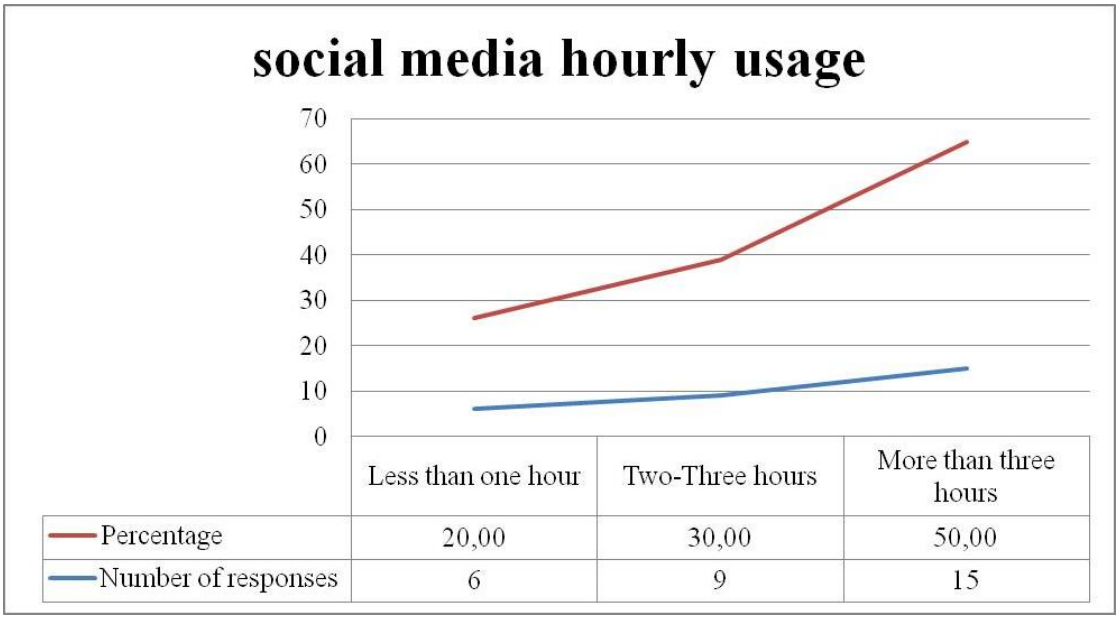


Figure 15: Hourly usage

This graph indicates that the participants who use social media for more than three hours are the dominant category by 14 students out of 29 and with a dominating percentage of 48.28% .Then we have students who chose the option of two-three hours with 9 students equivalent to 31.03%. Lastly we have the least dominant category of social media usage of less than one hour with a low percentage of 20.69%.

