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The Effect of Cramming on Students' Grades

Case of Study: Master one Students at Abd Elhafid Boussouf Mila University Center

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Didactics of Foreign Languages

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Dedication

In the name of Allah, the most beneficent, the most merciful. All gratitude goes to him for helping his weak servant accomplish this work.

This work is dedicated with heartfelt appreciation to:

My beloved parents, for their unwavering love, support, guidance, and sacrifices. Endless gratitude is owed for everything they have done.

My brothers and sister, who have always been there with love and support.

My entire family and dear friends, whose support and encouragement have made this journey possible.

Lastly, this work is dedicated to the memory of my late grandmother and aunt, whose love, wisdom, and guidance remain ever-present inspirations. Though physically absent, their spirit imbues every achievement and significant moment.

Lina

Dedication

This work is wholeheartedly dedicated to

My dear parents, who have always been my unlimited source of love and support.

My beloved sisters and brother for his unwavering encouragement.

To all the ones that have been there for me.

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Abstract

The adoption of the suitable effective study strategies is a crucial decision that all the students' have to be thoughtful regarding it. Hence, the prevalent reliance on cramming among students raises significant concerns about the effectiveness of such controversial study strategy. While many students resort to last-minute, concentrated study sessions in hopes of boosting their performance prior the exams or deadlines, cramming frequently leads to adverse outcomes, which affects both their academic success and overall well-being. The study conducted at Abd Elhafid Boussouf MUC is an investigation of the repercussions of cramming on master one English students' academic achievements (grades) and overall well-being. The core aim of this research is to advocate for effective study strategies through sensibilizing students about the ramifications of cramming by answering the following questions: To what extent does cramming impact the grades of master one students? How can we make students aware of the impacts of cramming? What strategies can students use to avoid cramming? In response to these questions, a mixed method approach of research was utilized which incorporates quantitative data from a comprehensive questionnaire that was held at the MUC with 50 students, and qualitative insights from semi-structured interview with five educational psychologists affiliated with "The Public Health Institution of Ferdjioua-Mila-". The combination of quantitative and qualitative approaches provides the research with broader range of data, which leads to a deeper understanding of the phenomenon under investigation and increases the reliability and validity of the results. The study findings indicate that most of the students have noticed a negative effect of cramming on both of their academic achievements (grades) and well-being. In addition, the five educational psychologists emphasize the detrimental effects of cramming on students' physical and mental health and cognitive functioning. The overall agreement is on the ineffectiveness of cramming as a long-term study strategy and on the necessity of adopting alternative study strategies.

Key words: cramming, strategy, grades, investigation, students, effects.

List of Abbreviation

MUC: Mila University Center.

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General Introduction

1. Statement of The Problem

Students are increasingly embracing cramming and last-minute study sessions as their primary method of learning in today's academic landscape, instead of sticking to consistent and structured study habits. It is a concerning trend that could really impact their academic performance and overall educational experience.

This shift in study behaviour prompts questions about the underlying reasons for this preference and the extent to which students comprehend the consequences of such practices. There seems to be a lack of awareness among students about the negative consequences of relying solely on cramming.

Furthermore, cramming does not solely impact academic performance; it can also take a toll on students' well-being. The stress and pressure that come with last-minute studying can actually hinder cognitive functioning and hinder the ability to perform optimally during assessments.

Students have to rely on various effective study techniques that not only improve learning outcomes but also prioritise overall well-being, emphasising the importance of steering away from the less sustainable practice of cramming.

2. Aim of The Study

The rational aim of conducting a study on the effects of school cramming among Master one level English students at MUC is to explore the multifaceted impact of this study strategy. Cramming, characterized by intensive last-minute exam preparations, can significantly influence learners' grades and long-term academic achievements. By providing empirically supported insights, the study aims to guide instructional strategies, support systems, and pedagogical practices, fostering a more effective and successful learning approach.

Additionally, the ultimate goal is to raise awareness among learners about the consequences of such practices on their well-being, study outcomes, and overall educational quality.

3. Significance of The Study

Exploring how cramming impact students' grades is crucial as it allows us gain insights into the complex relationships between long, intense study sessions and its repercussions on students' well-being and academic achievements. This study explores the complex dynamics of how these study habits affect learning outcomes over a wider range of learning outcomes, as well as immediate exam results. We can discover considerable information about the effectiveness of various alternative learning strategies rather than exhaustive ones, the significance of effective time management, and the resilience of knowledge retention by methodically analysing the effects of cramming. This increased understanding may lead to the formation of more effective and productive study habits, which can assist educators strengthen their pedagogical strategies for improved student results.

4. Research Questions

This study aims to answer the following questions:

- To what extent does cramming impact the grades of master one students?

- How can we make students aware of the impact of cramming?

- What strategies can students use to avoid cramming?

5 Research Methodology

5.1 Population and Sampling

To achieve the study's aims, the target population was master one didactics students at MUC. The whole population consist of 118 students. Therefore, the number of volunteering participants is 50 students. Furthermore, the analysis was held on 35 students who were randomly selected from the responses of the volunteered ones. The Decision of selecting this

population was Made based on the belief that these participants were the most qualified for the study. Given that these participants have been studying at the English department for four years, they likely possess a comprehensive understanding of the academic demands and challenges associated with cramming. This insight could provide valuable perspectives on the impact of cramming on student grades.

This research also involved the participation of five educational psychologists affiliated with "The Public Health Institution of Ferdjioua -Mila- ", who were invited to take part in the interview related to the impact of cramming on students' grades. These educational psychologists were selected for their seniority in psychology field, indicating significant experience with students especially university ones. Furthermore, they have prior experience handling cases where cramming led to numerous psychological and health-related symptoms.

5.2   Research Tools

To achieve the previously stated aims, two primary data collection tools were used.

5.2.1 Students' Questionnaire

5.2.1.1 Administration of The Questionnaire

The questionnaire was administrated face-to-face to students, because it offers a more personal touch, fostering engagement and allowing for immediate clarification of any questions. It also ensures higher response rates and potentially deeper insights through spontaneous discussions. Additionally, face-to-face interactions can help build rapport and trust, which may lead to more honest responses. 50 questionnaires were answered but only 35 were selected randomly.

5.2.1.2 Description of The Questionnaire

The questionnaire used in this research consisted of 17 questions divided into four sections: general information, cramming habit, academic performance, and the effects of cramming on academic performance.

5.2.2 Psychologists Interview

5.2.2.1 Administration of The Interview

The interview conducted in this research involved interactions with educational psychologists. We utilized a recording device to gather precise and comprehensive data from the participants, fostering a positive and interactive interview experience. This method enhanced the validity and reliability of the collected information.

5.2.2.2 Description of The Interview

The psychologists' interview consisted of seven questions. Data was originally collected in Arabic and later translated into English.

Chapter one: "cramming and learning"

Introduction

Cramming, a study strategy which is frequently characterised by last-minute, intensive study sessions, has long been a source of interest and concern in the realm of education. Its impact on students' academic achievement and overall learning experience is an area that requires extensive investigation and analysis. This chapter titled "Cramming and Learning", serves as a foundational exploration of the complex relationship between these two elements by delving into the nuances of cramming and its implications for learning. It is divided into two sections. The first section sheds light on the concept of cramming. Beginning by a comprehensive definition of the term "cramming". Then, it delves into the underlying reasons that drive students to resort to cramming. Furthermore, it scrutinizes the techniques commonly employed during cramming sessions. Additionally, this section addresses the use of stimulants during cramming and their negative effects on human health, as well as the potential consequences of relying on this study strategy. Whereas the second section delves into the fundamental aspects of learning, academic performance, and achievements. It begins with defining "learning", followed by comprehensive explanations of "academic performance and achievements". Additionally, this section explores various effective learning strategies such as summarizing, paraphrasing, note-taking, self-explanation, spaced repetition, collaborative learning, active learning, and autonomous learning. Furthermore, it examines cognitive factors influencing learning, including memory processes, attention, and motivation, as well as individual differences in learning such as sex/gender, personality traits, learning styles, cognitive abilities, psychological well-being, and family environment. Lastly, it discusses different types of assessments, including formative and summative assessments, and their effects on learning, with a focus on how they reflect on students' academic performance.

Section One : "Cramming Habits"

1 Cramming Definition

Cramming in the academic context, refers to the practice of hastily and intensively reviewing large volumes of information within a short period, it happens typically shortly before an examination or a deadline. According to Vacha and McBride (1993), cramming includes "students who largely neglected studying for three or more weeks" and then exercised a "burst of study before the tests" (p. 5).

Sommer (1968, p105) has provided a more inclusive definition of cramming as: "a period of neglect of study followed by a concentrated burst of studying immediately before an exam.". In essence, cramming represents a short-sighted approach to studying that prioritizes immediate results over sustained learning and academic mastery.

Such approach prioritizes the memorization of facts and figures over comprehensive understanding and critical thinking. However, cramming can be detrimental to students' health and academic performance where it is frequently associated with stress and anxiety. Despite its potential drawbacks, cramming is still a popular study strategy among learners "a technique as widely condemned by educators as it is widely used by students" (Sommer, 1968. p. 104).

2 Reasons for Cramming

There are numerous factors that drive individuals to resort to cramming, including:

2.1 Procrastination

Procrastination, as highlighted by Rabin, Fogel, and Nutter-Upham (2011), is a common issue among college students, characterized by the intentional delay of tasks, which can have a negative impact on many aspects of academic life, including learning, achievement, self-efficacy, and overall quality of life. This phenomenon, as discussed by Chu and Choi (2005), is frequently perceived as self-limiting and dysfunctional behavior, causing students to

underestimate the time required to complete tasks. As a result, students frequently find themselves in situations where they do not have enough time to properly prepare, resulting in low academic performance. This cycle of procrastination emphasizes the importance of time management and the need for students to accurately estimate the time required for effective study and task completion in order to mitigate the negative effects on academic performance.

2.2   Lack of Self-Efficacy

Lack of self-efficacy can hinder learners who doubt their own knowledge and skills, often leading to procrastination as they feel they're falling short of expectations. Consequently, they postpone studying until the last minute, therefore, they hope to cram as much information as possible. Personal self-efficacy is crucial for success in various life aspects, as noted by Fong and Asera (2010), who highlight its role in enhancing human functioning. When students cultivate a strong belief in their abilities, known as personal self-efficacy, it positively impacts various facets of their lives. Believing in one's capacity to succeed encourages determination, perseverance, and resilience, ultimately fostering increased motivation, improved performance, and greater overall well-being.

2.3   Poor Time Management Skills

According to Covey (2009), time is a precious resource in today's world, and those who manage it effectively are often more successful. Developing skills such as goal setting, prioritization, planning, coping strategies, studying, note-taking, and stress management can empower individuals to manage their time efficiently (Morgenstern, 2000). Students, in particular, should invest in improving these skills to avoid feeling overwhelmed by their academic workload. Failure to do so may result in struggling to prioritize tasks and resorting to last-minute cramming to meet deadlines. Instead of approaching their work with careful planning, students may fall into a cycle of procrastination, leading to unnecessary stress and rushed efforts.

2.4   The Thriving Pressure

Baer & Oldham (2006) and Kinicki & Vecchio (1994) defined time pressure as the extent to which employees feel the need to work at a pace faster than usual or have insufficient time to finish their work tasks. The concept of time pressure in the workplace resonates with the 'Thriving Pressure' experienced by students. Just as employees may feel compelled to work at a faster pace due to insufficient time, students often find themselves cramming to meet looming deadlines. This sense of urgency and pressure, akin to coping with challenge stressors in the workplace, can serve as a motivating force for students (LePine et al., 2005; Paulsson, Ivergård, & Hunt, 2005). By embracing the challenge of completing tasks under pressure, students may harness this heightened alertness to enhance their motivation and productivity, ultimately leading to improved performance.

2.5   The Ignorance of Effective Study Strategies

Boser (2019) confirmed that student learning increases when faculty teach students validated learning techniques explicitly. This observation resonates with the prevalent issue within educational settings, where the emphasis on content delivery often overshadows the critical need to equip students with essential study skills. Consequently, many students struggle to develop effective study habits and revision methods, despite their earnest efforts to comprehend the material. Moreover, teacher training programs sometimes neglect to incorporate instruction on study strategies, leaving educators ill-prepared to address this crucial aspect of student development. As a result, a disconnect emerges between students' learning needs and the support provided by educational institutions. This gap in instruction perpetuates a cycle where students continuously grapple with ineffective study habits, impeding their academic progress and overall success.

2.6   Student Study Habits

Okon (2005) emphasized the significance of structured and organized study habits in achieving academic success. This finding is supported by Adeyemo (2005) and Gbore (2006), who have also explored effective study habits and their strong correlation with academic performance. Students with structured study routines tend to excel in exams, showcasing the positive impact of disciplined study practices. In contrast to the benefits of structured study habits, a concerning trend among today's students is a preference for cramming over early preparation. They perceive cramming as a more convenient and less challenging approach; they believe it increases their chances of success. However, research suggests that relying on cramming may be less effective than developing organized study routines and engaging in regular study sessions.

2.7   Social Influence on Students' Habits Formation

All individuals are social beings. Individuals' routine behavioural actions and reactions are influenced by social contacts and interactions with other members of society (Myers and Twenge, 2019, p. 5). As stated by Moussaïd, Kämmer, Analytis, and Neth (2013), the concept of social influence is the process by which individuals adapt their opinion, revise their beliefs, or change their behavior in response to social interactions with either another individual or a collective entity. In educational settings, social influence plays a significant role in shaping behaviors and decisions. Peer pressure and observing successful cramming experiences can motivate students to adopt similar behaviors, driven by the social comparison process where individuals compare their actions and achievements to those of their peers. This connection illustrates how social interactions can influence individuals' behaviors and decisions, impacting their attitudes and actions within educational environments.

2.8   Prioritizing Other Activities

Students often face the challenge of balancing a number of responsibilities, including demanding class schedules, part-time jobs, and social commitments. As a result, regular studying may take a backseat, leading to feelings of overwhelm and reliance on last-minute cramming sessions to manage competing priorities. The pressure to excel academically, coupled with the constant demand for their time and attention, creates a perfect storm that reinforces the belief that cramming is the only viable option. However, this approach not only undermines the effectiveness of their learning but also perpetuates a cycle of anxiety and exhaustion.

2.9   Misconception of Long-Term Memory

When it comes to long-term memory formation, crammers often believe that rapid repetition of facts is enough to retain information. However, they may be unaware that effective long-term memory formation requires more than just rote repetition. The formation of long-term memories is a complex and evolving process, encompassing various temporal and functional stages like encoding, consolidation, retrieval, storage, and reconsolidation, (Bisaz, Travaglia, & Alberini, 2014). Spaced repetition, which involves reviewing material over increasing intervals of time, and active recall, in which one actively engages with the information by retrieving it from memory, have been shown to be more effective in creating long-term memories. Individuals who understand and apply these techniques can improve their learning process and ability to retain information over time.

3   Technique of Cramming

The phenomenon of cramming represents a distinctive original approach to exam preparations characterized by intensive, concentrated study sessions conducted in close proximity to assessment dates. Despite the emphasis in educational theories on effective distributed practice and deep learning strategies, practical student behavior often leans toward

the use of cramming techniques. These methods, encompassing comprehension, memorization, and time management strategies, offer valuable insights into how students try to navigate the challenge of assimilating substantial content within stringent time limitations.

