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Research Article

A Comparative Study Between Pomodoro Technique and Flowtime Technique Among College Students

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ABSTRACT

This comparative research utilized mixed methods to analyze Pomodoro and the Flowtime study techniques and examine demographics, students' preferences, efficacy, and gaps. Data were gathered through a virtual interview with 12 students and physical and online survey questionnaires among 108 students. Descriptive qualitative analysis revealed that the Pomodoro technique is effective in structured environments, especially for those who need uninterrupted focus while the Flowtime technique proves its efficacy for deep work and creativity but in less controlled environments. Results indicated that 55.6% of respondents preferred the Pomodoro technique for its structured intervals, stress-reducing breaks, and productivity tracking, although its rigid scheduling was noted as a limitation, and 44.4% favored the Flowtime technique for its immersive focus and task engagement, but it was less effective when motivation was low. The quantitative data support that the Pomodoro technique is more effective than the Flowtime technique in terms of memory retention, academic performance, and time management with a difference of 0.14 from their grand means. The grand mean concerning the gaps implies that Pomodoro is more ineffective than the Flowtime technique in terms of lack of focus, inflexibility, and reduced motivation with a difference of 0.11. Overall, the study establishes that the qualitative conclusions align with the quantitative findings with minute discrepancies in some factors, including academic success and time management under the Pomodoro technique, as well as inflexibility in using the Flowtime technique.

Keywords: *Pomodoro, Flowtime, academic tasks, student preferences, task complexity*

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Introduction

Each student prefers a particular way of studying based on their learning pattern, their behavior, and the pace they maintain, and these will contribute to whether their performance in school improves or deteriorates. Choosing and using the right study method is thus critical to attaining improved academic performance. Typically, students can either take a methodical strategy with spaced intervals or a steady learning habit that provides total immersion into the topic. Pomodoro Technique is a systematic approach to gaining control over time and turning it into a productivity tool by set work-and-break periods (Que et al., 2023), whereas the Flowtime Technique encourages full concentration on a job without predetermined time limitations so that continuous focus and creativity are possible (Goldfinch, 2015). Although both techniques are widely used—often unconsciously—there is limited empirical evidence directly comparing their effectiveness, particularly in the context of Filipino college students.

Previous studies have explored Pomodoro's benefits in time management and productivity, and Flowtime's role in deep focus and engagement, but few have compared their relative effectiveness within a single framework. This is an important gap in the Philippine context, with the 2022 Programme for International Student Assessment (PISA) positioning the nation as low in reading, science, and mathematics. Although it has been researched what contributes to curriculum quality, teacher ability, and student preparedness, the impact of certain study approaches on scholarly performance is not well examined. This study fills the gap by comparing both approaches on their effects on memory retention, academic performance, and time management of local college students. Particularly, it seeks to define the respondents' demographic profile by way of age, sex, and course; assess which study method—Flowtime or Pomodoro—is used by more college students; identify which method is better regarding memory retention, academic performance, and time management; and analyze the importance of both methods on these same areas. In doing so, the research aims to give evidence-based information that can be used to help students choose and tailor a study method that is most suited to their learning style and academic requirement.

Literature Review

Pomodoro Technique

Today's college students have been into a lot of studying, and have been seeking methods and techniques to help them accomplish their tasks. In accordance to Francesco Cirillo created the "Pomodoro" technique in the late 1980s, it is known for its time management method that breaks tasks, and projects into focused intervals, usually 25 minutes long and 5 minutes break periods for every session, and after a cycle of four rounds, a longer break is advised to energize again (Vaishya et al., 2023).

The name "Pomodoro," which means tomato in Italian, comes from the kitchen timer Cirillo used while studying at university. This method aims to promote sustained focus and prevent burnout by encouraging regular mental breaks. Psychological research backs up the reasoning behind this technique. Lleras (as cited in Radvansky, 2007) points out that long periods of focus without breaks can lead to mental disengagement. In contrast, short, intentional breaks help maintain interest and improve retention. Pomodoro aligns with cognitive theories of learning that stress alternating periods of intense and relaxed thinking to enhance memory and problem-solving. The technique has also been successfully applied in various settings, such as office work, writing, and editing, because it helps break large tasks into manageable pieces (Vaishya et al., 2023).