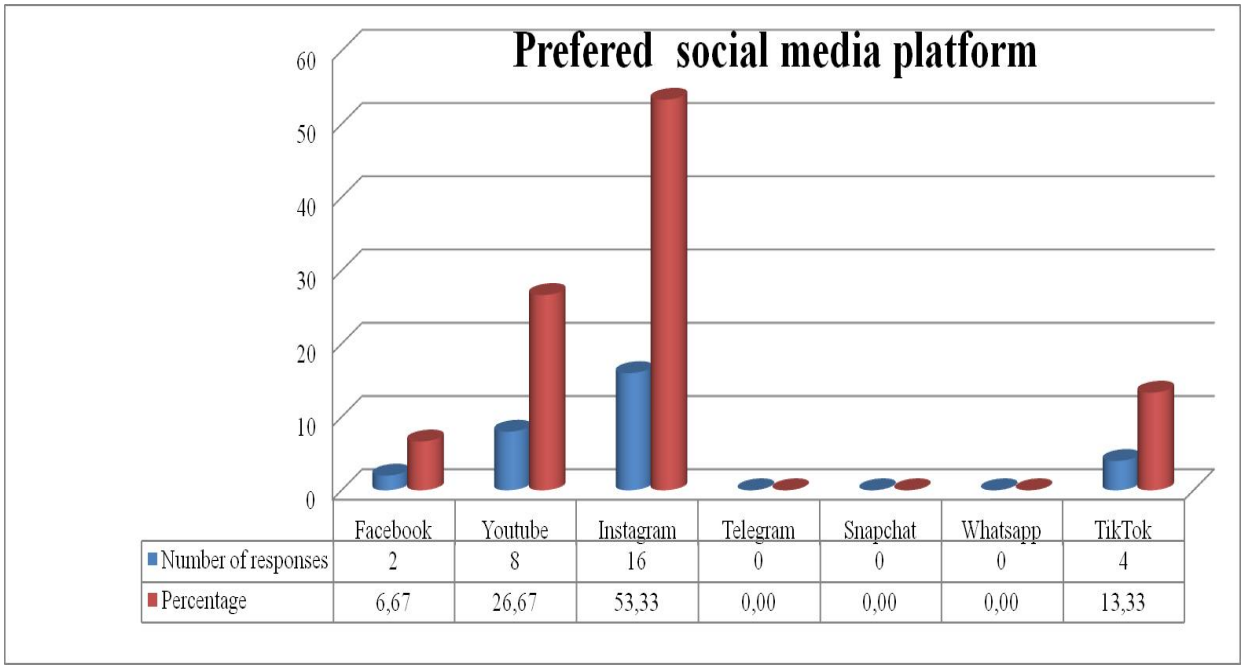


Figure 16: Prefered platform

Based on the respondents' personal preferences, it appears that the widely used platform among this sample is Instagram. it was selected by 16 students out of 29, and with a percentage that equals 55.17%.

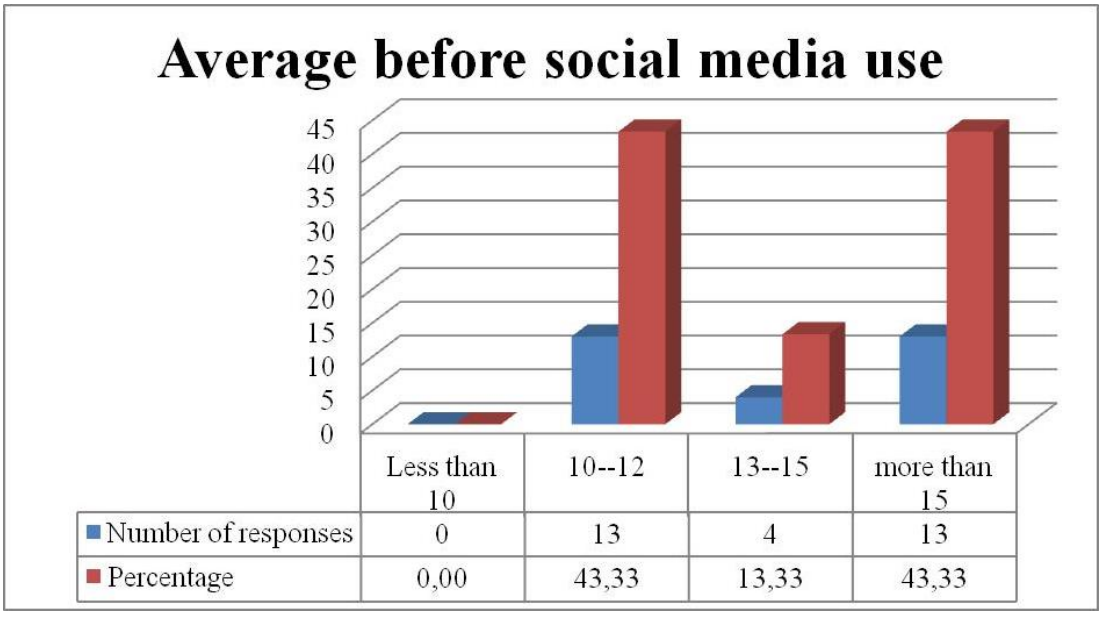


Figure 17: Average before usage

From these answers, it appears that students have never got an average that is below 10 before using social media. Number of students that reaches 12 got an average from 10 to 12 with a percentage of 41.38%. The dominant category of students with 13 respondents with a equal percentage of 44.83% got an average of more than 15.