3.1 First Stage

In the first stage of last-minute revisions, students initiate with overviewing the material by trying to collect the possible amount of knowledge, memorize it and comprehend it through a set of significant techniques used to facilitate each level of acquirement:

3.1.1 Skimming and Scanning

According to Mildred (2009), Skimming refers to a rapid and superficial reading technique employed to grasp the general essence of written material. It allows readers to quickly survey the content without delving into intricate details. It involves swiftly reading a text or passage to grasp its overall concept. Learners selectively focus on key elements, such as the title, introduction, diagrams, and subheadings, without reading every word (Bani Abdelrahman & Bsharah, 2014). When approaching a text, students typically begin by previewing its structure, examining headings, subheadings, emphasized text (such as bold or italicized), and any visual elements (graphics, tables, charts). Also, they read the introduction and conclusion, as these sections often offer a summary or overview of the main points covered in the text. Additionally, identifying topic sentences which are introductory sentences that encapsulate the central concept or point of paragraphs is a crucial step. According to Leane (2010), scanning involves the rapid reading technique used to locate specific information while disregarding other content. Scanning may indicate important concepts, definitions, or themes and they tend to focus their attention on any terms that are bold, italicized, or capitalized, as they may be emphasized for a reason. Skimming and Scanning objective is to get a broad understanding of the text rather than a deep comprehension of every word in a due time.

3.1.2 Highlighting and Underlining Key Words and Important Information

This technique serves as a valuable tool for students engaged in last-minute concentrated revisions. According to the learning center University of North Carolina at Chapel Hill (2024), typically, students highlight text to emphasize important portions for later review. However, this practice often leads them to allocate mental effort toward sorting content rather than engaging in critical analysis of texts. This practice enables students to quickly recognize and focus on key ideas in their study materials, which provides a calculated way to make the most of their study time. Students can expedite their revision process and confirm their comprehension of crucial material by highlighting and underlying to visually distinguish important aspects, such as definitions, theories, or primary ideas. Students typically use highlighters or markers to visually emphasize important information and keywords in their study materials. Due to the variety of colors available in highlighters, students establish a color-coded system for organizing their notes or assign different colors to different categories of materials to help them effectively retrieve the crammed information.

3.1.3 Paraphrasing

Paraphrasing is a widely common technique used by crammers to quickly absorb and remember information. The process entailed rewording sentences or paragraphs into the writers' own language while stressing the significance of keeping the original concept (Khirswan & Widiati, 2013). Crammers swiftly simplify complex content into their own words, prioritizing key concepts for quick comprehension and memorization. However, this approach risks shallow understanding, as it emphasizes speed over depth, and allows limited opportunity for revision, potentially leading to inaccuracies or oversimplifications in the paraphrased material.

3.1.4 *Memorization Techniques*

a. **Flash Cards:** A powerful tool that facilitates rapid memorization and reviewing key words and main ideas. In the basic form of flashcards, a term or concept appears on one side of an index card and its definition appears on the other side. Students look at the term and test whether they know the answer by flipping the card to check (Senzaki, Hackathorn, Appleby, Gurung, 2017). Flashcards are lightweight and practical study aids that let students complete brief review sessions during breaks or downtime, making the most of study chances while on the go.

b. **Mnemonic Devices**: Mnemonic, a word derived from the Greek word mnemonikos, is a technique used to assist memory (Yates,1966). A mnemonic can be categorized based on its form such as an acronym and its purpose whether it aids in recalling specific facts or processes (Mocko, Lesser, Wagler, Francis, 2017). Mnemonic devices are considered as memory aids that facilitates the cramming process by connecting knowledge with recognizable patterns, signals, or mental imagery, as a result, mnemonic devices facilitate memory retention. There are several types of mnemonic devices, and many of them overlap in how they work such as:

- **Acronyms and Acrostics:** First-letter mnemonics, including acronyms and acrostics, are widely prevalent as mnemonic techniques (Putnam, 2015). Acrostics are sentences or phrases in which the opening letters of each word match the initial letters of the information that must be retained where acronyms are words formed from the initial letters of a series of words or concepts. An instance of using an acronym to recall the names of the Great Lakes is the mnemonic "HOMES," which corresponds to the lakes Huron, Ontario, Michigan, Erie, and Superior (Putnam, 2015). These methods help crammers improve their memorization abilities.

- **Association:** Students link new information to already acquired knowledge or experiences. The concept of association is based on the brain's innate propensity to retain information better when it is included in a relevant context.

- **Chunking:** Chunking is a technique that helps us remember things better by putting disparate bits of knowledge into bigger, more recognizable chunks. These small bits have long been proposed as a basic organizational unit for human memory (Laird, Rosenbloom, & Newell, 1984). This method makes it quicker to memorize key points during a cramming session, as it organizes the material into manageable chunks by grouping related information together.

- **Rhymes and Songs:** it is a widely common technique of memorization where students tend to rhyme sentences and add their favorite melodies to information that they found difficult to be recalled. It has long been known that memory perform better when information is encoded in a meaningful or organized manner (Craik and Lockhart, 1972).

- **Repetition:** Repetition is a key memorization technique, it serves as a fundamental prerequisite for effective learning, enabling the assimilation of experiential knowledge and facilitating its consolidation in memory (Brown, 2000). This technique involves repeatedly reviewing information to improve retention. It strengthens memory associations and recall likelihood. It is effective for committing facts, concepts, vocabulary, and procedural knowledge. Repetition can be done through reading, writing, or reviewing flashcards. It's often combined with other mnemonic techniques.

- **Visualization and Sensory Techniques:** According to the majority of researchers, mnemonics enhance memory by taking advantage of naturally occurring memory processes like organization, elaborative encoding, and visual imagery (Bellezza, 1981; Higbee, 2001; Perssly, Levin, & Delaney. 1982; Worthen & Hunt, 2011). Students

engage in a vivid and memorable way can improve memory retention. Students may create mental images to represent concepts or use visual aids such as diagrams, charts, mental maps, reading aloud, listening to audio recordings, or writing information by hand.

3.2   Second Stage

The second stage of cramming deals with the practical side of revisions where students reinforce their gained knowledge and comprehension through application and analysis techniques:

3.2.1   Problem-Solving Exercises

Early in the 20th century, problem solving was thought of as a mechanical, methodical, and a frequently abstract (decontextualized) set of abilities (Foshay& Kirkley, 1998). Students test their level by engaging in challenging exercises and quizzes to apply theoretical concepts to solve specific problems or tasks. These exercises require critical thinking and analytical skills, Crammers often cannot properly apply them to develop a deeper understanding of the material and prepare for exam questions that require application of knowledge due to tight time constraints.

3.2.2   Answering Last Years' Exams

An effective technique where students search for previous exams' questions to answer them or just review the answers to predict a patterned future question.

3.3   Last Stage

The last stage is characterized by students relating their current gaining to real life experiences such practices relate to constructivism. According to this theory, people learn from their experiences and create meaning, which is the reason learner autonomy is important in the classroom (Sarbah, 2020; Mandaar & Vijayakumar, 2020). Therefore, students try to

reach a high level of absorbing the material which is manifested through teaching the acquired knowledge and competencies to peers as an effective collaborative technique to boost their confidence, strengthen their skills and reinforce their memory despite the short period of the revision.

3.3.1   Time Management Techniques

The one irreplaceable and essential resource for success is time. It is the most valuable thing you own. Once lost, it cannot be found again or saved. Time is necessary for everything you need to do, and the more efficient you use it, the more you will achieve and the bigger the rewards you will receive (Tracy,2013). Learners who found themselves stuck in cramming scenarios are familiar with the importance of time managing despite their failure to previously organize it and adapt other effective learning strategies rather than just cramming where they manage to use their left time appropriately through:

- Prioritizing the materials according to their significance through time blocking.

- Setting realistic goals and deadlines.

- Minimizing distractions by deactivating social media, avoiding unnecessary activities and settling in a quite area.

- Using timers and alarms to help them stay on track with the planned schedule of revision.

4   Common Stimulants Used by Students for Cramming

The urgency to achieve success and perform effectively often leads students to use a variety of strategies to improve their cognitive abilities and cram for exams. Among these strategies, the use of stimulants has become more widespread. These stimulants may offer short-term benefits in terms of alertness and focus, but their use during cramming sessions can have detrimental effects on learners' health.

4.1   Definition of Stimulants

Stimulants, as highlighted by Romach et al. (2014), are psychoactive drugs that improve alertness, attention, concentration, and energy while also increasing mood, heart rate, and blood pressure. Traditionally, this class of drugs has included amphetamines, methylphenidate, and cocaine. Romach et al(2014) noted that prescription stimulants were previously used for medical purposes such as obesity treatment, but they are now primarily used to treat neurological diseases such as narcolepsy and psychiatric conditions (e.g., Attention Deficit Hyperactivity Disorder [ADH]) and depression). Students nowadays are turning to a range of stimulants, including coffee, tea, cigarettes, and occasionally even drugs, believing that these substances will combat fatigue and drowsiness, allowing them to cram for exams and stay awake through the night. In the process, they disregard their health and the essential need for rest, while also ignoring the severe negative effects these stimulants can have on their bodies.

4.2   Types of Stimulants

4.2.1   Caffeine

According to Weinberg and Bealer (2000), caffeine reigns as the most widely embraced drug globally. It's the go-to morning ritual for nearly everyone, whether through coffee, tea, or soda. Moreover, during times of stress or depression, many turn to chocolate for its caffeine fix. In the academic realm, students often resort to high doses of caffeine, guzzling down coffee, tea, or energy drinks as they cram for exams, believing it will enhance their alertness and vitality. Without knowing that it can lead to a reduction in comprehension and hinder their ability to grasp, retain, and recall information. As highlighted by David Buchhloltz, a neurologist and sleep therapist at The Johns Hopkins Hospital in Baltimore, caffeine fails to counteract the cognitive impairment caused by sleep deprivation. He emphasizes that while

one may be physically awake, they grapple with an intellectual deficit, lacking the concentration needed for optimal performance. (Albow 1985)

4.2.2 Nicotine

According to Ajiboye (2020), nicotine is an organic compound present in tobacco plants and is widely recognized for its profound addictiveness and association with numerous adverse health effects when used recreationally. Its primary consumption occurs through cigarettes, with additional forms including e-cigarettes, chewing tobacco, cigars, snuff, and pipe tobacco. Recent trends show a growing prevalence of students, particularly males, engaging in smoking various types of cigarettes during intensive study sessions, driven by the misconception that nicotine enhances alertness and vitality while disregarding its detrimental health implications. The consumption and dependence on nicotine have been consistently linked to a plethora of health issues, disabilities, and fatalities, as corroborated by Ajiboye (2020). Previous studies indicate a connection between student smoking habits and academic performance. Gafar et al. (2013) and Alkhalaf et al. (2021) had linked cigarette smoking to diminished academic achievements among Saudi secondary school and medical students, suggesting that students who smoke are prone to lower academic outcomes. Similarly, Stea & Torstvei (2014) observed a negative correlation between smoking and academic performance in Norwegian adolescents, while Ullah (2019) found similar findings among undergraduates at a public university in Islamabad, Pakistan.

4.2.3 Prescription Stimulants

According to Lakhan and Kirchgessner (2012), prescription stimulants, such as methylphenidate (Ritalin, Concerta), dextroamphetamine (Dexedrine), and dextroamphetamine-amphetamine (Adderall), are commonly used to treat Attention Deficit Hyperactivity Disorder. However, they are frequently abused by students looking to improve their focus and concentration. Lakhan and Kirchgessner (2012) confirm that stimulants are

especially popular among students nearing the end of a school term, when they use them to stay awake all night to study or complete academic projects. In fact, prescription stimulants are most commonly misused to improve academic performance. Despite their use for increasing alertness, it is critical to understand the risks associated with these medications, which include cardiovascular problems, psychiatric effects, sleep disturbances, cognitive impairments, appetite suppression, and weight loss.

4.2.4   Vitamins and Supplements

Students frequently utilize a range of vitamins and supplements to enhance their cognitive performance during cramming sessions. Vitamin B12, Omega-3 fatty acids, L-theanine, Ginkgo biloba, vitamin C, and Vitamin B are commonly used by students aiming to improve alertness, combat fatigue, and address nutritional deficiencies. While these substances are known for their positive impact on health, they can also result in adverse effects such as stomach pain, nausea, vomiting, diarrhea, and constipation, especially when consumed in excessive amounts. This potential for negative reactions is linked to the ease with which individuals may inadvertently exceed recommended dosages, given that these vitamins are naturally occurring in the foods we eat, (Srakocic's, 2023).

4.2.5   Music

According to Dimitriadis et al. (2023), motivation plays a pivotal role in human endeavors. Ryan (2021) further asserts that heightened motivation correlates with enhanced performance in learning tasks. Consequently, students often seek to augment their alertness and motivation through music during cramming sessions to improve performance. Dibben (2017) supports this notion, suggesting that music can facilitate creativity and mood enhancement, particularly by eliciting positive emotions such as happiness, (Baas et al, 2008).

5 Cramming Consequences

As students and educators, we are familiar with the classic academic habit of cramming; while it may offer a temporary refuge for students facing imminent academic pressures, and its consequences extend far beyond the exam rooms. Investigating the multifaceted impacts and costs of cramming on learners 'physical health, mental well-being, academic performance and lifelong habits is a must.

5.1 Effects of Cramming on Students' Health

5.1.1 On Physiological Health

5.1.1.1 Physical Fatigue:

According to O'Connell (2023), physical fatigue refers to a general sense of tiredness and diminished energy. Unlike mere drowsiness or sleepiness, fatigue leaves you with no motivation or energy. Cramming nights are characterized by prolonged intensity and pressure on students. They spend hours sitting, engaging in intense mental activity, and experiencing sleep deprivation. This can lead to tiredness, weakness, and constant feelings of exhaustion. Additionally, physical fatigue may manifest as fainting, rapid heartbeat, dizziness, or vertigo (Davis, 2022).

5.1.1.2 Sleep Disturbances

A sleep disturbance is any disruption in the normal sleep pattern or quality of sleep, including difficulties falling asleep, staying asleep, or waking up feeling rested. According to Zisapel (2017), sleep is a complex neurochemical process, engages both sleep-promoting and arousal centers within the brain. It serves as a vital restorative function and plays a crucial role in memory consolidation for humans. The regular cycles of consolidated nighttime sleep and daytime wakefulness result from the interplay between the homeostatic sleep requirement (which intensifies after sleep deprivation and diminishes during sleep) and the circadian pacemaker. Experimental evidence consistently supports the widely held belief that disrupted

or inadequate sleep leads to inefficient daytime behavior and variations in performance. In the context of these activities, it is crucial to consider academic performance and school achievement (Crucio, Ferrarra, De Gennaro, 2006). Hence, cramming often induces sleep disturbances as students' sacrifice sleep to dedicate more time to studying. The stress and pressure from cramming can disrupt sleep onset, making it challenging for students to fall asleep at their regular bedtime.