The Pomodoro Technique is defined by its organized processes, tools, and ideas designed to turn time from a source of stress into a productivity partner (Que et al., 2023). By organizing short intervals of deep focus with intentional breaks, it helps ease study-related stress and maintain performance over longer periods (Pittsburgh, 2016). Research indicates that it can be particularly useful for academic writing and research tasks, where meeting deadlines requires consistent and organized effort (Vaishya et al., 2023). The method's basic ideas, as outlined by McDonnell (2019), include reducing anxiety that hinders productivity, improving the brain's capability for sharper focus

and awareness, and simplifying task completion through gradual mastery.

While the benefits are well known, the literature also points out some limitations. The fixed interval structure can disrupt flow during complex or creative tasks that need longer periods of uninterrupted focus. In comparison to the Flowtime Technique, which tailors work sessions to the natural pace of the task, Pomodoro may offer less flexibility in ever-changing or unpredictable study situations. Moreover, most existing studies focus on productivity results but provide little insight into how these benefits may differ across various learning styles or cultural settings. Therefore, while Pomodoro remains a commonly recommended method for structured environments, further research is necessary to explore how its fixed scheduling can be adjusted to meet the needs of tasks that demand deep, ongoing engagement.

Flowtime Technique

Apart from other study techniques, the Flowtime Technique is an effective approach for accomplishing complex tasks, characterized by complete immersion in an activity where nothing else feels more important than the task at hand. This state of deep engagement, often referred to as "flow," has been linked to activities such as dancing, music, arts, and competitive sports (Goldfinch, 2015).

In learning, achieving a flow state can greatly improve focus, engagement, and task performance. Flow happens when the challenge of a task matches a person's skill level. If the task is too easy, boredom can set in. If it is too hard, anxiety or overwhelm may arise (Goldfinch, 2013). This balance makes the technique effective for both engaging tasks and academic settings that require flexibility, such as lectures, discussions, and seminars. It is also helpful in structured situations like summarizing complex topics or preparing outlines (University Library, 2024).

One advantage of the Flowtime Technique is that it encourages active participation that is both thorough and thought-provoking. Learners integrate relevant information naturally, making each task meaningful and connected (University Library, 2024). Csikszentmihalyi (1990) notes that full attention during a flow state reduces distractions and lowers self-doubt, ultimately improving one's quality of life. This supports Goldfinch's (2015) point that flow can turn ordinary activities into enjoyable and engaging experiences, thus speeding up the learning process. Additionally, frequent flow experiences are linked to a greater sense of achievement and skill, benefiting individuals and their interactions with others (Csikszentmihalyi, 1990).

However, while the benefits of flow in learning are well-documented, there are also limitations. Most studies focus on its positive psychological and performance effects but provide few comparisons with structured time management methods like the Pomodoro Technique. Moreover, the need for uninterrupted focus in the Flowtime Technique may create challenges in uncontrolled environments where distractions are common. This means that while Flowtime is excellent for deep work and creativity, it may not always be suitable for academic settings that require multitasking or take place in noisy areas. Therefore, more research is needed to find ways to maximize the advantages of Flowtime while addressing its limitations, especially in comparison to more structured study methods.

Theoretical Framework

This study utilizes the Cognitive Load Theory (CLT), introduced in the 1980s by John Sweller as its guiding framework, this is an instructional theory based on perception with regard to human cognition. It simply explains the interplay between the limited capacity and duration of working memory and the vast but permanent storage of long-term memory. Learning occurs when new information is processed in working memory and then incorporated in long-term memory as schemas, which simplify complex tasks by organizing knowledge into manageable units. CLT addresses the three kinds of cognitive load: intrinsic, entailing the inherent difficulty of the task; extraneous, contributing to distractions or poorly designed instructions; and germane, which supports the construction and refinement of schemas. Good instructions eliminate unnecessary extraneous load while taking maximum effect of intrinsic and germane loads to promote learning. Thus,

learning design needs to create environments that house working memory within those limits, using combinations of techniques such as chunking, providing worked examples, and avoiding redundant information. Indeed, instruction is designed to reduce cognitive overload through superior transforms that create a fast learning experience in meaningfulness.