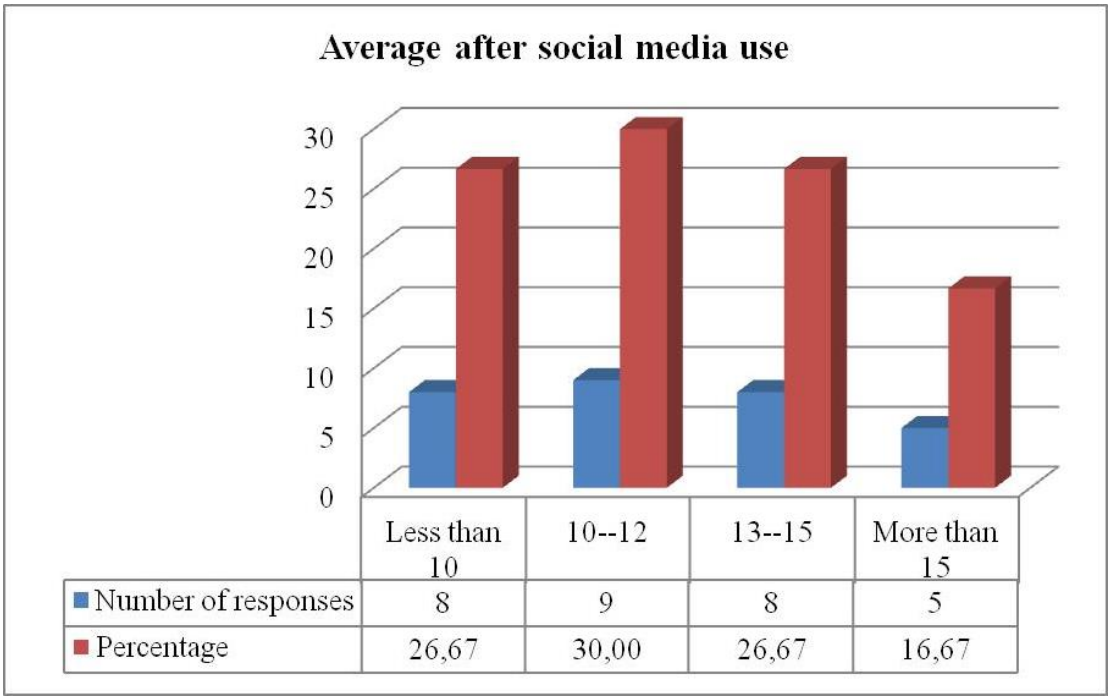


Figure 18: Average after usage

There are participants who scored less than 10 grew drastically from 0.0% to 26.67%. We can observe that students with an average of more than 15 became decreased to a percentage of 16.67%. The students who have an average from 10 to 12 became the dominant category with an overwhelming percentage of 30%.

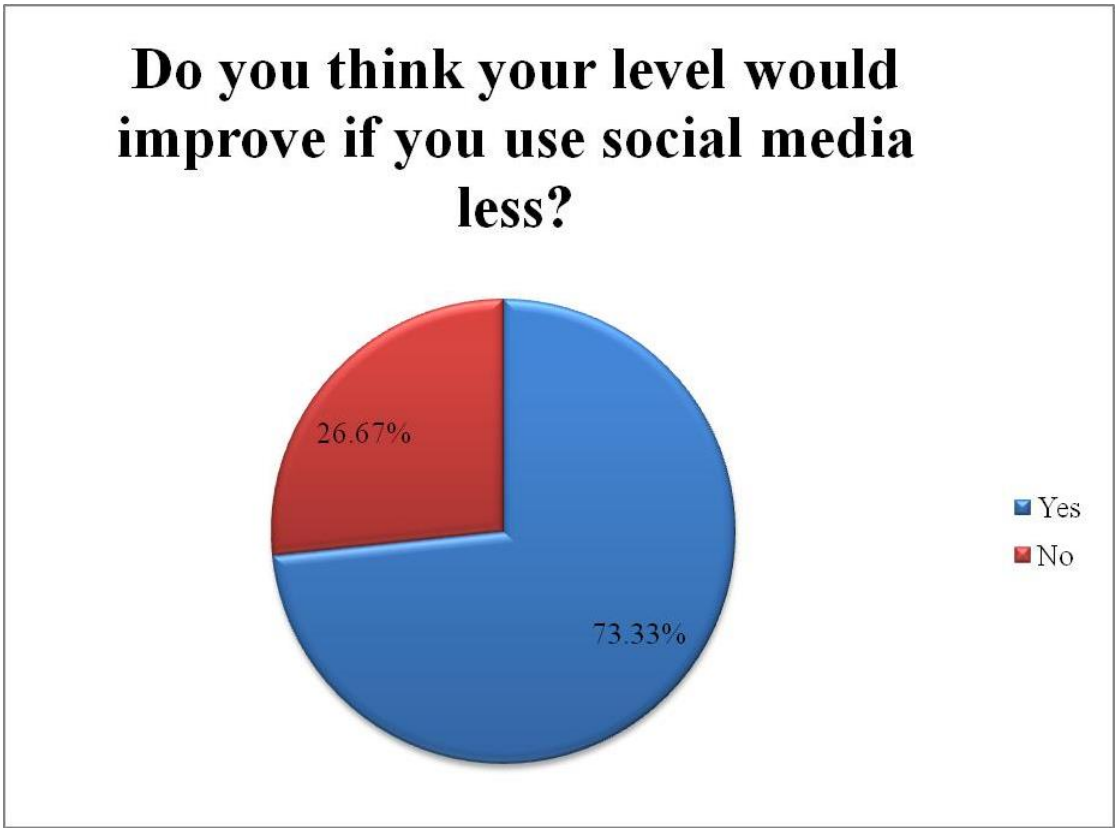


Figure 19: Possible improvement

We can observe that 73.33% of total sample actually believe that their level and average would improve, if they decreased their usage of social media.