5.1.1.3 Nutritional Deficiencies

According to Althunibat, et al: (2023), regarding time constraints and limited resources, numerous students opt to pass meals, resulting in energy deficits and nutritional deficiencies. These adverse effects can significantly impact academic performance. Furthermore, students frequently consume calorie-dense foods like pizza, chips, and ice cream during late-night study sessions. Unfortunately, this habit can result in weight gain and negatively impact sleep quality due to midnight snacking (Jackson & Diplacido, 2020). Nutritional deficiencies can impair concentration, memory, and overall cognitive performance, and contribute to feelings of fatigue and blurred thinking.

5.1.1.4 Migraine and Headache Disorders:

The World Health Organization (2024), considers headaches and migraines as a distressing and incapacitating manifestation of primary headache disorders, predominantly presents as an episodic condition lasting from 4 to 72 hours. Accompanied by symptoms such as nausea, vomiting, and occasionally preceded by a transient aura involving unilateral and reversible visual or sensory disturbances, migraine significantly impacts individuals' well-being. The burden of headache disorders encompasses considerable personal suffering and compromises overall quality of life. The interplay between neuronal and hormonal changes associated with stress and the perceived psychological stress response can impact migraine in several ways. Stress may trigger the onset of new migraines (incidence), serve as a risk factor

for migraine attacks, exacerbate migraine-related disability and burden, and contribute to the development of chronic migraine. Furthermore, the migraine attacks themselves, along with their resulting disability and impact, can create a stressor, leading to a self-perpetuating cycle (Sauro & Becker, 2009). Moreover, the commonly held belief among patients that stress directly causes migraines serves as an illustration of the multifaceted relationships between stress and migraine. This perception reflects the intricate interplay between stress, migraine incidence, risk factors, disability, and the potential development of chronic migraine (Wöber, etal:2006). Therefore, Intense stress, such as that experienced during last-minute cramming for exams or deadlines, can act as a trigger for migraines and exacerbate headache disorders, which highlights the essential connection between mental stress and physical well-being.

5.1.1.5 Eye Strain

According to Cacers (2024), Eye strain occurs when individuals use their eyes for extended periods to focus on tasks such as using computer or smartphone screens, reading books, or driving. It is also known as visual fatigue, can affect individuals who engage in intense and prolonged tasks, including cramming. It occurs due to extended focusing, reduced blink rate, blue light exposure from screens, poor lighting conditions and inadequate breaks.

5.1.2   On Mental Health

5.1.2.1   Stress and Anxiety

According to Fink (2010), Stress can be understood as the cognitive perception of a threat, leading to consequent feelings of anxiety, emotional discomfort, and tension. These responses often manifest as challenges in adapting to the stressors. Moreover, stress is a deeply individual experience, influenced by an individual's particular vulnerability and resilience. It also varies based on the specific tasks at hand. The severity of job-related stress hinges on the demands faced and an individual's perceived control or decision-making latitude in managing that stress (Fink, 2016). Among undergraduate students in the United

States, those who self-reported higher levels of anxiety stress and depression symptoms demonstrated lower academic performance on examinations (Chapell et al., 2005; Hysenbegasi, Hass, & Rowland, 2005). Therefore, students who frequently cram experience severe stress and anxiety because of the pressure of the need to learn and comprehend unreasonable amounts of materials that usually takes longer periods of time to be properly absorbed in a very short approximate which can affect their general academic performance.

5.1.2.2 Burnout and Mental Exhaustion

Burnout, encompasses feelings of emotional exhaustion, depression, and reduced personal accomplishment which results from high levels of stress. In a systematic review comprising 13 studies, researchers found that among individuals pursuing higher education, self-reported stress levels were linked to a decline in quality of life and overall well-being (Ribeiro et al., 2017). When students resort to cramming, the intense pressure to absorb vast amounts of information in a short period can exacerbate these symptoms. Continuous exposure to high levels of stress without adequate rest or recovery can lead to burnout, characterized by feelings of overwhelming fatigue, detachment, and a diminished sense of achievement.

5.1.2.3 Negative Self-Perception

Cramming often cultivates a negative self-perception among students as they grapple with feelings of inadequacy and fear of failure. Despite investing intense effort into last-minute studying sessions, students may internalize a belief that their worth is tied to immediate academic achievements. This can create a vicious cycle of self-doubt and worry by making one feel dependent on quick surviving replacement solutions and afraid of not living up to expectations. Liberating oneself from this destructive mentality requires adopting sustainable learning strategies and personal growth.

5.1.3   On Academic Performance

5.1.3.1   Decreased Retention

One of the most significant repercussions of cramming is the decreased retention of information. When students cram, they typically engage in surface-level memorization which is known as short term memory which is the brief duration during which individuals can recall information immediately after exposure. Depending on the context, the short-term period typically spans from 30 seconds to a few days (Heerema, 2022), so hastily committing facts and figures to memory without fully understanding the underlying concepts.

5.1.3.2   Limited Critical Thinking Skills

Critical thinking refers to the deliberate and skillful mental process of actively conceptualizing, applying, analyzing, synthesizing, and evaluating information. It involves drawing insights from observation, experience, reflection, reasoning, and communication, ultimately guiding beliefs and actions (Scriven & Paul, 1992). Moreover, Learning by rote repetition prevents students from engaging deeply and critically, which is essential for true comprehension, according to Yaghoubi (2013) «learning is a cognitive process which requires reflection and thought. » (page78). Therefore, students who rely heavily on cramming miss out on the chance to cultivate critical thinking abilities, rather than developing a sophisticated comprehension of the subject, crammers become skilled at memorizing facts without genuinely appreciating their relevance.

5.1.3.3   Negative Trace on Overall Learning Habits

Students who prioritize short-term benefits above meaningful learning jeopardize their chances of succeeding in later courses that expand upon their basic knowledge especially in such stressful situation where the impact of stress on both their emotional and physical well-being can be severe. A recent study conducted in the United States revealed that more than 50% of individuals perceived stress are having a detrimental effect on their work productivity

(Fink,2010). Moreover, students find themselves unprepared to take on additional materials if they do not have a solid foundation of the fundamentals, which feeds the cycle of academic struggle and poor performance. Unfortunately, the lack of efficient study practices and time management abilities reinforces their dependence on cramming, impeding their ability to attain consistent, and healthy academic success.

Section Two: Alternative Learning Strategies and Assessment.

1   Definition of Learning

Learning is a fundamental process that lies at the heart of human development and adaptation. It shapes our perception of the world, affects our actions and mindsets, and gives us the ability to successfully negotiate life's challenges. From the moment we are born, we are constantly engaged in the process of learning, acquiring new knowledge, skills, and experiences that shape who we are and how we interact with the world around us. While everyone acknowledges the value of learning, views on the reasons, methods, and outcomes associated with learning vary. Theorists, academics, and practitioners have not universally accepted and settle on a single perception of learning (Shuell, 1986) where even highly regarded and influential textbooks that discussed learning do not always provide a definition of its subject matter (Bouton, 2007; Schwartz, Wasserman, & Robbins, 2002).

The majority of modern learning theories see learning as a structured modification of system properties brought about by the processing of newly acquired data (Gallistel, 2008; Rescorla,1988)   Learning is an active process where we intentionally incorporate new information into what we already know, leading to lasting changes in how we think and behave.

Schunk (1991, p3) considered learning as:" an enduring change in behavior, or in the capacity to behave in a given fashion, which results from practice or other forms of

experience.". In other words, learning is about enduring change in behavior which refers to a lasting modification in an individual's actions or the ability to perform specific behaviors, which arises from consistent practice or exposure to certain experiences. According to him (1991, p4) Learning has three criterions: " One criterion is that learning involves change in behavior or in the capacity for behavior. A second criterion is that learning endures over time. A third criterion is that learning occurs through experience (e.g., practice, observation of others)."

In essence, while the exact nature of learning may vary across theoretical frameworks, its core remains rooted in the transformative power of experience-driven adaptation. As individuals engage in the ongoing process of learning, they navigate a dynamic landscape of growth, acquiring the tools and insights necessary for navigating life's myriad challenges and opportunities.

2   Definition of Academic Performance

Carroll & Garavalia, 2004; Naser & Hamzah, 2018; Olivier et al., 2019, defined academic performance as a student's ability to complete academic assignments and is measured using objective criteria such as final course grades and grading point average. It refers to how well a student meets the expectations set by educational institutions, typically measured by grades, test scores, and other indicators of achievement in academic subjects. It can also include attendance, participation, and overall engagement in learning activities.

3   Definition of Academic Achievements

Academic achievement is commonly defined as the demonstration of knowledge gained or skills developed in the school subject (Busari, 2000). It is the level of performance in a school subject demonstrated by an individual (Ireoegbu, 1992). Osokoya (1998) also stated that achievement is the end product of a learning experience. In short, it refers to

accomplishments attained through formal education, such as high grades, awards, scholarships, publications, or successful completion of projects or exams.

4   Effective Learning Strategies

According to Muelas and Navarro (2015), learning strategies are a set of approaches that learners use to acquire information and knowledge, such as taking notes, summarizing, paraphrasing, and coding. These strategies denote the approaches students utilize in specific learning contexts and activities (Curry, 1990; Li, Medwell, Wray, Wang, & Xiaojing, 2016). As posited by Díaz, et al. (2019), learners have the freedom to choose their own learning strategies, direct their process, and manage their emotions to achieve their educational objectives. Effective learning strategies play a pivotal role in enhancing students' learning processes and preventing them from using the strategy of cramming. By utilizing these strategies, learners can optimize their study habits, improve information retention, and develop critical thinking and problem-solving skills. Moreover, understanding and employing effective learning strategies empower students to take charge of their learning process, fostering autonomy and self-regulation. Consequently, learners are better equipped to manage their time efficiently, handle complex academic tasks, and adapt to diverse learning environments. Thus, acquiring and mastering learning strategies not only enriches the learning experience but also equips students with essential lifelong skills for succeeding in their academic and professional endeavours.

4.1   Summarizing

Summarization helps students understand information and transfer it to long-term memory while also improving memory and comprehension by ensuring effective use of mental skills (Susar & Akkaya, 2009). According to Bahap & Baylık, 2016, and Winograd, 1983, students who are successful in reading comprehension are also successful in summarizing. Belet (2005), Nelsonm et al. (1992), and Topçu (2015) confirmed that

summarization strategies enhance understanding and facilitate long-term retention of information (Tok & Bayazıt, 2007, and Topçu, 2015).

4.2 Paraphrasing

Paraphrasing is commonly used in writing by university students and is the most important strategy for students in a real academic context (Dung, 2010; Irmadamayanti, 2018; Masniyah, 2017). It is a strategy in writing skill that demonstrates students' ability to understand information by analysing the grammatical structure and language features to create new form statements that still reflect the sources' original ideas. This strategy is commonly utilized to demonstrate students' proficiency in engaging and comprehending concepts (Dung, 2010). Additionally, paraphrasing serves as an effective strategy to avoid plagiarism, given that plagiarism poses a significant challenge in the realm of writing (Okta, 2018).

4.3 Note Taking

Williams and Eggert (2002) considered that note-taking is an important aspect of formal classroom learning, and students who take more course lecture notes tend to perform better (Kiewra,1985-1989). Note-taking in higher education enhances information retention, comprehension, and application of knowledge, making it a crucial tool for academic success, promoting active engagement, personalized learning, and preventing information overload.

4.4 Self-Explanation

Self-explanation is a strategy by which learners assess their understanding of the material to achieve a higher level of comprehension. It is a cognitive process in which learners engage while reading the text or the given issue and explain to themselves their own understanding of what they have read in a written or spoken manner (McNamara and Magliano, 2009). Alhassan (2017) confirmed that it can be implemented using a variety of patterns or styles. In the speaking style, the learner thinks aloud about issues (McNamara,

2009), whereas in the writing style, the learner writes down ideas that come to mind during the problem-solving process (Muñoz, et al., 2006). Self-explanation enhances learning by providing a deeper understanding, improved retention, enhanced critical thinking, and increased autonomy. It fosters metacognitive awareness and knowledge transfer, and empowers individuals to take control of their learning journey.

4.5   Spaced Review

Tabibian et al, (2019) defined spaced review or repetition as an efficient learning strategy that uses repeated review of content on a schedule determined by a spaced repetition algorithm to improve long-term retention. It is based on the principle that spaced-out review sessions help lock information in memory more effectively than cramming. Spaced review improves various types of learning, such as memory retention, problem-solving abilities, and the ability to apply knowledge to new situations. It is an affordable and practical method to enhance the effectiveness and efficiency of learning, with significant potential to boost educational results (Kang, 2016).

4.6   Collaborative Learning

Collaborative learning is commonly used to describe an activity in which students work together to achieve a common learning goal (Barkley, Cross, and Major 2014). According to various studies, scholars generally believe that collaborative learning is a better educational method than passive learning, particularly in higher education instruction (Johnson, Johnson, & Smith, 2007; Terenzini et al., 2001; Tinto, 1997, 1998). Astin (1993, p.427) suggested that engaging students in collaborative academic tasks could be more effective than traditional teaching methods, as it encourages them to become more actively involved in the learning process, thereby enhancing motivation and participation.

4.7   Active Learning

Bonwell, and Eison, (1991) assert that active learning promotes student autonomy and participation in the learning process, and fosters students' creativity (Daellenbach, K., Hayter, Parker, Pang, Wong, Leung, & Coombes, 2018; 2019). Active learning is a pedagogical strategy that encourages students to engage in hands-on activities, problem-solving, and critical thinking. It facilitates the cultivation of essential skills such as collaboration, communication, and creativity. Strategies encompass learning through play games, group work, activity-based learning, and project-based approaches.

4.8   Autonomous Learning

Autonomous learning is a distinct strategy where individuals identify their own learning needs, establish personal learning objectives, choose the most suitable methods for their learning, and monitor and assess their progress independently. Despite embracing autonomous learning, students still value classroom instruction and the guidance of lecturers. They recognize the role of lecturers as facilitators who create an environment supportive of autonomous learning. Zoghi & Dehghan (2012) characterize students in this approach as active managers of their own learning, with lecturers serving primarily as facilitators who support their autonomous learning journey. In addition to emphasizing emotional intelligence, particularly self-control, lecturers play a crucial role in fostering autonomous learning (Zulaihah & Harida 2017). Autonomous learning empowers individuals to learn at their own pace, focus on personal interests, and develop critical thinking skills, fostering a lifelong passion for learning.

5   Cognitive Factors Influencing Learning

Learning is a fundamental aspect of human experience, enabling us to acquire new knowledge, skills, and behaviors throughout our lives. While the process of learning is complex and multifaceted, it is influenced by various cognitive factors that play crucial roles

in how we absorb, process, and retain information. These cognitive factors, includes memory, attention, and motivation. (Posciask, et al. 2011).

5.1   Memory Processes

Memory is a cognitive faculty and a mental process, according to Spear and Riccio (1994, cited in Radvansky, 2015, p. 3), memory has three main definitions: " First, memory is the location where information is kept, as in a storehouse or memory store. Second, memory can refer to the thing that holds the contents of experience, as in a memory trace or engram. In this sense, each memory is a different mental representation. Finally, memory is the mental processes used to acquire (learn), store, or retrieve (remember) information". In other words, while it might appear that memory is a single, complex system like the heart or liver, it is actually composed of multiple systems. These systems vary in how long they store information, ranging from fractions of a second to a lifetime, and in their storage capacity, from small buffers to the long-term memory system(Baddeley,1997). Radvansky, (2015. p4) also added that: «Memory processes are acts of using information in specific ways to make the information available later or to bring that information back into the current stream of processing, the flow of one's thoughts.». Indeed, Encoding, storage, and retrieval are the three essential phases that psychologists identify in learning and memory process (Melton, 1963).