This theory has a special relationship with the Pomodoro and Flowtime techniques because both methods mean managing cognitive load with time to achieve the goal of sharpening mental focus and improving productivity. In structure, work and rest intervals structure possible work yet translate extraneous load such that it does not manifest in cognitive fatigue but tasks remain manageable. On the other hand, the flow approach refers to the challenge of keeping a task within the task skill level, attaining a kind of immersion that very much coincides with the Germane classification. This study can hasten the integration of these methods into CLT research.

Methodology

Design. This comparative research utilized a mixed methods design to compare the efficiency between the Pomodoro and Flowtime techniques. According to Iranfard and Roudsari (2022), comparative research is the investigation of at least two cases about the similarities and differences between them. Meanwhile, Creswell and Plano Clark (2018) state that mixed methods research brings together qualitative and quantitative approaches to give an overall understanding of the research problem. This method is usually employed by researchers looking at an issue in multiple settings, both quantitatively and qualitatively. In the present study, researchers employed interviews as the most common means of collecting opinions from a sample that can represent a larger population. This survey fits very well into the context since it enables one to make broad generalizations. The most important advantage of this design is that it allows the inclusion of quite a large representative sample and gathers statistics to ensure reliability and validity in the data collected through a quantitative approach.

Participants. The study was conducted among college students of a state university in the northern part of Panay Island in the Visayas, Philippines. All the students were approximately 17-30 years old. A total of 108 students from different programs and majors were chosen through a non-probability convenience sampling method for this study.

Meanwhile, the researchers conducted virtual interviews with a total of 12 students from the same population representing different programs such as the College of Teacher Education, College of Business and Management, College of Arts and Sciences, College of Nursing, College of Agriculture, Forestry, and Environmental Sciences, and the School of Veterinary Medicine. The interviewees were selected through a stratified sampling method. This approach would provide a thorough understanding of students' experiences with the Pomodoro and Flowtime techniques and ensure the diversity of perspectives. Open-ended questions have been countersigned to fit their study preferences, difficult times, and perceptions of the methods. The college students that were included in the study represent a diverse section of the university population, offering a broad perspective on the effectiveness of the Pomodoro and Flowtime techniques.

The interviews were held to check if the survey results reflected the participants' real experiences and opinions. The questions were designed based on the main themes from the survey findings, making sure they directly addressed and explored those results.

Data Collection. Adaptive survey questionnaires served as instruments for obtaining quantitative findings which was inspired by Villarin (2023). The survey questionnaire consisted of four parts: Section A consisted of the demographic profile of the respondents such as sex, age, year level, and department. Section B attempted to determine the preference of students between the Pomodoro and Flowtime Techniques. Meanwhile, Section C aimed to discover the Efficacy of the Pomodoro and Flowtime techniques. For Section D, the gaps between the Pomodoro and Flowtime techniques would be deciphered.

In search of qualitative data, researchers employed the stratified sampling method for the online interviews which studied the learning behavior and challenges faced by students

in regard to their experience with the Pomodoro and Flowtime techniques. Gathered information drawn from such interviews provided very interesting context for the findings as it seeks resemblance and disparity from the quantitative survey, offering a more nuanced understanding of the study methods.

Following standard procedure, an official request letter was presented to the Office of the Vice President for Academic Affairs and was approved, with permission granted to carry out data collection. Furthermore, respondents were provided with informed consent forms so that their rights were safeguarded and ethical procedures were followed.

Data Analysis. In this research, the five-point Likert scale was used by the individual respondent to evaluate the given items. The respondents were asked to rate each factor using the following scale:

Descriptive Interpretation		
Scale	**Range**	**Description**
5	4.21 – 5.00	Strongly Agree
4	3.41 – 4.20	Agree
3	2.61 – 3.40	Neutral
2	1.81 – 2.60	Disagree
1	1.0 – 1.80	Strongly Disagree

Descriptive Interpretation			
Scale	**Range**	**Description**	
		Efficiency	**Gaps**
5	4.21 – 5.00	Extremely Effective	Extremely Ineffective
4	3.41 – 4.20	Very Effective	Very Ineffective
3	2.61 – 3.40	Effective	Ineffective
2	1.81 – 2.60	Somewhat Effective	Somewhat Ineffective
1	1.0 – 1.80	Not Effective	Effective

To gauge the overall difference between the effectiveness of Pomodoro and Flowtime study techniques, the grand means of both methods were identified using the following descriptive interpretations which were adopted from Galang and Galang (2017):

Findings and Discussions

Profile of Respondents

Sex. The table illustrates that there are more female college students than males in this survey. This division of sex may influence the results, as earlier research indicates female students usually prefer organized and disciplined study habits, which may affect the greater use of methods such as Pomodoro.