General Conclusion

This dissertation is set out to examine the impact social media on EFL middle schoolers' cognitive abilities of attention and problem-solving , and how it affects their levels in school.

The findings suggest that social media can affect students on a cognitive level which leads to consequences such as severe distractions, laziness, loss of focus,etc.

This would certainly lead to a dramatical decrease in their education and learning levels.

This research contributes to the field by adding new insights about middle school students being EFL learners and getting affectd by social media generally and specifically at the level of cognitive abilities . This study first highlights social media and the use of its platforms by this category of people , then it sheds a light on cognition and cognitive abilities. Specifically problem-solving and attention and discovering every aspect of these two elements. And diving into how social media can affect these two cognitive abilities.

While the study offers valuable insights,The sample was only limited to a class of third year EFL middle school learners in Biskra. Which may affect the ability to generalize the results.

In future research regarding this study, broader and larger samples should be included to be able to generalize the results. It would be benfecial to this field to dive deeper into how social media impacts various cognitive processes and abilities of EFL middle school learners.

In conclusion, this study contributes to a deeper understanding of the impact social media has on middle school EFL students on a cognitive level. While questions remain, this lays the groundwork for future inquiries and perspectives for the sake of development in this particular field.

List of References

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem. *Addictive Behaviors, 64*, 287–293. https://www.sciencedirect.com/science/article/abs/pii/S0306460316301095

Anderson, J. R. (2020). *Cognitive psychology and its implications* (9th ed.). Worth Publishers. https://discovered.ed.ac.uk/discovery/fulldisplay?docid=alma9925075639802466&context=L&vid=44UOE_INST:44UOE_VU2&lang=en&adaptor=Local%20Search%20Engine&tab=Everything

Baddeley, A., Eysenck, M. W., & Anderson, M. C. (2020). *Memory* (3rd ed.). Psychology Press. https://doi.org/10.4324/9780429449642

Benarbia, S., & Difallah, N. (2024). Developing problem-solving abilities through cognitive intelligence in EFL learning: Case study of first-year Master students, Department of English, University 8 Mai 1945, Guelma [Master's thesis, Université 8 Mai 1945 Guelma]. DSpace. https://dspace.univ-guelma.dz/jspui/handle/123456789/16739 https://dspace.univ-guelma.dz/jspui/bitstream/123456789/16739/1/M821.479.pdf

Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent wellbeing: A systematic narrative review. *Children and Youth Services Review, 41*, 27–36. https://doi.org/10.1016/j.childyouth.2014.03.001

BMC Medical Education. (2023). Factors influencing the complex problem-solving skills in reflective learning: Results from partial least square structural equation modeling and fuzzy set qualitative comparative analysis. *BMC Medical Education, 23,* Article 382. https://doi.org/10.1186/s12909-023-04326-w

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Campbell, M. A. (2015). Cyberbullying: An old problem in a new guise? *Australian Journal of Guidance and Counselling*, *25*(1), 45–56. https://doi.org/10.1017/jgc.2015.6

Carlson, N. (2012, April 9). Facebook buys Instagram for $1 billion. *Business Insider*. https://www.businessinsider.com/facebook-buys-instagram-2012-4

Common Sense Media. (2021). The Common Sense census: Media use by tweens and teens, 2021. https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-tweens-and-teens-2021

Constine, J. (2018, June 20). Instagram hits 1 billion monthly users, up from 800M in September. *TechCrunch*. https://techcrunch.com/2018/06/20/instagram-1-billion-users/

DataReportal. (2025). Digital 2025: Global overview report. https://datareportal.com/reports/digital-2025-global-overview-report

DataReportal. (2025). Essential Snapchat statistics and trends for 2025. https://datareportal.com/essential-snapchat-stats

Dickens, W. T. (2016). Cognitive ability. *Brookings Institution*. https://www.brookings.edu/wp-content/uploads/2016/06/05education_dickens.pdf