5.1.1   *Encoding*

Encoding is the process by which information from the external world is converted into a construct that can be stored in the brain's memory systems. According to Craik and Lockhart (1972), the encoding phase is the first perception and education of an event. It entails paying attention to some events selectively while ignoring others. Every day is full of experiences that are encoded in different degrees, making encoding a continuous process (McDermott & Roediger, 2014). People attend to certain occurrences while continuously encoding the events of daily life, making it both selective and promiscuous (Radvansky, 2015). A crucial part of

encoding is recoding, which is transforming data into a format that makes sense (McDermott & Roediger, 2014). Although recoding may result in mistakes, techniques like using vivid imagery or connecting new material to prior knowledge might improve memory retention (Craik & Lockhart, 1972). Distinctive and emotionally charged events are more likely to be remembered, and encoding is influenced by these aspects as well (Radvansky, 2015). But encoding can also result in false memories, whereby recoding mechanisms cause events that were never experienced to be remembered (Craik & Lockhart, 1972), therefore, even if an event is well-encoded, there's no assurance that it will be remembered later (McDermott & Roediger, 2014). During cramming, the way students quickly learn and remember information is called encoding. But because cramming is rushed, they often just memorize without fully understanding. This means crammers might forget the information quickly after the test. So, cramming helps them remember in the short term, and it doesn't always lead to long-term learning or effective retention and recalling in the exams.

5.1.2 Storage

Regarding memory functions, storage is the stage in which information that has been encoded is kept in the brain's memory systems over an extended period. Every event leaves an imprint and changes our brains in some way. These alterations are referred to by neuroscientists and psychologists as memory traces, or engrams, which serve as consolidation-process representations of our memories (Tulving & Bower, 1975). Comprehending that memory is reconstructive instead of an exact replay aid in our appreciation of the complexities involved in storage. Memory traces are dynamic and subject to change throughout time, not static packets of information waiting to be precisely recalled. The period between learning and testing is known as retention interval. However, interference, such as retroactive interference from subsequent experiences, can disrupt memory retention (Loftus, 2005). This emphasizes how crucial it is to consider both the initial

encoding of information and the continuous procedures related to its storage and retrieval. Cramming often leads to shallow encoding and weak memory traces, as information is quickly memorized without deep understanding. The limited time between cramming and testing may not allow for sufficient consolidation of memory traces, making them more susceptible to interference and forgetting. Stress and pressure during cramming can further impair attention and focus, hindering effective storage of information in memory.

5.1.3   Retrieval

The most crucial aspect of memory, as emphasized by Tulving (1991), lies in the process of retrieval. This cognitive function involves accessing information stored in memory, either spontaneously or prompted by external cues. Psychologists, as outlined by Tulving and Pearlstone (1966), differentiate between readily accessible knowledge and the information stored in memory. Retrieval serves as the key for accessing the wealth of knowledge, experiences, and skills stored in memory, enabling their application in guiding behavior and solving problems. However, challenges in retrieval efficiency can arise, particularly in contexts like cramming and learning. The rushed and surface-level memorization associated with cramming can result in shallow memory traces, making retrieval more challenging. Additionally, the stress and pressure inherent in cramming situations can further hinder retrieval processes, impeding the accurate recall of information during assessments or problem-solving tasks.

In conclusion, memory processes are pivotal for learning, influencing the absorption and retention of information. However, the hurried and shallow memorization typical of cramming presents notable challenges. It often leads to inadequate encoding and heightened stress levels, ultimately compromising memory performance. Thus, while memory remains fundamental for effective learning, the practice of cramming may not fully leverage its potential.

5.2   Attention

Attention refers to the ability to focus on specific stimuli or tasks while filtering out irrelevant information. Aly and Turk-Browne (2017) found that attention plays a significant influence in memory encoding. It plays a crucial role in selecting and processing sensory input, facilitating the encoding of relevant information into memory. According to Lindsay (2020), attention is the crucial ability to flexibly manage limited computational resources. We use attention, a complicated process, in practically every aspect of our everyday lives, such as studying, writing, and reading. Researchers have discovered that attention is a collection of distinct attention-related processes rather than a single process. The attention model proposed by Sohlberg and Mateer (1989) splits attention into selective attention, sustained attention, divided attention, and executive attention. Selective attention allows individuals to prioritize relevant information while filtering out distractions. Sustained attention refers to the ability to maintain focus over prolonged periods, essential for tasks requiring prolonged concentration. Divided attention involves the simultaneous processing of multiple stimuli or tasks, while executive attention facilitates goal-directed behavior and cognitive control. Additionally, attention regulates arousal levels and cognitive effort, influencing task performance and overall learning outcomes. A conducive learning environment, free from distractions, further supports attentional processes, maximizing learning effectiveness. Overall, attention is a fundamental cognitive mechanism that plays a vital role in shaping learning experiences and outcomes. During cramming, attention can be negatively impacted by the intense pressure and short time frame. This may lead to decreased focus, increased distractions, and superficial learning. As a result, effective information processing and long-term retention are compromised.

5.3 Motivation

When it comes to human activity, especially learning behavior, motivation is thought of as a mental urge. Motivation possesses the capacity to stimulate, mobilize, channel, and guide a learner's attitudes and actions (Dimyati & Mudjiono, 2006). Motivation, stemming from the Latin root "movere" (to move), encompasses various factors that drive and shape behavior. This includes external stimuli, internal thoughts, and affective responses, all influencing the direction and intensity of actions. Motivational influences can be explicit or implicit, arising from social and environmental conditions, as well as internal processes (Aarts, Custers, & Marien, 2009; Chartrand & Bargh, 2002; Ferguson & Bargh, 2004; Radel, Sarrazin, & Pelletier, 2009). Theories of motivation often emphasize the role of future expectations and perceptions of autonomy. When individuals anticipate positive outcomes and perceive themselves as active agents in achieving those outcomes, their motivation is heightened. Consequently, conditions that bolster learners' expectations for success or support their autonomy tend to enhance motor learning (Wulf, Luwthwaite, 2016). Therefore, Motivation can enhance attention, facilitate information processing, and promote the adoption of effective learning strategies. However, in the context of cramming, motivation can be negatively affected. The intense pressure and time constraints associated with cramming can lead to feelings of anxiety, overwhelm, and disengagement. As a result, motivation may decrease, leading to superficial learning, reduced attention, and ultimately, poorer retention of information. Thus, while motivation generally supports learning, in the case of cramming, it may have a detrimental effect due to the high-stress nature of the approach.

6 Individual Differences in Learning

The primary responsibility of educators is to actively engage students in the subject material and provide optimal opportunities for them to achieve academic success. Academic success (AS) is commonly defined by positive educational accomplishments, often assessed

through grades, which serve as the predominant metric for evaluating academic success (Butcher, Stock, Lynam, & Cachia, 2021). According to a literature review conducted by York, Gibson, and Rankin (2015), academic success encompasses achievements, meeting learning outcomes, satisfaction, acquiring skills and competencies, and career success. Additionally, it is imperative to acknowledge that students play an active role in their learning process, rather than being passive recipients of guidance from academic staff. Understanding the diverse ways in which students learn is crucial for educators to tailor their teaching methods effectively, and support student success. There are various factors contributing to individual differences in learning among students such as gender, personality traits, learning style, cognitive abilities, motivation, psychological well-being, and family environment.

6.1 Sex/Gender

Griffiths, & Soruç, (2021) highlighted that while people often use these terms interchangeably, "sex" strictly denotes a biological attribute (male/female), while "gender" pertains to societal and cultural constructs (masculine/feminine). There is a common belief that females excel more in language learning compared to males, although confirming this notion with evidence has been challenging (Larsen-Freeman and Long, 1991; Ellis, 1994). According to Legato, (2005) women appear to use both sides of the brain more frequently than men, and there is evidence that they have more nerve cells in the left half of the brain, where language is centred (Griffiths, & Soruç,2021); however, consistent evidence for this is also unreliable. As highlighted by Nyikos (2008), individual differences in language learning based on sex/gender are generally minimal or non-existent, and the variation between individuals outweighs any significant differences between genders in language learning.

6.2 Personality Traits

Personality encompasses a collection of beliefs and viewpoints (Back and Kandler, 2020), as well as emotional attributes and inclinations (Markiewicz, et al., 2020), and it plays

a crucial role in shaping life outcomes (Almlund et al., 2011). According to Nag (2018), learner personality refers to the ways in which a learner manages his or her emotions and feelings during the learning process. Additionally, it has been noted that personality traits strongly influence academic performance (Mammadov, 2022).

Keshavarz and Hulus (2019) outlined four primary types of learner personalities as follows:

a) **Extroverted learners:** thrive on collaboration and group work, believing that it leads to better outcomes.

b) **Introverted learners:** excel at studying and processing information independently.

c) **Sensing learners:** absorb information through their senses and prefer sequential organization.

d) **Intuitive learners:** are drawn to theories and possibilities, enjoying imaginative learning and guessing.

6.3 Learning Styles:

According to Hickson and Baltimore (1996), each individual possesses a distinctive approach to learning. Individuals differ in the way they think, learn, conceptualize, process, and retain information, as well as in their behavior. In educational settings, each student possesses a unique identity and set of motivations that influence their learning style and response to education (Keshavarz and Hulus, 2019). Thus, teaching individuals using methods that match their 'Learning Style' will result in improved learning (Pashler et al., 2008). Gardner (2008) suggests seven major learning styles, including visual learners (spatial), who prefer to use visuals such as pictures, images, and colors. Auditory-musical learners prefer to learn with sound, rhythms, and music. Learners with a verbal learning style learn more effectively with the use of words in speech and writing. Physical (kinesthetic) learners prefer

to learn through touch and hands-on experience. Logical (mathematical) learners acquire knowledge through logic, reasoning, and systems. Social learners, on the other hand, do well at group work and enjoy collaborating with others. Finally, solitary (intrapersonal) learners prefer to study and work independently (Gardner, 2008; Learning-Styles-Online.com, 2018).

6.4   Cognitive Abilities

Cognitive ability refers to the human brain's ability to store memory, process and extract information, which includes attention, memory and logical reasoning, and thought transformation (Shi & Qu, 2022). It is a key factor that research can consistently predict academic achievement (Stadler et al., 2016). Furthermore, these findings align with the knowledge process theory posited by Deary et al. (2006) and Xu and Li (2015). This theory suggests that individuals with higher cognitive abilities can encode crucial information more swiftly and accurately, enhancing the brain's capacity to produce effective information and consequently leading to improved academic performance in exams, as highlighted by Liu and Wang (2000) and Zhang and Zhang (2011). Conversely, individuals with lower cognitive abilities may miss out on some information during the knowledge process, resulting in diminished effective information output and lower academic attainment, as suggested by Miriam et al. (2011).

6.5   Motivation

Krashen (1982, 1985, 1988, 1991) posits that negative feelings can arise from passive states such as low motivation, diminished self-esteem, and overwhelming anxiety. Likewise, Oxford (1996) suggests that the emotional aspect of learners likely plays a significant role in determining the outcome of language learning endeavors. Krashen's (1982) hypothesis of second language achievement, which includes the Affective Filter Hypothesis, suggests that learners' emotions, attitudes, and motivations significantly influence their ability to acquire a second language. When learners are highly motivated, comfortable, and relaxed, their

affective filter is low, facilitating more efficient language acquisition. Conversely, when learners are anxious, stressed, or unmotivated, their affective filter is high, hindering language acquisition. Therefore, Krashen (1982) suggests that language instructors should establish supportive and encouraging learning atmospheres, fostering motivation and reducing barriers, to enhance learners' self-esteem, confidence, and satisfaction.

6.6 Psychological Well-being

According to Lipson & Eisenberg (2018), students' academic performance and dropout rates are significantly influenced by their well-being. Psychological well-being plays a pivotal role in shaping students' academic performance and overall university experience. Individuals who possess good psychological health typically exhibit resilience, high self-esteem, strong social support networks, effective emotional regulation, and excel academically. Moreover, Lipson & Eisenberg (2018) affirmed that mental health issues are highly prevalent among university populations and have been demonstrated to impair academic performance. Students grappling with psychological well-being challenges may encounter heightened stress and anxiety, diminished self-esteem, social withdrawal, concentration difficulties, and decreased academic performance.

6.7 Family Environment

According to Seemam et al. (2023), the family serves as the foundation of human existence and experiences. It functions as a constant source of support, shaping the fundamental character of its members and fostering their overall development. Moreover, it serves as the primary source for the transmission of societal values and norms. Drawing from Ekanem's (2004) perspective, it becomes evident that the influence of the family extends to the academic performance of university students. Just as in childhood, the support or lack thereof from parents, siblings, and immediate surroundings can significantly impact a student's self-esteem and academic achievements during their university years. A student who

grows up in a nurturing and supportive family environment typically exhibits lower levels of anxiety, stress, and psychological disorders compared to their counterparts from less supportive or challenging family backgrounds. These discrepancies in familial support mechanisms are likely to contribute to variations in academic performance between the two groups of students.

Finally, teachers must understand individual learning differences in order to effectively tailor their teaching methods and support learner success. Gender, personality traits, learning styles, cognitive abilities, motivation, psychological well-being, and family environment are all important influences on students' academic performance. Higher education institutions can optimize learning experiences, improve outcomes, and reduce dropout rates by recognizing and addressing these diverse influences. Moving forward, educators should prioritize creating inclusive and supportive learning environments that cater to each student's unique needs and strengths, promoting academic success and personal growth.

7   Assessment and its Effect on Learning

Assessment functions as an essential guide which steers both educators and students toward meaningful progress. From formative assessments that promote continuous improvement to summative assessments that evaluate cumulative knowledge, an understanding of the impacts of these methods is crucial for cultivating effective learning strategies and supportive educational environments.

7.1   Definition of Assessment

In educational settings, assessment is viewed as the process of collecting, analyzing, documenting and applying data about how students are responding to learning activities. (Harlen, et al. 1992, as cited in Iseni, 2011). Assessment is a method employed by educators

to determine the effectiveness of their teaching in ensuring student comprehension. This evaluation typically involves employing tests, quizzes, or questions. These assessment methods encompass various formats, such as answering questions or completing unfinished sentences, etc (Anderson, 2003). Moreover, according to Overall and Sangster (2006), this process can be seen as a form of observation, feedback or a note from the teacher aimed at facilitating and measuring students' development.

7.2   Types of Assessments

While many academics have different ideas on the types of assessments, most of them recognize two common types: formative and summative assessments.

7.2.1   Formative Assessments

Formative assessment is the process used to identify what knowledge students possess to develop an appropriate plan of instruction based on their needs. It provides the instructor with knowledge to enhance the learning of the students. The teacher uses formative data to determine the kind of practice that is necessary for the students in order to meet the lesson's objectives. Educators and learners demonstrate progress when formative evaluation is implemented. (Greenstein, 2010). In other words, it is a step in the instructional process. When employed in classroom activities, it offers the data required to modify instruction while it is taking place. (Garrison& Ehringhaus, 2007).