Age. Table 2 displays the age requirements of the respondents. The data indicate that a majority of them are aged 19-21, a year where students are exposed to higher academic pressures. It is at this level that time management techniques like Pomodoro or marathon concentration techniques such as Flowtime may become significant in sustaining academic performance.

Table 1. Sex of the Respondents

Sex	***f***	***%***
Male	34	31.5%
Female	74	68.5%
Total	*108*	*100%*

Table 2. Age of Participants

Age	***f***	***%***
17	2	1.9%
18	13	12%
19	30	27.7%
20	24	22.2%
21	19	17.6%
22	14	13%
23	3	2.8%
24	1	0.9%
25	1	0.9%
31	1	0.9%
Total	*108*	*100%*

Year Level. Table 3 shows nearly half of the respondents are 2nd year, then 3rd year, 1st year, and 4th year college students. Second-year dominance implies most respondents are at a transition stage to more advanced coursework, where a balance of cognitive load through intervaled structures or focus sessions with duration is necessary.

Department. Table 4 shows that the College of Arts and Sciences registers the highest response, followed by the School of Veterinary Medicine, the College of Teacher Education, the College of Business and Management, the College of Nursing, and the College of Agriculture, Forestry, and Environmental Sciences. Varying disciplines mean different cognitive demands, and theory-rich fields could benefit more from Flowtime's immersion while task-varied fields would likely like Pomodoro's segmentation.

Table 3. Year Level of Participants

Year Level	***f***	***%***
1st Year	17	15.7%
2nd Year	53	49.1%
3rd Year	24	22.2%
4th Year	14	13%
Total	*108*	*100%*

Table 4. Department of Participants

Department	***f***	***%***
College of Teacher Education	20	18.5%
College of Business and Management	12	11.1%
College of Arts and Sciences	35	32.4%
College of Nursing	7	6.5%
College of Agriculture, Forestry and Environmental Sciences	5	4.6%
School of Veterinary Medicine	29	26.9%
Total	*108*	*100%*

Student Preferences Between Pomodoro and Flowtime Techniques

As shown in Table 5 below, it is evident that over half of the participants have a preference for Pomodoro against Flowtime. This indicates that structured and systematic breaks enhance mood and productivity, and students are able to achieve the same work in a shorter time than during unstructured study sessions, as Biwer et al. (2023) observe.

Reason of Use (Pomodoro)

The table below says that they use the Pomodoro Technique because they can take short breaks that help them to relieve stress, to be followed by those who say they can track their productivity and it gives them the feeling of accomplishment and so on. However, the fewest of the students agreed that they could give full attention and do tasks well. Pomodoro Technique is a technique that adheres to the cognitive load theory. The learner's brain is only exposed for a brief period of time to information and learning, followed by a break to allow activation of the diffused mode of thinking; this is another reason why Pomodoro follows the neuroscience learning of focused and diffused mode of thinking (Zahariades, 2015; Burton, 2016).

Table 5. Study Technique Preferences of Participants

Study Technique Preferences	***f***	***%***
Pomodoro	60	55.6%
Flowtime	48	44.4%
Total	*108*	*100%*

Table 6. Reasons of Using the Pomodoro Technique

Reason of Use (PT)	***f***	***Rank***
I get focused on work blocks and focus deeply on one task at a time.	31	5
I can take a short break that helps me to relieve my stress.	49	1
I can track my productivity and it gives me the feeling of accomplishment.	39	2
The timer reminds me to stay on track and avoid procrastination.	33	3
Through breaking down each task it makes everything easy to do.	33	3
It prevents me from being burned out.	31	5
I can stay productive without being drained.	32	4
I can give my full attention and do it well.	24	6

Reason of Use (Flowtime)

Based from Table 7 below, 34 of the Flowtime technique users agree that they feel so fulfilled as they accomplish each task, having that to our rank 1, followed by motivation in finishing tasks to do other personal interests and enjoyment of the process and so on. A study by Moral-Bofill (2022) in Psychology found that being in a flow state is linked to increased intrinsic motivation. In other words, you're more likely to dive into and enjoy tasks when you're in the zone. Neuroscientists also suggest that during a state of flow, the prefrontal cortex—the part of your brain responsible for self-reflection and critical thinking—temporarily quiets down.