Durov, P. [@durov]. (2025, March 19). Telegram now has significantly over 1 billion monthly active users… [Post]. *X*. https://x.com/durov/status/1770385941222338792

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology: A student's handbook* (7th ed.). Psychology Press. https://psycnet.apa.org/record/2015-09422-000

Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: Related to body dissatisfaction and low self-esteem. *International Journal of Eating Disorders*, *48*(7), 945–953. https://doi.org/10.1002/eat.22449

Goldstein, E. B. (2019). *Cognitive psychology: Connecting mind, research, and everyday experience* (5th ed.) [PDF]. Scribd. https://fr.scribd.com/document/789449362

HappyNeuronPro. (n.d.). The key elements of attention by cognitive scientist. HappyNeuronPro. https://www.happyneuronpro.com/en/info/what-is-attention/

Hilman, E. (2024, October). This is your brain on social media: How social media use is changing our attention spans. *ResearchGate*.

https://www.researchgate.net/publication/385214649_This_is_Your_Brain_on_Social_Media_How_Social_Media_Use_is_Changing_our_Attention_Spans

Hinduja, S., & Patchin, J. W. (2018). Connecting adolescent suicide to the severity of bullying and cyberbullying. *Journal of School Violence, 17*(4), 406–422. https://doi.org/10.1080/15388220.2018.1492417

Hunt, M. G., Marx, R., Lipson, C., & Young, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology, 37*(10), 751–768. https://doi.org/10.1521/jscp.2018.37.10.751

Huseman, B. (2023, August 14). 5 step approach to solving a problem. *LinkedIn*. https://www.linkedin.com/pulse/5-step-approach-solving-problem-blake-huseman

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux. https://www.academia.edu/49744579/Kahneman_D_2011_Thinking_Fast_and_Slow

Keles, B., McCrae, N., & Grealish, A. (2020). The influence of social media on depression, anxiety, and psychological distress in adolescents: A systematic review. *International Journal of Adolescence and Youth, 25*(1), 79–93. https://doi.org/10.1080/02673843.2019.1590851

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons, 54*(3), 241–251. https://doi.org/10.1016/j.bushor.2011.01.005

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*(4), 1073–1137. https://doi.org/10.1037/a0035618

Kuss, D. J., & Griffiths, M. D. (2015). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health, 12*(3), 1286–1306. https://doi.org/10.3390/ijerph120301286

Lea, S. (2025, April 12). What affects problem solving. *Accipio eLeadership*. https://www.aicura.com/eleadership/strategy-and-innovation/what-affects-problem-solving/

Li, K. (2025, March 20). Telegram hits 1 billion active users as CEO Pavel Durov takes swipe at Meta-owned rival WhatsApp. *Business Insider*. https://africa.businessinsider.com/news/telegram-hits-1-billion-active-users-as-ceo-pavel-durov-takes-swipe-at-meta-owned/n69zw0c

Loftus, E. F., & Palmer, J. C. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal Learning and Verbal Behavior, 13*(5), 585–589. https://doi.org/10.1016/S0022-5371(74)80011-3

Madrigal, A. C. (2010, October 7). How the Facebook News Feed algorithm shapes your friendships. *The Atlantic*. https://www.theatlantic.com/technology/archive/2010/10/how-the-facebook-news-feed-algorithm-shapes-your-friendships/64996/

Medjedoub, D. (2025). Attention [PDF]. Centre Universitaire Mila. https://elearning.centre-univ-mila.dz/a2025/pluginfile.php/81510/mod_resource/content/1/2%20Attention%20Dr%20MEDJEDOUB.pdf

Meta. (2023). Company info: Facebook. https://about.meta.com/company-info/

Neisser, U. (1967). *Cognitive psychology*. Appleton-Century-Crofts. https://doi.org/10.4324/9781315736174

Paljug, K. (2025, February 19). Social media: Definition, importance, top websites, and apps. *Investopedia*. https://www.investopedia.com/terms/s/social-media.asp

Pew Research Center. (2022, August 10). Teens, social media and technology 2022. https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022

Pew Research Center. (2024). News consumption across platforms: 2024 update. https://www.pewresearch.org/journalism/fact-sheet/news-platform-fact-sheet/

Posner, M. I., & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience, 13*, 25–42. https://doi.org/10.1146/annurev.ne.13.030190.000325

Primack, B. A., Shensa, A., Sidani, J. E., Whaite, E. O., Lin, L., Rosen, D., … & Miller, E. (2017). Social media use and perceived social isolation among young adults. *American Journal of Preventive Medicine, 53*(1), 1–8. https://doi.org/10.1016/j.amepre.2017.01.010