7.2.2   Summative Assessments

Summative assessment aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction. A summation of what a student has learned implies looking back and taking stock of how well that student has accomplished objectives, but does not necessarily point the way to future progress. Final exams in a course and general proficiency exams are examples of summative assessment (Brown, 2004).

7.3 How Formative and Summative Assessment Reflect on Students' Academic Performance

Formative assessments typically involve interactive activities and prompt timely feedback. These assessments actively engage students in their learning process which result in better understanding and retention of the material. According to Ozan and Kincal (2018), formative assessments, which avoid comparing students and instead assess them based on their individual development levels, prioritize learning over grades. These characteristics have a significant impact, particularly on students with low academic achievement, as they encourage active participation in lessons and lead to increased success. Formative assessment also considerably raises students' academic achievement, according to numerous research done at various levels (Alkharusi, 2008; Ozan, Kincal, 2018; Peterson & Siadat, 2009; Wylie & Ciafalo, 2010).

Self-regulation skills necessitate students' active utilization of their cognitive abilities, striving towards their learning objectives, seeking assistance from peers, educators, or parents as needed, and primarily, assuming accountability for their own learning journey. Consequently, the essence of formative assessment, which centers on learners' progress and interventions aimed at addressing learning gaps, intertwines closely with students' self-regulation skills. Nonetheless, it can be inferred that the development of self-regulation skills requires sustained and consistent methods over an extended period. Upon synthesizing research findings with existing literature, it was discerned that while formative assessment practices contributed to enhancing students' self-regulation skills, the impact was not statistically significant (Ozan & Kincal, 2018). While formative assessment is typically designed to discourage cramming and promote ongoing engagement with course material, students may still attempt to cram within this framework by engaging in last-minute review or preparation activities before formative assessments occur. By cramming in formative

assessments, students may miss out on opportunities for deeper understanding and reflection that are essential for long-term retention and academic performance.

Summative assessments are recognized to exert both positive and negative impacts on students' academic journeys. As noted by Reddy (2019), summative assessment formats afford a thorough evaluation of students' comprehension and proficiency in course content, serving as a critical measure of educational progress. Additionally, the presence of summative assessments serves to motivate both students and educators, instilling a sense of purpose and dedication to academic achievement. Moreover, the outcomes of summative assessments can enhance students' self-assurance, encourage active participation in the learning process and foster a positive academic atmosphere. Consequently, these factors contribute to a favorable influence on students' performance, possibly leading to positive academic outcomes. Summative assessments are inherently stressful, it often trrigers anxiety as some students have nightmares about missing or failing final exams, even years after leaving school. While educators agree on their importance, debates often center on fairness and effectiveness, especially when used for high-stakes decisions. Fair and inclusive assessments are crucial for accurate evaluation, as unfair exams can lead to misconduct and missed learning opportunities (Lee, 2023). Poorly designed assessments can exacerbate stress and promote unhealthy competition among students which can have a huge impact on students' academic performance and achievement.

Conclusion

In conclusion, this chapter "Cramming and Learning" offers a foundational exploration of the relationship between cramming and learning in education. It is divided into two sections, initially examine the concept of cramming, including its definition, reasons, and techniques, as well as the use of stimulants and their potential negative effects. Subsequently,

the focus shifts to fundamental aspects of learning, academic performance, and achievements, discussing effective learning strategies, cognitive factors, individual differences, and types of assessments. Through this overview, the chapter underscores the importance of understanding how cramming influences learning outcomes and promotes the adoption of more effective study habits for students and educators alike.

Chapter two: Research Design and Data Analysis and Interpretation

Introduction

The present chapter investigates the impact of cramming habits on the academic achievements of Master One students at Abd Elhafid Boussouf MUC. It reveals a mixed methods research design that includes both quantitative and qualitative data-gathering methodologies. Semi-structured interview and comprehensive questionnaire were used to collect data about the impact of cramming on students' grades, shedding light on its implications for students' learning outcomes and well-being. Moreover, it includes a description of the research methodology employed in the study, including data collection and analysis procedures. At the end, the chapter provides a discussion of the results of the collected data.

Section One: Methodology and Research Design.

1. Students' Questionnaire

1.1 Population and Sampling

To investigate the effects of cramming on students' grades, we have chosen Master one students at the University Center of Mila as a population for our questionnaire during the academic year 2023/2024. Master one students possess an in-depth knowledge about the impact of different learning strategies regarding their experience which can enhance the quality of their responses during the study. The whole population of Master one students consist of 118 students. Therefore, the number of students who have volunteered are 50 students approximately 66% of the whole population. Furthermore, the analysis was held on 35 students who were randomly selected from the responses of the volunteered participants.

1.2 Questionnaire Description

The study's questionnaire is composed of 17 question which are divided into four sections: general information, cramming habits, academic performance and effects of cramming on grades. Each section is designed to address specific areas of interest, providing valuable data for understanding how study practices influence academic success.

- The first section: This section consists of two introductory questions that aim to collect basic demographic data and background information about the participants' gender and their previous specialty during their high school journey which can provide context for interpreting responses in the subsequent sections.

- The second section: The section comprises six questions, designed to explore students' cramming habits. Those questions investigate participants' study habits, identify them motives for cramming and stimulants that they usually consume during their last-minute study sessions and its effects on their physical and mental health.

- The third section: In this section, the primary goal is to diagnose master one students' academic performance and general study techniques. The questionnaire delves into attendance patterns, and techniques used during class. Moreover, it investigates which exam formats leads to situations of cramming, in addition it sheds light on perceptions of academic achievement while cramming, and students' satisfaction with instruction on effective study strategies.

- The fourth section: The section's focus is on understanding the impact of cramming on participants' academic achievement (grades). It aims to uncover any negative effects on academic performance, assess participants' perception of their subject understanding, gather suggestions for improving study habits, and explore potential correlations between study practices and grades.

2. Psychologists' Interview

2.1 Population and Sampling

The present investigation is conducted at Ferdjioua -Mila-, specifically in three public clinics affiliated with "The Public Health Institution of Ferdjioua". Out of ten educational psychologists, five were selected. They were chosen for their long experience in the field of psychology, demonstrating significant expertise with students, particularly those in Higher Education.

2.2 The Description of the Interview

This interview is administered to a sample of five educational psychologists affiliated with "The Public Health Institution of Ferdjioua – Mila – ". The primary goal of the interview is to gain insights from those professionals' experiences regarding the effects of cramming on students' academic performance, achievement and well-being. Moreover, the interview seeks to explore various aspects related to cramming habits and their impact. The interview tool employed in this study is descriptive in nature, and it consists of seven open-ended questions. The data was collected in Arabic and then translated into English. We utilized a recording device to gather precise and comprehensive data from the participants. The information shared in the interview will be used solely for academic purposes.

Question 01: According to your experience, how would you define "cramming" in the context of student studying habits?

This question seeks to establish a clear understanding of what constitutes cramming in the context of student studying habits. By defining cramming, we can better understand its implications for academic performance and well-being.

Question 02: From psychological perspective, what are the psychological and physiological effects associated with cramming?

Here, we delve into the various ways in which cramming can affect students' health both psychologically and physiologically. Understanding these effects is crucial for recognizing the potential risks associated with this studying approach.

Question 03: What are the types of stimulants commonly used by students during cramming sessions?

By identifying the types of stimulants frequently used by students, we can provide a better understanding of the extent of stimulant use in academic settings and its potential implications for student health and well-being.

Question 04: What are the short-term and long-term effects of stimulant use on the human body, particularly when used in conjunction with cramming?

This question focuses on the effects of stimulant use, particularly when used in conjunction with cramming. Exploring both short-term and long-term consequences provides valuable insights into the risks associated with relying on stimulants to enhance studying performance.

Question 05: From a psychological standpoint, what are the potential risks or dangers of relying on stimulants to enhance studying performance?

Here, we examine the potential psychological risks and dangers associated with using stimulants to enhance studying performance. This analysis sheds light on the potential negative outcomes of this practice and underscores the importance of promoting healthier study habits.

Question 06: How can students recover from the long-term effects of cramming?

This question focuses on strategies for mitigating the long-term effects of cramming and promoting student well-being. By exploring recovery mechanisms, we aim to provide practical guidance for students seeking to address the negative consequences of excessive cramming.

Question 07: If you could give some advice to students regarding healthy study habits and managing academic stress, what would it be?

Finally, this question aims to offer students advice on healthy study habits and stress management techniques. By emphasizing the importance of healthy study habits and stress management techniques, we aim to empower students to prioritize their well-being while striving for academic success.

Section Two: Data Analysis and Interpretation

1. The Analysis of Students' Questionnaire:

Section One: General Information.

Q1: What is your gender?

Table 01: *Students' Gender*

Options	Frequency	Percentage
Male	8	22,85%
Female	27	77.14%
Total	35	100%

The initial question in the first section serves as an introductory question, and it aims to collect general data based on students' gender distribution. The results indicate a notable disparity between them as (77.14%) of the participants are female, while the remaining (22.85%) consisted of male students. Those results may suggest that females may exhibit greater interest in pursuing English language studies as a profession at university level, while males might lean toward scientific fields.

Q2: What was your specialty in high school?

Table 02: *Students' Previous High-School Speciality*

Options	Frequency	Percentage
Math	01	2,85%
Science	11	31,42%
Foreign languages	21	60%
Philosophy	02	5,71%
Total	35	100%

This question was set to gather information on students' educational backgrounds. The data reveal that foreign languages are the predominant specialization (60%) which denote the students' preferences and interests on learning English as a Foreign Language, followed by Scientific stream (31.42%). In contrast, mathematics (2.85%) and philosophical (5.71%) specialties are less common. These diverse backgrounds influence students' learning styles and may affect their engagement in cramming situations. For instance, students with language backgrounds may employ different learning strategies than those from scientific or mathematic backgrounds. Investigating this relationship can provide more information on effective learning methods and tailored academic support.

Section Two: Cramming Habits.

Q1: How would you define "cramming" in the context of student studying habits?

This question aims at understanding how students perceive and conceptualize cramming. By asking students to articulate their understanding of cramming, researchers can gain insights into their attitudes, beliefs, and experiences related to this study strategy. Students' responses reveal mixed views toward cramming as a study habit. While some regarded cramming as defective study practice that impedes long-term retention and a result

of inadequate preparation, others thought of it as a required strategy for passing tests when faced with overwhelming content. It is usually linked to stress and last-minute intensive learning. These varying perspectives underscore the complex relationship students have with cramming.

Q2: How often do you engage in cramming?

Table 03: *Cramming Frequency among Master One Students*

Options	Frequency	Percentage
Never	2	5.71%
Occasionally	13	37,14%
Always	20	57,14%
Total	35	100%

Examining the cramming frequency among master students in the study reveals that a significant majority (57.14%) report cramming "always". Additionally, (37.14%) indicate cramming "occasionally", while a small minority (5.71%) claim to "never" engage in cramming. These findings highlight a widespread reliance on cramming, with a notable portion consistently using this study strategy. The high percentage of students who always cram suggests potential implications for learning outcomes and academic performance.

Q3: what leads you to cramming?

Table 04: *Factors Leading to Cramming*

Options	Frequency	Percentage
Procrastination.	12	34,28%
Lack of time management.	22	62,85%
Overwhelmed with other	04	11,42%

tasks.		
Low motivation level.	17	48,57%
Lack of relevance.	03	8,57%
Others	0	0%

The major purpose of asking this question is to reveal the factors influencing students into choosing cramming as a study strategy. The most common reason reported is the "lack of time management", with (62.85%) of students attributing their cramming behavior to this issue. Additionally, (48.57%) cite "low motivation level", while "procrastination" and feeling "overwhelmed with other tasks" are noted by (34.28%) and (11.42%) of respondents, respectively. A smaller percentage (8.57%) mention "lack of relevance" as a contributing factor. These findings underscore the importance of addressing time management challenges and motivation to enhance study habits and academic success.

Q4.1: What kind of stimulants do you use during your cramming?

Table 05: *Types of Stimulants Used During Cramming Sessions*

Options	Frequency	Percentage
Coffee.	16	45,71%
Tea.	07	20%
Energy drinks.	05	14,28%
Cigarettes.	04	11,42%
Vitamins.	08	22,85%
Nothing.	03	8,57%

This question aims to explore the various habits associated with cramming, specifically focusing on students' preferences for stimulants' consumption. It unveils a range of choices

among students regarding the types of stimulants they use during cramming sessions. Coffee is the most reported stimulant as it is used by (45.71%) of students, and followed by vitamins with (22.85%). Tea and energy drinks are consumed by (20%) and (14.28%) of respondents, respectively, while (11.42%) smoke cigarettes as a habit. Interestingly, a small percentage (8.57%) of students claim that they prefer to avoid stimulants when cramming. These findings highlight the various strategies students employ to enhance their alertness and concentration during intense study periods, with coffee being the predominant choice. Understanding students' stimulant preferences can inform us about their impact on their cognitive functioning and academic performance, warranting further investigation.

Q4.2: If you use other stimulants that are not suggested in the above list, please specify.

Among the students who responded to this question, some mentioned their preference for consuming chocolate as a stimulant during cramming sessions, while others indicated that they enjoy listening to music to energize and motivate themselves. This question aims at exploring students' preferences concerning their usual cramming habits.

Q5: How would you describe your stress level during cramming?

Table 06: *Stress Leveles Associated with Cramming*

Options	Frequency	Percentage
Extremely high.	04	11,76%
High.	18	52,94%
Moderate.	08	23,52%
Low.	04	11,76%
Total	34	100%

The analysis of the stress levels reported by students during cramming sessions in the study aims at exposing the effects of the high pressures that cramming can cause to learners. Moreover, by examining stress levels alongside cramming habits, researchers can gain insights into how stress influences learning outcomes. The majority of students comprising (52.94%) describe their stress levels as "high", while (23.52%) report feeling "moderate" stress. A minor proportion of (11.76%), indicate experiencing "extremely high" or "low" levels of stress during cramming. These findings highlight the significant burden associated with cramming, with many students feeling increased stress levels. Understanding the varying degrees of stress experienced by students during cramming can inform researchers about potential impacts on mental health and well-being, and emphasize the importance of effective stress management strategies to promote healthier study habits.

Q6: What are the physical and mental effects that you have experienced as a result of cramming or using stimulants?

Table 07: *The Physiological and Psychological Effects of Cramming on Students*

Options	Frequency	Percentage
Physical fatigue.	17	48,57%
Eye strain and headaches.	13	37,14%
Troubled sleep.	18	51,42
Nervousness.	17	48,57%
Others	0	0%

The last question of this section examines the physical and mental consequences students encounter due to cramming or stimulant usage. As observed in the study which aims at revealing the effects of such high-pressured study strategy, it offers valuable insights into the repercussions of this study approach on students' well-being. The most prevalent

physiological effect noted by participants is physical exhaustion, which impacts (48.57%) of students, and closely followed by troubled sleep patterns affecting (51.42%) of the participants. Additionally, eyestrain and headaches are commonly experienced as reported by (37.14%) of students, while feelings of nervousness were a result of cramming on (48.57%) of respondents. These findings underscore the significant strain on both the body and mind resulting from cramming and stimulant use, as far as highlighting the importance of addressing these challenges to foster healthier study habits among students.