Efficacy of Pomodoro and Flowtime Techniques

The tables demonstrate the effectiveness of Pomodoro and Flowtime strategies as regards Memory Retention, Academic Performance, and Time Management. Each measure has statements along with corresponding means that offer insight into the relative merit of the two approaches.

Mean of Statement Indicators

Memory Retention

As Table 8 indicates, both methods are found to enhance learners' memory retention. This result differs from Que et al. (2023), indicating no significant effect of Pomodoro on memory retention, which implies that its influence might be contingent upon learner context and application. In contrast, the results confirm with The Company Cebu (2023), which posits that Flowtime increases focus and productivity, which can potentially enhance memory retention. This difference emphasizes that how well the two methods work can be influenced by personal study habits and task types.

Table 7. Reasons of Using Flowtime Technique

Reason of Use (FT)	***f***	***Rank***
It feels so natural and so effortless.	24	4
I can take a short break that's quite challenging but not too overwhelming	23	5
It feels so fulfilling as I accomplish each task.	34	1
I'm uninterrupted and I can fully concentrate.	25	3
I can do what interests me, and it motivates me to finish each task.	30	2
I can let my rhythm guide me rather than be anxious with time	20	7
I enjoy the simultaneous learning that keeps me engaged.	21	6
I'm enjoying the process of doing it.	30	2

Table 8. Technique that Improves Memory Retention

Item Description	***x̄***	***DI***
Pomodoro		
Use intervals over 25 minutes	3.86	Agree
Enable to concentrate and improve memory	3.78	Agree
Manages to save time and absorb information efficiently	4.31	Strongly Agree
Flowtime		
Use time more effectively	3.94	Agree
Has rigid and flexible structure	3.68	Agree
Finish in less time with more chances of remembering exercises	3.73	Agree

Academic Performance

Table 9 illustrates that learners that use both Pomodoro and Flowtime techniques can enrich their academic performances. Several studies have reported that the Pomodoro technique is an effective method to learn new information and combat academic procrastination and difficult battle topics, enhancing retention, understanding of concepts, and academic performance. The application of brain breaks during focused learning has been studied across all academic terms and has been shown to be beneficial in overall academic learning (Burton, 2016; Kuan et al., 2019; Sani et al., 2019). Furthermore, students entering flow in both online and traditional classes enhance their academic performance (Ardura and Artola, 2017; Sumaya and Darling, 2018).

Table 9. Technique that Enriches Academic Performance

Item Description	***x̄***	***DI***
Pomodoro		
Helps improve self-discipline	3.88	Agree
Boosts performance in less time	3.79	Agree
Gives fulfillment in every work done	3.94	Agree
Flowtime		
Allows to finish difficult academic challenges	3.69	Agree
Aligns focus and energy with complex topics	3.80	Agree
Motivates optimum results and enables to be more academically successful	3.72	Agree

Time Management

As indicated in Table 10a, the integration of both Pomodoro and Flowtime techniques as a learning strategy can heighten the time management skills of students. Iyengar et al. (2024) believe that the Pomodoro technique can be an efficient time management technique in medical academic publishing since it improves focus, increase speed, and productivity concerning research content. Meanwhile, the data supports the viewpoint of Posey (2024), emphasiz-

ing the flexible structure of the flowtime technique which makes learners immerse and work effectively in heavy tasks, breaking disruption while increasing productivity.

A. Grand Mean of General Indicators (memory retention, academic performance, time management)

Table 11 indicates that both Pomodoro and Flowtime work well, but Pomodoro has higher ratings in memory retention, academic achievement, and time management. Its organized intervals ensure consistent pacing and organization, which makes it more widely reliable. Flowtime is also useful but relies heavily on the learner's motivation and self-regulation.