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior, 29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014

ReachOut Content Team. (2024, December 2). Teenagers and social media. *ReachOut Parents*. https://parents.au.reachout.com/staying-safe-online/social-media/teenagers-and-social-media

Reuters Institute. (2024). Digital news report 2024. https://infini.love/2025/01/02/reuters-institute-digital-news-report-2024/?utm

Rosen, L. D., Lim, A. F., Carrier, L. M., & Cheever, N. A. (2011). Causes, effects, and practicalities of everyday multitasking. *Developmental Review, 35*, 64–78. https://www.researchgate.net/publication/270825754_Causes_effects_and_practicalities_of_everyday_multitasking

Shontell, A. (2012, April 9). Instagram: Here's why we just sold for $1 billion. *Business Insider*. https://www.businessinsider.com/instagram-heres-why-we-just-sold-for-1-billion-2012-4

Statista. (2023). Most popular social networks worldwide as of January 2023.

Statista. (2023a). Number of monthly active Facebook users worldwide as of 4th quarter 2021. https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/

Statista. (2023b). Number of daily active Facebook users worldwide from 1st quarter 2011 to 1st quarter 2023. https://www.statista.com/statistics/346167/facebook-global-dau/

Statista. (2024). Number of monthly active YouTube users worldwide as of January 2024. https://www.statista.com/forecasts/1146465/youtube-user-by-country

Statista. (2025). Share of the global population using YouTube as of April 2025. https://www.statista.com/statistics/1612930

Stieger, S., & Wunderl, S. (2022). Associations between social media use and cognitive abilities: Results from a large-scale study of adolescents. *Computers in Human Behavior, 135*, 107358. https://doi.org/10.1016/j.chb.2022.107358

Umar, I. (2024, February 27). The rise and fall of MySpace. *Dev.to*. https://dev.to/ishratumar/the-rise-and-fall-of-myspace-18k2

Wang, Y., & Chiew, V. (2010). On the cognitive process of human problem solving. *Cognitive Systems Research, 11*(1), 81–92. https://doi.org/10.1016/j.cogsys.2008.08.003

Wang, Y., Xu, Z.-L., Lou, J.-Y., & Chen, K.-D. (2023). Factors influencing the complex problem-solving skills in reflective learning: Results from partial least square structural equation modeling and fuzzy set qualitative comparative analysis. *BMC Medical Education, 23*(1), 382. https://doi.org/10.1186/s12909-023-04326-w

Zerrouk, I. E., & Yeddou, Y. (2022). Supervision d'un niveau d'eau via un automate programmable : Etude et conception [Master's thesis, Université Ibn Khaldoun de Tiaret]. DSpace. http://dspace.univ-tiaret.dz/bitstream/123456789/2350/1/TH.M.ENG.2022.14.pdf

APPENDIX

Questionnaire

Dear students, please fill out the following questionnaire. For scientific purposes only, we attempt to collect data for a master's dissertation on **"The impact of using social media on EFL students".** If you could give us your time and feedback, we would be extremely grateful. Kindly mark (√) the relevant response (s) and provide the complete response (s) if required. Make sure your answers will stay anonymous and be used solely to accomplish the goals of the study. I appreciate all of your work, time, and cooperation.

SECTION ONE: General information

1. **What is your gender?**

   ◯ Male
   ◯ Female

2. **How old are you?**

   ◯ 11-14
   ◯ More than 14

SECTION TWO: Social media usage

3. **Do you use social media?**
   (one possible answer)

   ◯ Yes
   ◯ No

4. **How long have you been using social media?**

   (one possible answer)

   ◯ Less than a year
   ◯ 1 year
   ◯ 2- 3 years
   ◯ More than 3 years

5. **How often do you think you use social media daily? (one possible answer)**

- ◯ Less than one hour
- ◯ 2-3 hours
- ◯ More than 3 hours

6. **Which social media platforms do you use? (multiple answers)**

- ☐ Facebook
- ☐ Youtube
- ☐ Instagram
- ☐ Telegram
- ☐ Snapchat
- ☐ Whatsapp
- ☐ Tiktok

7. **Which social media platform you spend most of your time using? (Choose one)**

- ◯ Facebook
- ◯ Youtube
- ◯ Instagram
- ◯ Telegram
- ◯ Snapchat
- ◯ Whatsapp
- ◯ Tiktok

8. **What are the main reasons that pushed you towards using social media? (Multiple answers)**