Section Three: Academic Performance.

Q1: Do you attend your classes regularly?

Table 08: *Students' Class Attendance Habits*

Options	Frequency	Percentage
Yes.	27	77,14%
No.	08	22,85%
Total	35	100%

The first question of the third section investigates the usual class attendance habits of master one students. The results reveal that a significant majority (77.14%) consistently attend their classes, while a noteworthy minority (22.85%) report irregular attendance. This distinction highlights varying levels of commitment to formal education among the surveyed students. Regular attendance is typically associated with improved academic performance and better comprehension of the course materials, whereas irregular attendance may indicate challenges in keeping up with the coursework and maintaining good grades(Ancheta, et al. 2021) . Understanding these attendance patterns provides insights into students' study behaviors, including their tendencies to cram, intersect with their participation in formal educational settings, and guiding strategies aimed at fostering student success.

Q2: What type of techniques do you use in class?

Table 9: *Study Techniques Used During Class*

Options	Frequency	Percentage
Note taking.	24	68,57%
Active listening.	12	34,28%
Participation.	06	17,14%
All of the above.	03	8,57%
None of them	03	8,57%

This question reveals that note-taking is the most commonly used technique among students during teachers' instruction, with (68.57%) of respondents reporting its use. This suggests that students perceive note-taking as an effective learning strategy for capturing and retaining information presented in class. Active listening and participation were also mentioned, though with lower frequencies of (34.28%) and (17.14%), respectively. Interestingly, a small percentage (8.57%) report using all of these techniques, and this indicates a comprehensive approach to learning. Whereas, (8.57%) of students are not using any of the mentioned techniques, this suggests a potential lack of engagement or alternative learning methods employed by this subset of students. This question helps us to understand the study techniques preferred and utilized by students during classroom instruction. This information can help educators tailor their teaching methods to better align with students' learning preferences and promote more effective engagement with course material.

Q3: On which exam formats do you find yourself more involved in cramming?

Table 10: *Exam Formats and its Relevance on Cramming*

Options	Frequency	Percentage

Oral examination format.	07	20%
Listening related examinations format.	01	2,85%
Writing examinations format.	28	80%

This question highlights that the majority of students (80%) indicate cramming for writing examinations, indicating a perceived challenge or difficulty associated with this exam format. In contrast, oral examinations and listening-related formats were less commonly associated with cramming, as cited by (20%) and (2.85%) of the respondents, respectively. This suggests that students may perceive written exams as more demanding or requiring more extensive preparation compared to other assessment methods. The purpose of this question is to investigate the relationship between exam formats and students' tendency to engage in cramming. By identifying the exam formats for which students are most likely to resort to last-minute studying, researchers can gain insights into the perceived challenges or difficulties associated with different assessment methods.

Q4: How do you perceive your academic performance during exams after cramming?

Table 11: *Impact of Cramming on Academic Performance during Exames*

Options	Frequency	Percentage
Excellent.	00	00%
Good.	06	17,14%
Average.	21	60%
Poor.	08	22,85%
Total	35	100%

This question seeks to assess students' subjective evaluations of their academic performance following cramming sessions. The analysis of this question reveals a mixed outcome in students' perceptions of their academic performance following cramming sessions. While none of the respondents mention achieving excellent performance after cramming, (17.14%) claim good results, which may indicate some success for a minority of students. However, the majority (60%) indicate only average performance, suggesting that cramming may produce average outcomes for many individuals. Additionally, a notable portion (22.85%) report poor performance, indicating potential negative consequences of relying on cramming as a study strategy.

Q5: Do you think you have received sufficient instructions on effective study strategies?

Table 12: *Perceived Instruction on Effective Study Strategies*

Options	Frequency	Percentage
Yes.	15	42,85%
No.	20	57,14%
Total	35	100%

The analysis of this question indicates that a significant portion of students (57.14%) feel they have not received sufficient guidance on effective study strategies. This suggests a perceived gap in instruction related to promoting effective learning habits and study skills. Conversely, (42.85%) of students feel they have received adequate instruction in this area, indicating a divide in perceptions regarding the availability and effectiveness of study strategy instruction. This question aims to evaluate students' perceptions of the adequacy of instruction they have received on effective study strategies. By identifying potential gaps or shortcomings in educational support services, educators and administrators can work to improve the provision of resources and guidance related to study skills and academic success.

Section Four: Effects of Cramming on Grades.

Q1: Have you experienced any negative impact on your grades because of cramming?

Table 13: *The Direct Impact of Cramming on Students' Grades*

Options	Frequency	Percentage
Yes.	28	84,84%
No.	05	15,15%
Total	33	100%

The analysis reveals that the majority of respondents, (84.84%), state that cramming had a negative impact on their grades. This suggests that cramming reduces academic performance. Conversely, a minority of respondents, comprising (15.15%), indicate that they did not experience any negative impact on their grades as a result of cramming. This implies that a small portion of students may be able to cram effectively without it significantly affecting their academic results. The aim of this question is to assess the direct impact of cramming on students' grades. By gathering data on students' experiences, we can identify the extent to which cramming negatively affects academic performance and inform efforts to promote more effective study habits.

Q2: Do you feel that cramming negatively impacts your understanding of the subject matter?

Table 14: *The Impact of Cramming on Students' Understanding of the Subject Matter*

Options	Frequency	Percentage
Agree.	21	63,63%
Neutral.	09	27,27%
Disagree.	03	9,09%
Total	33	100%

The data shows that a substantial proportion of students (63.63%) agree that cramming negatively impact their understanding of the subject matter. While a smaller portion (27.27%) remain neutral, and only a minority (9.09%) disagree. This indicates that students recognize the limitations of cramming as a study strategy and perceive it as detrimental to their comprehension and mastery of course material. This question aims to explore students' perceptions of the impact of cramming on their understanding of the subject matter. By assessing students' attitudes and beliefs, educators can emphasize the importance of adopting more effective learning strategies. These strategies help in promoting and facilitating the learning process for students.

Q3: What suggestions do you have for improving study habits and reducing the need for cramming?

Table 15: *Suggestions for Improving Study Habits and Reducing Cramming*

Options	Frequency	Percentage
Plan and manage time effectively.	28	80%
Seek help when needed	05	14,28%
Embrace balanced approach to studying.	04	11,42
Others	0	0%

The analysis reveals that the most common suggestion for improving study habits and reducing the need for cramming is to plan and manage time effectively, as cited by (80%) of respondents. This suggests that students recognize the importance of proactive time management in supporting more beneficial and effective study practices. Additionally, a

smaller proportion of students suggest seeking help when needed (14.28%) and embracing a balanced approach to studying (11.42%). This question seeks to gather students' suggestions for improving study habits and reducing reliance on cramming. By soliciting input directly from students, educators and administrators can identify strategies and interventions to support more effective and sustainable learning practices.

Q4: Have you noticed any correlation between your study habits and your grades?

Please explain your answer?

Table 16: *The Correlation between Students' Study Habits and Grades*

Options	Frequency	Percentage
Yes.	31	93,93%
No.	02	6,06%
Total	33	100%

The analysis indicates that the vast majority of students (93.93%) are noticing a correlation between their study habits and their grades. They believe that the more they work hard and study effectively, the more they achieve excellent results. Conversely, when they resort to cramming and other ineffective study habits, their academic achievements are negatively affected. This indicates that students recognize the impact of their study habits on academic achievements, and perceive a direct relationship between effective study habits and outcomes. The aim of this question is to assess students' perceptions of the correlation between their study habits and their grades. By understanding students' awareness of this relationship, educators can emphasize the importance of adopting effective study strategies and provide support for developing and maintaining positive study habits.

2. Discussion of the Main Findings of the Students' Questionnaire

According to the previous data analysis of the questionnaire, the initial questions reveal key insights into the students' demographics and educational backgrounds which are essential for analyzing cramming's effects on grades. The predominance of female students suggests different study habits and learning approaches compared to males, who may prefer scientific fields. Furthermore, the diversity of high-school specializations indicates that there is a variety of learning styles and strategies, students with foreign languages background likely using different study methods than those from scientific or mathematical backgrounds. This diversity is crucial in understanding how cramming behaviors impact different groups of students.

The following section which is about cramming habits provides valuable insights into students' perceptions and behaviors related to cramming. Students have mixed views on cramming, with some seeing it as an ineffective, last-minute method associated with high stress and poor knowledge retention, while others view it as a necessary strategy for managing large amounts of material under time pressure. The high frequency of cramming among students indicates that it is a widely common study strategy, which suggests significant implications for learning outcomes. Moreover, factors such as poor time management, low motivation, procrastination, and feeling overwhelmed by other tasks lead students to resort to cramming, which raise awareness on the need for better time management skills and motivational strategies. Additionally, the use of stimulants like coffee, tea, energy drinks, and vitamins to enhance alertness during cramming sessions points to high stress levels and the need for extra energy, unfortunately such habits are reasons for concerns about potential health impacts. Cramming is associated with high stress, negatively affecting mental health and academic performance, and causing physical and mental effects such as exhaustion, sleep disturbances, eye strain, headaches, and nervousness. These findings emphasize the toll

cramming takes on students' health and underscore the importance of promoting healthier study habits, effective stress management strategies.

The third section of the questionnaire explores class attendance, study techniques, exam formats, perceived academic performance, and instruction on effective study strategies. Regular class attendance appears to be correlated with better academic performance where those who attend classes consistently may have less need to cram. The most common study technique reported is note-taking, indicating that many students rely on this method to retain information, though some also engage in active listening and participation. The findings reveal that students tend to cram more for written exams, likely due to the perceived difficulty and extensive preparation these exams usually require. Students' perceptions of their academic performance post-cramming are mixed, with many reporting only average results, highlighting the limited effectiveness of cramming as a study strategy. Furthermore, a significant portion of students feels they have not received sufficient instruction on effective study strategies, such claims highlight the necessity for better guidance and resources to help students develop more effective and sustainable study habits.

The final section which investigates the effects of cramming on grades provides valuable insights into students' experiences and perceptions regarding the impact of cramming on their academic performance. Many students report that cramming negatively affects their grades which is a direct judgment on its general ineffectiveness as a study strategy. Additionally, a significant number of students believe that cramming undermines their understanding of the subject matter, they continued commenting on it as a strategy that hinders deep learning and retention. To improve study habits and reduce reliance on cramming, students recommend better time management, seeking help when needed, and adopting a balanced approach to studying. In conclusion, most students recognize a correlation between their study habits and academic performance, they have showed an

understanding that effective and consistent study practices lead to better grades, while cramming results in poorer outcomes.

3. Psychologists' Interview Analysis

In order to get expert insights into the cognitive and physical effects of cramming, conducting interviews with educational psychologists is essential in investigating the effects of cramming on students' grades. Their expert viewpoints contribute to the validation of the study's findings, which guarantees a comprehensive and rigorously scientific analysis. Aside from offering helpful interventions and coping mechanisms that mitigate the detrimental consequences of cramming, psychologists can also encourage better study habits which might enhance students' academic performance and grades.

Q1: According to your experience, how could you define cramming in the context of student studying habits? (check table 17 in the appendices)

The purpose of the first question of the interview is to collect experts' perspectives on the definition of cramming within the context of student study habits. By seeking responses from psychologists, we can understand how professionals in the field of educational psychology conceptualize and characterize cramming. This information can offer valuable insights into the perceived nature, implications, and effects of cramming on students' academic performance and overall well-being.

Across the responses, there is a consensus that cramming involves hastily attempting to learn a significant amount of information within a short timeframe, typically just before an exam or deadline. The first and fifth psychologists emphasize that this practice involves overloading the brain with unorganized information, which is considered highly detrimental to both students and the educational sector. Whereas the second and fourth psychologists describe cramming as a strategy resulting from the neglect of regular study which can lead to

intense mental and physical effort. Moreover, the third and fourth psychologists highlight the challenge and inefficacy of preparing effectively under such rushed conditions.

Overall, they emphasize the lack of proper organization, excessive mental and physical effort, and the detrimental impact of this practice on academic performance and the educational sector as a whole. These perspectives underscore the widespread recognition of cramming as a problematic and disastrous study strategy, and it is characterized by its rushed and unstructured nature, with potential negative consequences for students and the educational system.

Q2: From the psychological perspective, what are the physiological and psychological effects that can cramming have on students? (check table 18 in the appendices)

This question delves into the physical and mental consequences that students can experience duo to adopting cramming as a study strategy, which provide a thorough comprehension on its ramifications on their well-being.

There is a general agreement among the replies that cramming has harmful impacts on one's physical and mental health. From a physiological perspective, cramming leads to exhaustion, fatigue, headaches, eyestrain, and gastrointestinal issues such as nausea and stomach ulcers, as observed by all the interviewed psychologists. According to the second, third, fourth and fifth psychologists, the heightened brain stress also results in increased heart rate and muscle spasms. Psychologically, all of them agree that cramming induces high levels of stress and anxiety, resulting in mental fatigue, decreased motivation, diminished concentration, and impaired memory. Additionally, some of them mention feelings of confinement, psychological instability, and fear, which can lead to crying spells and exam-related anxiety. These effects contribute to difficulties in processing information, retaining knowledge, and maintaining mental well-being, often heightening exam-related fear.

Q3: What are the types of stimulants commonly used by students during cramming sessions? (check table 19 in the appendices)

Psychologists' responses regarding the types of stimulants commonly used by students during cramming sessions reveal a variety of substances which are used by students to enhance their alertness focus and boost their energy.

The five psychologists agree on the fact that caffeine sources such as coffee, tea, and energy drinks are prevalent choices among students. The first three psychologists also include nutritional supplements like vitamins (C, Omega3) and minerals, as well as sweets and nuts, as popular cramming stimulants. The fourth and fifth psychologists, also highlight the consumption of chocolate and cigarettes, along with over-the-counter medications like caffeine pills or energy supplements. All in all, psychologists identify a range of stimulants utilized by students during cramming sessions, by emphasizing the diverse strategies employed to boost cognitive function and endurance during intense cramming sessions.

This question is important to the study as it sheds light on the specific stimulants students commonly use during cramming sessions. Understanding the types of stimulants students rely on provides valuable insights into their coping mechanisms and strategies for managing intense study periods. Through the identification of the consumed stimulants, researchers can evaluate the possible effects of these substances on students' physical and mental health as well as their general well-being during study sessions.

Q4: What are the short-term and long-term effects of stimulant use on the human body, particularly when used in conjunction with cramming? (check table 20 in the appendices)

A thorough grasp of the possible short-term and long-term risks associated with stimulants use, especially when combined with cramming provides this study with valuable insights into the risks students may encounter when relying on these substances to enhance

their study efforts. By exploring the physiological and psychological impacts of stimulant use, researchers can assess the overall health implications and potential dangers associated with this practice.

Psychologists' viewpoints reveal several similar features when analyzing the short- and long-term effects of stimulant usage in the context of exam cramming. While stimulants might boost energy and concentration in the short term, psychologists (1, 2, 4, and 5) have noticed that they can also have negative consequences such headaches, sleeplessness, hyperactivity, stomach pain, and elevated heart rate. Additionally, the third psychologist claims that he noticed hormonal imbalances and elevated blood pressure as short-term consequences.