Table 10. Technique that Heightens Time Management

Item Description	***x̄***	***DI***
Pomodoro		
Handle tasks effectively	3.93	Agree
Provides systematic schedule	3.87	Agree
Streamlines study time and balance academic workloads	3.82	Agree
Flowtime		
Learn organizing schedule and other tasks in a constant manner	3.77	Agree
Finish tasks efficiently	3.82	Agree
Avoids distraction	3.80	Agree

Table 11. Grand Mean of General Indicators

	x̄	***x̄***	***x̄***	***X̄G***	***DI***
Memory Retention					
Pomodoro	3.86	3.78	4.31	3.98	Agree
Flowtime	3.94	3.68	3.73	3.78	Agree
Academic Performance					
Pomodoro	3.88	3.79	3.94	3.87	Agree
Flowtime	3.69	3.80	3.72	3.74	Agree
Time Management					
Pomodoro	3.91	3.87	3.82	3.87	Agree
Flowtime	3.77	3.82	3.80	3.80	Agree

Gaps of Pomodoro and Flowtime Techniques

While each of these techniques has its advantages, they have their disadvantages. Pomodoro's strict timing can interfere with attention and restrict flexibility, and Flowtime's non-structured nature can lead to distraction and over-engagement. These weaknesses indicate that the methodology needs to be suited to the student's setting, type of task, and personality.

A. Mean of Statement Indicators

Lack of Focus

Based from Table 12a below, the general viewpoint of participants agreed that the Pomodoro technique diminishes their focus. This contrasts with the study of Golovkova (2016) which showed that the Pomodoro Technique improves focus on complex tasks. Moreover, it invalidates its use to achieve a focused, timed work session to accomplish a series of tasks (Gobbo & Vaccari, 2008). In terms of the flowtime technique, most of the statement indicators were agreed upon by the respondents while some perceived it as neutral from their observation.

Inflexibility

Table 12b shows that participants agreed that the Pomodoro technique has time constraints and its timed breaks disrupt their focused state while neutrally, they view its system as difficult for unexpected shifts of schedules. This finding contradicted the study by Pedersen et al. (2024) where they concluded that the Pomodoro tool has resulted in

customized productivity and cases of collaborative efforts toward a better work-life balance. On the other hand, two statement indicators from the flowtime technique are considered neutral by the students while one remaining has been agreed as relevant. The data do not align with the article by Parker (2024) where he stated that the Flowtime technique attunes natural rhythms and work patterns and paying attention to its preferences can help prioritize tasks, allocate time effectively, and avoid over-scheduling

Table 12a. Indicators Showing the Effects of Pomodoro Techniques to Focus

Item Description	***x̄***	***DI***
Pomodoro		
Needs to stop and take a break that hinders concentration	3.55	Agree
Needs longer stretches to grasp complex concepts	3.45	Agree
Works on longer periods with high engagement and takes breaks if needed	3.47	Agree
Flowtime		
Gets easily distracted by external factors	3.87	Agree
Makes focus hard due to immersion to the study time frame	3.90	Neutral
Makes focus hard if not motivated to study	3.60	Agree

Table 12b. Indicators Showing the Effects of Pomodoro Techniques to Inflexibility

Item Description	***x̄***	***DI***
Pomodoro		
Forced to stop in challenging concepts	3.49	Agree
Interrupts focus due to timed breaks	3.44	Agree
Difficult to adapt to unexpected changes in schedules and learning needs	3.43	Neutral
Flowtime		
Leads to feel rushed and unrested	3.47	Agree
Evokes the feeling of being overwhelmed due to consistent study	2.92	Neutral
Treats all tasks equal that leads to inefficient time management	3.33	Neutral

Reduced Motivation

Table 12c reveals that the Pomodoro technique compromises the motivation of learners as agreed by the participants. Meanwhile, pertaining to the flowtime technique, students neutrally consider it as a means to decrease learners' intrinsic motivation and make them stressed and unproductive due to discomfort with the method. Moreover, students agreed that the flowtime technique evokes restrictive influence, especially for those who are self-driven in their work schedules. The results disagree with the conclusion of Dizon et al. (2021) that both time management interventions did not show a significant difference in the academic motivation and procrastination of the respondents during the conducted pre-tests and post-tests.