- ☐ Abundance of free time
- ☐ Lack of physical activities
- ☐ Lack of amusement
- ☐ Lack of communication with family and friends

SECTION THREE: Attention and problem solving

9. **how was your level in school before using social media? (One possible answer)**

- ◯ Less than 10
- ◯ 10-12
- ◯ 13-15
- ◯ More than 15

10. **Do you think your level declined after using social media? (One possible answer)**

- ◯ Yes
- ◯ No
- ◯ Maybe

11. **What is your recent average this year in school? (One possible answer)**

- ◯ Less than 10
- ◯ 10-12
- ◯ 13-15
- ◯ More than 15

12. **Do you think you became less efficient in classroom due to social media usage? (One possible answer)**

- ◯ Yes
- ◯ No

13. **How do you think social media affected your performance in the classroom? (Multiple answers)**

- ☐ Loss of focus and attention
- ☐ Lack of creativity
- ☐ Difficulty to solve simple problems given by the teacher
- ☐ Unability to comprehend the lessons during classtime

14. **Which module do you think have difficulty in comprehending? (One possible answer)**

- ◯ Mathematics
- ◯ Physics
- ◯ Both

15. **Does social media notifications, updates, and news distract you during sessions? (One possible answer)**

- ◯ Yes
- ◯ No
- ◯ Sometimes

16. **Do you think your level would improve if spend less time using social media platforms? (One possible answer)**

- ◯ Yes
- ◯ No

17. **Do you use social media during classes? (One possible answer)**

- ◯ Yes
- ◯ No
- ◯ Sometimes

18. **How social media benefited you? (Multiple answers)**

- ☐ Communicating with friends and teachers
- ☐ Communicating with foreigners and improving language profeciency
- ☐ Gaining new insights and perspectives
- ☐ Exposure and exploring distinct cultures
- ☐ Receiving documents and papers

19. **Choose which activities would minimize or even substitue your usage of social media? (Multiple answers)**

- ☐ Sports
- ☐ School clubs
- ☐ Constant communication with friends and family
- ☐ Visiting parks and green spaces
- ☐ Learning new crafts (free writing, poetry, pottery, drawing, sculpting, kneeting,...etc)

20. **How social media negatively affects you? (Multiple answers)**

- ☐ Loss of time
- ☐ Distraction
- ☐ Decreased the focus level during classes
- ☐ Decreased grades
- ☐ Depression
- ☐ Laziness

إستبيان

ما هو جنسك؟

ذكر ◯

أنثى ◯

كم عمرك؟

سنة 14-11 ◯

أكبر من 14 سنة ◯

هل تستعمل وسائل التواصل الإجتماعي؟

نعم ◯

لا ◯

منذ متى و أنت تستعمل وسائل التواصل الإجتماعي؟ .4

منذ أقل من عام ◯

منذ عام ◯

من عامين إلى ثلاثة أعوام ◯

أكثر من ثلاثة أعوام ◯

كم من الوقت تقضيه يوميا في إستعمال وسائل التواصل الإجتماعي؟

أقل من ساعة ( )

ما بين ساعتين إلى ثلاث ساعات ( )

أكثر من ثلاث ساعات ( )

ما هي وسائل التواصل الإجتماعي التي تستعملها (إختر واحدة أو أكثر)؟

فايسبوك ☐

يوتيوب ☐

إنستغرام ☐

تيليغرام ☐

سنابشات ☐

واتساب ☐

تيكتوك ☐

إختر أرضية التواصل الإجتماعي التي تقضي معظم وقتك في إستعمالها(إختر واحدة فقط)

فايسبوك ☐

يوتيوب ☐

إنستغرام ☐

تيليغرام ☐

سنابشات ☐

واتساب ☐

تيكتوك ☐

ما هي الأسباب الرئيسية التي تدفعك إلى إستعمال أرضيات التواصل الإجتماعي؟ (إختر واحدة أو أكثر)

فائض من أوقات الفراغ ☐

قلة النشاطات البدنية ☐

قلة أوقات المرح ☐

قلة التواصل مع الأصدقاء و العائلة ☐

كيف كان مستواك الدراسي قبل إستعمال وسائل التواصل الإجتماعي؟

أقل من 10 ◯

من 10 إلى 12 ◯

من 13 إلى 15 ◯

أكثر من 15 ◯

هل تظن أن مستواك الدراسي إنخفض بعد بدء وسائل التواصل الإجتماعي؟

نعم ◯

لا ◯

ما هو مستواك الدراسي هذا العام؟

أقل من 10 ◯

من 10 إلى 12 ◯

من 13 إلى 15 ◯

أكثر من 15 ◯

12. هل تظن أنك أصبحت أقل فعالية و تناقص مستواك الدراسي بسبب وسائل التواصل الإجتماعي ؟