Long-term threats include chronic insomnia, anxiety, impaired regular sleep patterns, and addiction, as the second, third, fourth and fifth participants have all pointed out. Physical concerns include heart difficulties and gastrointestinal complaints, such as stomach ulcers, are also mentioned in the third and fourth responses. Furthermore, the fifth psychologist adds that the consumption of stimulants for extended periods when cramming can cause students to lose their confidence and self-esteem.

In summary, these responses indicate that while stimulants may temporarily offer a resolution to help students throughout the journey, they also come with significant side effects such as insomnia, stomach pain, and hyperactivity. Long-term use can lead to chronic health issues like addiction, anxiety, and cardiovascular problems. These risks highlight the importance of adopting healthier study habits to avoid these adverse effects when preparing for exams.

Q5: From a psychological standpoint, what are the potential risks or dangers of relying on stimulants to enhance studying performance? (check table 21 in the appendices)

This Question deals with psychological impacts of relying on stimulants to enhance study performance. From the responses of the five psychologists, we can note that all of them have identified several dangers associated with the correlation of stimulants use and study performance improvement, including: potential for addiction and dependence, negative impacts on mental health (such as depression, increased stress and anxiety levels). However, the psychologists' individual perspectives also showed distinct dimensions of these risks. The second psychologist emphasized specific psychological effects like nocturnal panic and changes in personality, while the fourth one raised concerns about unrealistic performance expectations. Additionally, the fifth psychologists highlighted the behavioral indicators of stimulant use and physical manifestations such as weight changes. Together, all these findings highlight the dangers associated with relying on stimulants for academic purposes, emphasizing the need for a thorough understanding of their consequences.

Q6: How can students recover from the long-term effects of cramming? (check table 22 in the appendices)

The aim of this question is to explore strategies to mitigate the negative impacts of cramming, such as memory retention issues, burnout, and reduced ability to learn effectively. The five psychologists provide a comprehensive range of strategies for students to recover from the long-term effects of cramming. All of them agree on the importance of getting sufficient amount of rest and sleep, maintaining balanced and healthy nutrition, engaging in regular physical exercises, and reducing stimulant usage as part of this healthy lifestyle. Furthermore, they underscore the importance of managing stress through various means, such as engaging in favorite hobbies, spending time with friends and family as mentioned by the second psychologist, and avoiding stressful environments as the first psychologists confirmed. Whereas, the third, fourth, and fifth psychologists specifically advise against cramming and

suggest regular, spaced-out study sessions for better retention of information and improved academic achievements.

Q7: If you could give some advice to students regarding healthy study habits and managing academic stress, what would it be? (check table 23 in the appendices)

The aim of this question is to solicit advice from educational psychologists concerning healthy study habits and managing academic stress. It seeks insights and recommendations that could benefit students in maintaining their well-being and achieving their academic goals. The five psychologists agree on several key points for healthy study habits and managing academic stress, including getting sufficient sleep, establishing a well-organized study schedule. They recommend avoiding cramming, staying up late, and ensuring proper rest to support brain function. They also highlight the benefits of regular physical exercises to reduce stress, anxiety, pressure, and improve well-being. Additionally, some unique advice includes choosing nutritious foods as mentioned by the third psychologists. Setting semester goals, and fostering self-confidence without relying on stimulants like the fifth psychologist underscore. Lastly, the fourth one advised students to take regular study breaks to prevent fatigue, and to seek help from teachers and classmates when overwhelmed.

4. Discussion of the Main Findings of the Psychologists Interview

Based on the responses of the five educational psychologists, it's evident that cramming is widely recognized as a negative study habit characterized by the ingestion of a large amount of information in a short period of time, often right before an exam or a deadline. Psychologically, cramming induces stress, pressure, anxiety, and cognitive strain, leading to physiological symptoms such as insomnia, headaches, and fatigue which can cause difficulties in concentration, retention of information, and perform well academically for students.

Furthermore, in order to cope with the demands of cramming, students often resort to the use of stimulants such as coffee, tea, energy drinks, and supplements. While these stimulants may provide short-term benefits in terms of increased alertness and focus, they come with many of short-term and long-term risks. Short-term effects include elevated heart rate, restlessness, difficulty in sleeping, lack of comprehension, and decreased concentration. While long-term consequences may include addiction, disrupted sleep patterns, personality changes, ethical issues and heightened emotional instability

Moreover, the five psychologists underscore that for recovering from the long-term effects of cramming, students must adopt healthier study habits, and effective stress management techniques. This includes: prioritizing regular study sessions over time, establishing a well-organized study schedule, and seeking help and support from educational psychologists, educators and classmates whenever needed. Additionally, taking care of their physical and mental well-being, such as engaging in favorite hobbies, sufficient rest and relaxation, as well as practicing physical exercises can help students to mitigate from the negative effects of cramming and acquire more sustainable study habits.

In conclusion, the psychologists' responses indicate that promoting alternative study habits and strategies (such as: self-explanation, spaced repetition, collaborative learning, etc.), and stress management techniques (like: healthy nutrition, sufficient sleeping, enjoying with friends and family), are essential for students to succeed academically while preserving their mental and physical health.

5. Recommendations

5.1 Recommendations for Students

- Create a study schedule that includes regular, short study sessions.

- Engage in active learning methods such as summarizing, paraphrasing, explaining material to classmates, or applying concepts to real- word scenarios. These techniques help in improving the retention of information, and understanding.

- Organize your priorities by using tools like planners, calendars, and apps to manage study time effectively. Set realistic goals for each study session to avoid last-minute studying.

- Adopt effective study strategies such as spaced repetition, the Pomodoro technique (a time management technique), and self-testing. These methods promote long-term retention and comprehension of material.

- Ensure proper sleep, healthy nutrition, and physical exercises. A healthy lifestyle improves cognitive function and academic performance, reducing the need for cramming.

- Ask for help from teachers, educational psychologists, or peers whenever needed.

5.2 Recommendations for Teachers

- Show your students how to plan their study time effectively.

- Incorporate active learning techniques such as group discussions, problem-solving sessions. Active learning engages students with the material, and enhances understanding and retention.

- Create a supportive learning environment, and focus on learning over grades to reduce the academic pressure.

- Set up regular review sessions leading up to exams to help students retain their knowledge.

- Incorporate formative assessment by using regular, small quizzes and assignments to check student understanding and provide timely feedback. This helps students learn continuously and reduces the pressure of final exams.

- Provide positive reinforcement and support to help students gain self-confidence and reduce the anxiety that frequently leads to cramming.

- Be always available for supporting and assisting your learners whenever they need you.

5.3 Recommendations for Educational Institutions

- Advocate for the integration of educational psychologists within university support services to provide tailored interventions and support for students struggling with academic challenges, including cramming-related issues.

- Provide workshops and seminars to help students develop effective time management and study planning skills.

- Provide additional instructional sessions, such as review classes, especially before exams, to reinforce learning and clarify difficult concepts.

6. Limitations

This study encountered several limitations, first, time constraints significantly impacted the depth and breadth of our research. The limited timeframe available for conducting this study restricted the amount of data we could collect and analyse, potentially overlooking longer-term effects of cramming on academic performance. Second, a notable lack of pre-existing literature specifically addressing the concept of cramming and its direct impacts on students presented a challenge. Consequently, the findings of this study should be interpreted with caution and seen as a preliminary exploration rather than definitive conclusions.

Conclusion

In summary, this chapter examines the effects of cramming on the academic achievement of Master One students at Abd Elhafid Boussof MUC, using a mixed-methods research design. By employing semi-structured interview and comprehensive questionnaires

, the study gathers both quantitative and qualitative data to understand the implications of cramming on students' grades, academic performance and overall well-being. The chapter also details the research methodology, including the data collection and analysis processes. Ultimately, the discussion of the results offers valuable insights into the impact of cramming on student learning outcomes, providing a foundation for developing more effective study strategies and educational practices.

General Conclusion

The primary goal of this investigation is to denounce the ineffective study strategy of cramming by spreading awareness of the adverse consequences of engaging in last-minute intense study sessions on students' grades and well-being. The study provides evidence-based insights, which seeks to improve study strategies, promote better learning methods, and ultimately enhance students' academic achievements.

The overall findings indicate that, cramming is a widely adopted but generally ineffective study strategy among students, it is associated with high levels of stress, poor academic performance, negative impacts on mental and physical health, and a reason for decreasing students' grades and overall academic achievements. Based on the analysis results, study habits vary between students with diverse academic backgrounds which influences their learning styles. While some students perceive cramming as necessary for managing time constraints, others recognize its limitations and advocate for better time management and seeking help when needed. The five educational psychologists emphasize the detrimental effects of cramming on students' well-being and cognitive functioning and recommend adopting healthier study habits and stress management techniques.

The recommendations put forth aim to mitigate the prevalence of cramming among students, through proactive measures at both individual and institutional levels. For students, the emphasis lies in crafting structured study schedules, engaging in active learning strategies, and prioritizing overall health and well-being. Educators are encouraged to integrate active learning strategies into their teaching methods, as offering consistent review sessions, and providing unwavering support for students to reduce academic pressure. At the institutional level, the integration of educational psychologists, the provision of workshops on effective time management, and the facilitation of supplementary instructional sessions are highly advocated.

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Appendices

Appendix A

Student's Questionnaire

Dear student

You are kindly invited to participate in our survey which aims at understanding your perspectives and opinions regarding the influence of cramming on academic achievements. By sharing your insights, you contribute significantly to the reliability of our research findings. We assure you that all replies will remain strictly confidential and solely used within the scope of this work.

To provide an accurate response, please select the appropriate boxes and offer detailed explanations where needed. Your participation is highly valued, and it helps advance our knowledge about the impacts of cramming among students.

Please note that your contributions will only be utilized for the purposes outlined above.

Thank you for your cooperation!

Section one: General Information.

1. What is your gender?

- Male ☐

- Female ☐

2. What was your speciality in high-school?

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………………………………………………………………………………………………
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Section two: Cramming Habits.

1. How would you define "cramming" in the context of student studying habits?

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2. How often do you engage in cramming before exams?

- Never ☐

- Occasionally ☐

- Always ☐

3. What leads you to cramming?

- Procrastination ☐

- Lack of time management ☐

- Overwhelmed with other tasks ☐

- Low motivation levels ☐

- Lack of relevance ☐

- Other (please specify) ☐

....

4. What kind of stimulants do you use during your cramming?

- Coffee ☐

- Tea ☐

- Energy Drinks ☐

- Cigarettes ☐

- Vitamins ☐

- Nothing ☐

- Others. ☐

……………………………………………………………………………………….

4.2 If you use other stimulants that are not suggested in the above list, please specify:

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....

5. How would you describe your stress level during craming?

- Extremely high ☐

- High ☐

- Moderate ☐

- Low ☐

6. What are the physical and mental effects that you have experienced as a result of cramming or using stimulants?

- Physical fatigue ☐

- Eye strain and headaches ☐

- Troubled sleep ☐

- Nervousness ☐

- Others ☐

6.1 If you had faced any other symptoms after cramming, please mention them:

…………………………………………………………………………………………………

…………………………………………………………………………………………………

………………………………………………………

Section three: Academic Performance.

1. Do you attend your classes regularly?

- Yes ☐

- No ☐

2. What types of techniques do you use in class?

- Note taking ☐

- Active listening ☐
- Participation ☐
- All of the above ☐
- None of them ☐

3. On which exam formats do you find yourself more involved in cramming?

- Oral examinations formats ☐
- Listening related examinations formats ☐
- Written examinations formats ☐

4. How do you perceive your academic performance during exams after cramming?

- Excellent ☐
- Good ☐
- Average ☐
- Poor ☐

5.Do you think you have received sufficient instruction on effective study strategies?

- Yes ☐
- No ☐

Section four: Effects of Cramming on Grades.

1. Have you experienced any negative impact on your grades because of cramming?

- Yes ☐
- No ☐

2. Do you feel that cramming negatively impacts your understanding of the subject matter?

- Agree ☐
- Neutral ☐
- Disagree ☐

3. What suggestions do you have for improving study habits and reducing the need for cramming?

- Plan and manage time effectively ☐

- Seek help when needed ☐

- Embrace balanced approach to studying ☐

- Others ☐

....

4. Have you noticed any correlation between your study habits and your grades?

- Yes ☐

- No ☐

Please explain your answer:

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....

....

Thank you for your participation

Appendix B

Psychologists' interview

Thank you for participating in this interview dedicated to exploring the effects of cramming on students' academic achievements and their mental and physical health. Your opinions are crucial to advancing research in this area. Rest assured that all the information you provide will be used for purely academic purposes.

Question 01: According to your experience, how would you define "cramming" in the context of student studying habits?

Question 02: From the psychological perspective, what are the physiological and the psychological effects associated with cramming?

Question 03: What are the types of stimulants commonly used by students during cramming?

Question 04: What are the short-term and long-term effects of stimulant use on the human body, particularly when used in conjunction with cramming?

Question 05: From a psychological standpoint, what are the potential risks or dangers of relying on stimulants to enhance studying performance?

Question 06: How can students recover from the long-term effects of cramming?

Question 07: If you could give some pieces of advice to students regarding healthy study habits and managing academic stress, what would it be?

مقابلة الأخصائيين النفسانيين:

نشكركم على مشاركتكم في هذه المقابلة المخصصة لاستكشاف اثار الحشو الدراسي على الإنجازات الأكاديمية للطلاب وعلى صحتهم النفسية والجسدية. آرائكم حاسمة لتعزيز البحث في هذا المجال. كونوا على يقين بانه سيتم استخدام جميع المعلومات التي قمتم بتقديمها لأغراض أكاديمية بحتة.

السؤال الأول: استنادا لخبراتك، كيف تعرف "الحشو " في سياق عادات دراسة الطلاب؟

السؤال الثاني: من الناحية البسيكولوجية، ما هي الآثار النفسية والفيزيولوجية الناجمة عن الحشو الدراسي على الطلاب؟

السؤال الثالث: ما هي أنواع المنبهات الشائع استهلاكها من قبل الطلاب خلال جلسات الحشو؟

السؤال الرابع: ما هي الآثار قصيرة وطويلة الامد لاستهلاك المنبهات على الجسم البشري، خاصة عند استخدامها بالتزامن مع الحشو؟

السؤال الخامس: من وجهة نظر بسيكولوجية، ما هي المخاطر المحتملة للإدمان على المنبهات بهدف تعزيز الاداء الدراسي؟

السؤال السادس: كيف يمكن للطلاب التعافي من التأثيرات طويلة الأمد للحشو؟

السؤال السابع: إذا كان بإمكانك تقديم بعض النصائح للطلاب فيما يتعلق بعادات الدراسة الصحية وإدارة الضغط الأكاديمي، فماذا ستكون؟

Appendix c

Psychologists' Interview Answers:

Q1: According to your experience, how could you define cramming in the context of student studying habits?