Table 12c. Indicators Showing the Effects of Pomodoro Techniques to Motivation

Item Description	***x̄***	***DI***
Pomodoro		
Short work sessions may not be enough time to achieve a sense of accomplishment	3.42	Agree
Frequency can disrupt that makes it harder to get back motivation	3.44	Agree
Students find it more motivating to work in longer intervals	4.13	Agree
Flowtime		
Feels restrictive especially for those who prefer to work at their own pace	3.51	Agree
Needs to feel forced that declines intrinsic motivation to learn deeply	3.39	Neutral
The rigidity of the method feels stifling which results to stress	3.26	Neutral

B. Grand Mean of General Indicators (lack of focus, inflexibility, reduced motivation)

Table 13 affirms that students view Pomodoro as more disadvantageous in terms of lack of concentration, rigidity, and lower motivation than Flowtime, but only by a narrow margin. This is not to say Pomodoro does not work—more that its strict scheduling is more likely to conflict with tasks needing longer periods of concentration or flexibility. Flowtime's comparative neutrality regarding inflexibility and motivation indicates that although it might involve fewer structural hindrances, it also largely relies on the student being able to self-regulate and create an effective study atmosphere. Taken together, these trends indicate that neither approach is necessarily best for all learners. Rather, their strengths and limitations suggest the possible utility of a hybrid approach—applying Pomodoro's blocks of time to formal, routine work and Flowtime's immersion to innovative or difficult tasks. This strategy could offset the shortcomings of each while capitalizing on their combined strengths.

Overall Comparison Between Pomodoro and Flow Method Techniques

A. Grand Mean of the Efficacy of Pomodoro and Flowtime Techniques

Table 14 indicates that both Pomodoro and Flowtime are rated as very effective, but Pomodoro holds a slight edge with a 0.14 higher grand mean. This suggests that Pomodoro's structured intervals may deliver more consistent benefits across memory retention, academic performance, and time management. Flowtime remains highly effective, but its success is more dependent on the learner's ability to self-regulate and maintain focus.

Table 13. Summary Table for the General Indicators

	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{XG}$	*DI*
Lack of Focus					
Pomodoro	3.55	3.45	3.47	3.49	Agree
Flowtime	3.87	2.90	3.60	3.46	Agree
Inflexibility					
Pomodoro	3.49	3.44	3.40	3.44	Agree
Flowtime	3.47	3.92	3.33	3.24	Neutral
Reduced Motivation					
Pomodoro	3.42	3.44	4.13	3.66	Agree
Flowtime	3.51	3.39	3.26	3.39	Neutral

Table 14. Summary of the Efficacy of Pomodoro and Flowtime Techniques

	MR	*AP*	*TM*	$\bar{XG}$	*DI*
Pomodoro	3.98	3.87	3.87	*3.91*	*Very Effective*
Flowtime	*3.78*	*3.74*	*3.80*	*3.77*	*Very Effective*

B. Grand Mean of the Gaps of Pomodoro and Flowtime Techniques

Table 15 shows that both techniques have weaknesses, but Pomodoro is rated slightly more ineffective overall, with a 0.11 higher grand mean in lack of focus, inflexibility, and reduced motivation. This reflects the challenges of its rigid time blocks, which can disrupt concentration. Flowtime's lower gap score suggests fewer perceived limitations, though it still carries risks if not paired with strong self-management skills.

Students' Perception of the Pomodoro and Flowtime Techniques

This final section will delve into the different perspectives of college student participants toward the Pomodoro and Flowtime study techniques through qualitative descriptive analysis. It will highlight questions pertinent to the above-mentioned factors of the efficiency and gaps of the said techniques. This in-depth review discusses that all the qualitative conclusions appeared congruent to the quantitative findings with slight discrepancies in some

factors, including academic success and time management under the Pomodoro technique, as well as inflexibility in using the Flowtime technique.

The interview responses revealed a detailed comparison between the Pomodoro Technique and the Flowtime Technique in terms of effectiveness and gaps. Based on the students' opinions, the Pomodoro Technique has been effective for students who do well in structured environments as opposed to those who need uninterrupted focus. Flowtime Technique, on the other hand, is excellent for deep work and creativity but rather tricky in less controlled environments. Meanwhile, both techniques need to complement the task complexity, one's preferences, and external conditions before these approaches become effective.

Table 15. Summary of the Gaps of Pomodoro and Flowtime Techniques

	LF	***I***	***RM***	***¯XG***	***DI***
Pomodoro	3.45	3.47	3.49	*3.47*	*Very Ineffective*
Flowtime	*3.46*	*3.24*	*3.39*	*3.36*	*Ineffective*

Q1: How do you think the technique affects the memory retention of students?