نعم ◯

لا ◯

كيف تظن أن وسائل التواصل الإجتماعي تؤثر عليك خلال أوقات الدراسة؟ (إختر واحدة أو أكثر)

فقدان التركيز و الإهتمام ☐

قلة الإبتكار ☐

إيجاد صعوبة في حل أسئلة بسيطة مقدمة من طرف الأستاذ ☐

عدم القدرة على فهم الدروس من خلال شرح الأستاذ ☐

إختر أي مادة تجد صعوبة في فهمها و حلها؟

الرياضيات ◯

الفيزياء ◯

كلاهما ◯

هل إشعارات و تحديثات و أخبار التواصل الإجتماعي تقوم بصرف إنتباهك في أوقات الدراسة؟

نعم ◯

لا ◯

أحيانا ◯

هل تستعمل وسائل التواصل الإجتماعي خلال الحصص؟

نعم

لا

أحيانا

هل تظن أن مستواك الدراسي سيتحسن إن قللت إستعمال وسائل التواصل الإجتماعي؟

نعم

لا

إختر مما يلي النشاطات التي ستقلل أو حتى تستبدل إستعمالك لأرضيات التواصل الإجتماعي(إختر واحدة أو أكثر)

النشاطات الرياضية

النوادي المدرسية

التواصل المستمر مع الأصدقاء و العائلة

زيارة الحدائق و المساحات الخضراء

تعلم مهارات جديدة (الكتابة الحرة ,كتابة الشعر, صناعة الفخار,الرسم,النحت,الخياطة,...إلخ)

كيف أفادتك وسائل التواصل الإجتماعي؟(إختر إجابة أو أكثر) .19

سهولة الحصول على معلومات خاصة بالدراسة

سهولة التواصل مع الأصدقاء و الأساتذة

التواصل مع الأجانب و تطوير المستوى اللغوي

إستكشاف آراء و وجهات نظر من شتى الأشخاص

التعرض لثقافات أجنبية جديدة و إستكشافها

كيف تظن أن وسائل التواصل الإجتماعي أثرت عليك بصورة سلبية؟ (إختر إجابة أو أكثر)

تضييع الوقت ☐

مصدر إلهاء ☐

تقليل مستوى التركيز خلال الحصص ☐

الكسل ☐

الشعور بالكآبة ☐

تراجع المستوى الدراسي ☐

الملخص

يتمحور هذا البحث حول كيفية تأثير وسائل التواصل الاجتماعي على القدرات المعرفية لدى متعلمي اللغة الإنجليزية كلغة أجنبية في المرحلة الإعدادية والتي تشمل مدى الانتباه ومهارات حل المشكلات. وذلك لتحديد التأثيرات المباشرة لوسائل التواصل الاجتماعي على طلاب اللغة الإنجليزية كلغة أجنبية في المرحلة الإعدادية؛ خاصةً طلاب الصف الثالث الإعدادي الذين تتراوح أعمارهم بين 11 و14 سنة. هذا البحث كمي بحت، حيث تم استخدام استبيان تم توزيعه على 30 متعلمًا من الصف الثالث الإعدادي. ويستكشف استخدام الأفراد لوسائل التواصل الاجتماعي على مدار السنوات، ومواقفهم تجاهها. كما أنه يستكشف بشكل غير مباشر تأثيرات وسائل التواصل الاجتماعي على الانتباه والقدرات المعرفية في حل المشكلات، مما قد ينعكس على مستوى الطلاب. وقد تبين أن جميع المشاركين يستخدمون وسائل التواصل الاجتماعي، ومعظمهم يستخدمونها منذ أكثر من ثلاث سنوات، مع أكثر من ثلاث ساعات من الاستخدام اليومي. وقد أثر ذلك عليهم بشكل كبير على المستوى المعرفي، وتحديداً قدرات الانتباه وحل المشكلات، مما يؤثر في النهاية على مستواهم في المدرسة. وقد تم استخدام المنهج الكمي في هذا البحث؛ مما أدى إلى تأكيد الفرضية المعطاة.

الكلمات المفتاحية: القدرات المعرفية، قدرات الإنتباه، قدرات حل المشكلات، متعلمي اللغة الإنجليزية كلغة أجنبية، وسائل التواصل الإجتماعي