Table 17: *Definition of Cramming in the Context of Students' Study Habits*

Psychologists	Answers
Psychologist 01	Cramming is the practice of overloading a student's brain with a large amount of information without proper organization in a short period of time. This practice is considered by experts as an academic disaster for both students and the educational sector.
Psychologist 02	Cramming is a study strategy resulting from a student's neglect of regular studying and postponing it until shortly before exams (a few days or weeks), leading them to exert excessive mental and physical effort.
Psychologist 03	Cramming, the act of hastily gathering lessons or information before an exam, poses a challenge for students in preparing effectively for their tests.
Psychologist 04	Cramming is the practice of trying to learn a large amount of information in a short period of time, typically right before an exam or deadline.
Psychologist 05	Cramming is the process of filling a student's mind with a large amount of knowledge without selecting or grading it. It is regarded as a scourge in the field of education.

Q2: From the psychological perspective, what are the physiological and psychological effects that can cramming have on students?

Table 18: *Psycholigical and Physiological Effects of Cramming*

Psychologists	Answers
Psychologist 01	Some of the physiological and psychological impacts resulting from

	academic cramming on students include stress caused by the strain that the students are enduring, insomnia, headaches, nausea, psychological instability, feelings of fear, and remorse of conscience.
Psychologist 02	The psychological and physical consequences of academic cramming encompass anxiety, physical exhaustion, mental drain, fluctuations in blood pressure and sugar levels, ongoing pressure and nervousness, mental distraction, diminished focus, and forgetfulness.
Psychologist 03	Cramming can lead to both psychological and physiological effects: Physiologically, it often leads to exhaustion and fatigue, as well as heightened brain stress. Additionally, cramming can trigger physical symptoms like vomiting and stomach ulcers, headaches, and muscle spasms due to the intense strain. Psychologically, the pressure to absorb vast amounts of information in a short period can make students feel suffocated leading to a sense of confinement. This mental strain can also result in distractions, making it difficult to focus and retain information. Furthermore, cramming increases the likelihood of forgetting crucial details and experiencing memory impairment.
Psychologist 04	Cramming can lead to psychological and physiological effects Psychologically: Cramming can lead to increased stress and anxiety levels. It can also result in decreased motivation and concentration, as the brain becomes fatigued from the prolonged and intense studying. Physiologically: It can lead to physical symptoms such as headaches, eyestrain, and fatigue.
Psychologist 05	Cramming induces both psychological and physiological effects on students. First, psychologically, it puts the student in a state of mental stress, making it harder for him to process information properly. It leads also to lowering the capacity of student absorption, memory impairment and fatigue, and a heightened sense of anxiety, exacerbating the situation with crying spells and exam-related fear. Second, it can manifest physically, causing headaches and gastrointestinal issues, and further complicating the student's well-

	being.

Q3: What are the types of stimulants commonly used by students during cramming sessions?

Table 19: *Commen Stimulants Used in Students' Cramming Sessions*

Psychologists	Answers
Psychologist 01	During cramming sessions, students often turn to stimulating substances such as coffee, tea, sweets, and energy drinks
Psychologist 02	Types of stimulants commonly used by students during cramming include coffee, soda, vitamin C supplements, and energy drinks.
Psychologist 03	During cramming sessions, students often turn to various types of stimulants to help them stay alert and focused. These include: _ Vitamins and minerals such as magnesium and vitamin C. _Caffeine (coffee, tea, energy drinks). _ Nutritional supplements like omega-3 fatty acids and Gelphort.
Psychologist 04	There are many types of stimulants commonly used by students during cramming such as: chocolate, energy drinks, tea, coffee, and cigarette. In addition to Over-the-counter medications like caffeine pills or energy supplements.
Psychologist 05	Common stimulants used by students to cram are : Coffee, tea , energy drinks, nutritional supplements, nuts.

Q4: What are the short-term and long-term effects of stimulant use on the human body, particularly when used in conjunction with cramming?

Table 20: *Short-term and Long-term Effects of Stimulant Use in Cramming*

Psychologists	Answers
Psychologist 01	The consumption of short-acting (short-term) stimulants results in an increase in body activity and temporary intensity in focus. However, excessive consumption leads to many side effects, including stomach pain due to increased acidity, hyperactivity, excessive urination, inability to concentrate, insomnia, serious increases in heart rate, and elevated sugar levels.

Psychologist 02	The short-term and long-term risks resulting from excessive consumption of stimulants include chronic insomnia, headaches, loss of appetite, stomach ulcers, and addiction to stimulants.
Psychologist 03	Using stimulants, especially in conjunction with cramming, can have both short-term and long-term effects on the human body. In the short term, stimulants can cause hormonal imbalances, affecting brain functions like concentration and attention. This imbalance may disrupt normal bodily functions and impact overall health. Whereas, in long term, stimulants Use can lead to addiction, increased consumption, and side effects, while also causing insomnia and stress, straining physical and mental well-being.
Psychologist 04	When it comes to the short-term effects of stimulant use, they can increase heart rate, elevated blood pressure, restlessness, and difficulty sleeping. In terms of long-term effects, it can lead to dependence or addiction, disrupted sleep patterns, anxiety, irritability, and even cardiovascular problems.
Psychologist 05	There are many short-term and long-term effects of stimulant use on the human body, particularly when used in conjunction with cramming, we can mention the following: _ Addiction to stimulants and steroids. _ loss of confidence in individual abilities. _ Insomnia and the loss of regular sleep..

Q5: From a psychological standpoint, what are the potential risks or dangers of relying on stimulants to enhance studying performance?

Table 21: *Risks of Stimulant Reliance for Studying Performance*

Psychologists	**Answers**
Psychologist 01	The psychological risks resulting from the use of stimulants include inability to concentrate, lack of comprehension, excessive tension and nocturnal panic, undermining self-confidence and self-doubt.

Psychologist 02	The dangers of frequent stimulant consumption include developing an addiction, alterations in the student's personality, behavioral and ethical disturbances, heightened emotional irritability, depression, speech difficulties, and increased nervousness, often resulting in aggressive behavior.
Psychologist 03	Relying on stimulants to enhance studying performance can have many risks. They can disrupt sleep, leading to irregular sleep, insomnia, and stress. This can also contribute to depression, psychological imbalances, and mood disorders. Consequently the inability to study and absorb information.
Psychologist 04	The potential risks or dangers of relying on stimulants to enhance studying performance are: _ Addiction: There is a risk of developing a dependency on stimulants, which can lead to difficulties in functioning without them and potential withdrawal symptoms when trying to stop. _ Dependence on stimulants can create an unrealistic expectation of constant high performance. _ Negative impact on mental health: Excessive stimulant use can contribute to increased levels of stress, anxiety, and irritability.
Psychologist 05	The potential risks or dangers of relying on stimulants to enhance studying performance are: _ The student may require higher dosages over time, stimulants and steroids may eventually give way to drugs too. _ The difficulty of continuing educational activities without stimulants and steroids. _Absence on multiple occasions, reluctance to participate in learning activities, and poor performance. _Loss or gain of weight. _Loss of self-confidence.

Q6: How can students recover from the long-term effects of cramming?

Table 22: *Recovering from Long-term Effects of Cramming*

Psychologists	Answers
Psychologist 01	In the long term, the effects manifest as difficulties in falling asleep or achieving deep sleep, increased nervousness, chronic stress, disruptions in overall lifestyle, decreased self-confidence, and potential addiction to stimulants. Overcoming these challenges requires adopting a healthy lifestyle, including balanced nutrition, sufficient rest, gradual reduction in stimulant intake, avoidance of stressful environments, and regular exercise.
Psychologist 02	To recover from the effects of cramming, students should focus on adopting effective and healthy study strategies, reducing stimulant consumption, engaging in physical exercise, pursuing personal hobbies, spending time in nature, and surrounding themselves with friends and family.
Psychologist 03	To recover from the long-term effects of cramming, students need to take care of themselves by sleeping well and eating healthy. They should manage their time effectively, stick to a study routine, and get help when they need it. By adopting these strategies, students can recover from the negative effects of cramming and develop more better study habits.
Psychologist 04	There are many techniques or steps that students should apply to recover from long -term effects of cramming: _First, take care of yourself by having a good sleep, eating well, and doing things you enjoy. _Second, adopt active learning strategies, like discussing topics with classmates. _Third, study regularly over long periods of time instead of revising all the lessons at once. Review what you've learned at different times to remember it better in the long run. _Finally, seek help from teachers, advisors, or educational psychologists when you need it, they can provide you with tips and tools to help you study smarter.

Psychologist 05	Students can mitigate the long-term effects of cramming by refraining from it and adopt healthier study habits, thus avoiding the use of stimulants and steroids. Additionally, they can boost their self-confidence and enhance their ability to absorb information.

Q7: If you could give some advice to students regarding healthy study habits and managing academic stress, what would it be?

Table 23: *Advice for Healthy Study Habits and Academic Stress Manegment*

Psychologists	Answers
Psychologist 01	The advices directed to students are to completely avoid academic cramming and adopt proper study methods for exam revisions, engage in physical exercise, and get proper sleep.
Psychologist 02	We advise students to get sufficient sleep and avoid staying up late, which often leads to sleepless nights. They should establish a well-organized daily schedule for reviewing lessons and find enjoyment in the learning process.
Psychologist 03	These are some advice to students regarding healthy study habits and managing academic stress: • Choose nutritious foods to fuel your body and brain for optimal studying. • Prioritize getting sufficient sleep by avoiding late nights and ensuring you rest well. • Engage in various sports activities as they can alleviate mental stress, energize your body, and boost overall well-being. • Practice effective time management by regularly reviewing your lessons and staying organized.
Psychologist 04	The advice I give to students regarding healthy study habits and effectively managing academic stress are: _Plan a study schedule which involves breaks to avoid burnout. _Exercise regularly to boost your mood and heightened your alertness. _Make sure you have AT least 7-9 hours of sleep each night to

	allow your brain and your body have a sufficient amount of rest. _Give yourself short breaks during study sessions to avoid fatigue. _Don't hesitate to ask for help from teachers and classmates if you're feeling overwhelmed.
Psychologist 05	Here is some advice to students regarding healthy study habits and managing academic stress: _ Create conducive conditions for daily review. _ setting goals for each semester. _ setting up a daily program to avoid stress. _ self-confidence and avoiding associating the ability of studying to stimulants and steroids.

Résumé

L'adoption des stratégies d'étude efficaces et appropriées est une décision cruciale que tous les étudiants doivent prendre avec soin. Ainsi, la dépendance répandue à l'égard du bachotage parmi les étudiants soulève des préoccupations importantes quant à l'efficacité de cette stratégie d'étude controversée. Bien que de nombreux étudiants se tournent vers des sessions d'étude concentrées de dernière minute dans l'espoir d'améliorer leurs performances avant les examens ou les délais, le bachotage conduit fréquemment à des résultats négatifs, affectant à la fois leur succès académique et leur bien-être général. L'étude menée à l'Université MUC Abd Elhafid Boussouf est une enquête sur les répercussions du bachotage sur les réussites académiques (notes) et le bien-être général des étudiants en première année de master en anglais. L'objectif principal de cette recherche est de plaider pour des stratégies d'étude efficaces en sensibilisant les étudiants aux ramifications du bachotage en répondant aux questions suivantes : Dans quelle mesure le bachotage impacte-t-il les notes des étudiants de première année de master ? Comment pouvons-nous sensibiliser les étudiants aux impacts négatifs du bachotage ? Quelles stratégies les étudiants peuvent-ils utiliser pour éviter le bachotage ? Pour répondre à ces questions, une approche de recherche mixte a été utilisée, intégrant des données quantitatives provenant d'un questionnaire complet réalisé à la MUC avec 50 étudiants, et des insights qualitatifs provenant d'entretiens semi-structurés avec cinq psychologues éducatifs affiliés à « L'Institution de Santé Publique de Ferdjioua-Mila ». La combinaison des approches quantitative et qualitative fournit à la recherche une gamme plus large de données, ce qui conduit à une compréhension plus approfondie du phénomène étudié et augmente la fiabilité et la validité des résultats. Les résultats de l'étude indiquent que la plupart des étudiants ont remarqué un effet négatif du bachotage sur leurs réussites académiques (notes) et leur bien-être. De plus, les cinq psychologues éducatifs soulignent les effets néfastes du bachotage sur la santé physique et mentale des étudiants et leur fonctionnement cognitif. Le consensus général est sur l'inefficacité du bachotage en tant que stratégie d'étude à long terme et sur la nécessité d'adopter des stratégies d'étude alternatives.

Les mots clés : bachotage, stratégie, notes, investigation, élèves, effets.

ملخص

يعَدُ الاعتماد على استراتيجيات الدراسة الفعّالة أمراً بالغ الأهمية يتعين على الطلاب إدراك ضرورته. ومن هنا، فإن الاعتماد المتكرر على استراتيجية الحشو بين الطلاب يثير مخاوف جمة حول فعاليتها المثيرة للجدل. ففي حين يلجأ العديد من الطلاب إلى جلسات الدراسة المكثفة في اللحظات الأخيرة على أمل تحسين أدائهم قبل الامتحانات أو المواعيد النهائية، فإن الحشو غالباً ما يسفر عن نتائج سلبية تؤثر على نجاحهم الأكاديمي وسلامتهم العامة. وقد هدفت هذه الدراسة التي أُجريت في المركز الجامعي عبد الحفيظ بوصوف – ميلة – إلى استقصاء تأثيرات الحشو على التحصيل الأكاديمي (الدرجات) وصحة طلاب السنة الأولى ماستر في قسم اللغة الإنجليزية. فالهدف الرئيسي من هذا البحث هو الدعوة إلى تبني استراتيجيات دراسة فعّالة من خلال توعية الطلاب بعواقب الحشو، وذلك بالإجابة على الأسئلة التالية: إلى أي مدى يؤثر الحشو على درجات طلاب السنة الأولى ماستر؟ كيف يمكننا توعية الطلاب بالتأثيرات السلبية للحشو؟ ما هي الاستراتيجيات التي يمكن أن يستخدمها الطلاب لتجنب الحشو؟ وللإجابة على هذه الأسئلة، تم استخدام منهجية بحث مختلطة تجمع بين البيانات الكمية من استبيان شامل أُجري في المركز الجامعي – ميلة – مع 50 طالباً، والبيانات النوعية من مقابلات شبه منظمة مع خمسة أخصائيين نفسيين تربويين منتمين إلى "المؤسسة العمومية للصحة بفرجيوة – ميلة". توفر هذه المجموعة من الأساليب الكمية والنوعية مدى أوسع من البيانات، مما يسهم في فهم أعمق لهذه الظاهرة ويزيد من موثوقية وصحة النتائج. وتشير نتائج الدراسة إلى أن معظم الطلاب لاحظوا تأثيراً سلبياً للحشو على كل من تحصيلهم الأكاديمي (الدرجات) وسلامتهم. بالإضافة إلى ذلك، يؤكد الأخصائيون النفسيون الخمسة على التأثيرات الضارة لهذه الاستراتيجية على الصحة الجسدية والعقلية والوظائف المعرفية للطلاب. وفي الختام، تبرز الدراسة أن الحشو غير فعّال كاستراتيجية دراسة طويلة الأمد وتؤكد على ضرورة تبني استراتيجيات دراسية بديلة وفعالة .

الكلمات المفتاحية: الحشو ، استراتيجية، تحقيق، طلاب، آثار .