Students who Preferred Pomodoro

Student A: It is efficient for some people who are used to this technique because it gives resting time for the brain and does not overuse it.

Student B: The Pomodoro Technique positively affects memory retention because it incorporates alternating periods of focused study and breaks, allowing the brain to absorb information without overwhelming it. This structured approach minimizes burnout and creates a more effective learning process, giving students time to consolidate what they've learned.

Student C: The Pomodoro Technique can significantly enhance memory retention by breaking study sessions into focused intervals (typically 25 minutes), I can concentrate better without feeling overwhelmed. The frequent breaks allow my brain to process and consolidate information, which is crucial for retaining complex material like pharmacology or pathophysiology.

Student D: The Pomodoro Technique would have a positive impact when it comes to their memory retention depending on how many subjects and lessons they need to study and how complicated/complex the subjects are. And for me, students can't really concentrate and learn properly without breaks.

Student E: The Pomodoro technique affects the memory retention of a student by breaking down study sessions so that this student can focus on one task only, which leads to deeper processing of information.

Student F: For me, the Pomodoro Technique helps because it breaks down study sessions into smaller, focused intervals, which is perfect since I have a tendency to lose focus quickly. The short bursts of concentrated work make it easier to encode information in chunks, improving retention without overwhelming my mind.

It states that Pomodoro is effective due to the alternation of focused intervals and breaks. The brain does not become overloaded and is able to absorb the material, with better consolidation of knowledge. The technique is most helpful in complex or lengthy subjects, as it prevents mental exhaustion. The statements given through the interview support the quantitative findings wherein memory retention obtains a grand mean of 3.98. This explains that the intervals created by the Pomodoro technique will allow students to absorb and remember better.

Students who Preferred Flowtime

Student A: The flowtime technique enhances my memory retention by immersing students in a highly focused and enjoyable state. Students tend to engage fully and are more likely to absorb the information, which aids in long-term retention.

Student B: The Flowtime Technique improves memory consolidation through deep focus without thinking or even noticing the time.

Student C: When I use Flowtime Technique, I can concentrate deeply, which helps me remember things for a long period of time and makes it easier for me to recall the information.

Student D: Your brain is focused only on the goal you set, it gives you a chance of a higher retention level because there are no interruptions as your brain grasps that knowledge.

Student E: When students are fully engaged in their studies, they are better able to recall information and concentrate on the task at hand leading them to have high or better memory retention. For instance, if you are given a difficult assignment yet you apply this certain method, it is easy for you to catch up and is likely to remember what you review, which results in a passing grade or most likely to get high remarks.

Student F: The Flowtime Technique helps me remember stuff better because I'm focused. When I'm totally into my studies, I soak things up more easily.

In this technique, memory gets improvised, as it allows students to get into a good phase of concentration without interruption. These long periods get better recall and comprehension and are suitable for the retention of great or complex information. Both qualitative and quantitative results concerning memory retention, strongly support their individual findings as the descriptive analysis demonstrates an overall mean value of 3.78. Also, there are also passages from the interview answers, stressing how students wearing uninterrupted focus recall and understand much better complex information. Therefore, both sources are conclusive that Flowtime is effective for remembering skills.

Q2: Based on your own experience, does the technique improve your academic performance?

Students who Preferred Pomodoro

Student A: Yes, it improves my academic performance through the process, and having breaks helps me to accomplish my tasks.

Student B: When I tried it before, I found that the 20-minute study sessions felt too short, especially when I was deeply focused. If I stopped after 20 minutes to take a 5-minute break, I would often exceed that break time because I'd get distracted by my phone or other activities. I personally prefer studying for longer periods, such as an hour straight, followed by a 20-minute break. This method suits my focus and productivity better.

Student C: Based on my experience, the Pomodoro Technique has improved my academic performance. It helps prevent burnout. After implementing this method, I've noticed that I can cover more lessons effectively in a shorter time, which has positively impacted my test results.

Student D: Yes, I can say that Pomodoro Technique helped me improve my academic performance. When I'm studying with this technique, I can focus on my studies, and I can easily remember the lessons that I have studied.

Student E: Yes, the Pomodoro technique helps improve my academic performance, especially with my personality. I am depending on set goals and time. Pomodoro also helps me reduce my procrastination.

Student F: Definitely! It gives me structure, allowing me to focus better and not get stuck in that endless scrolling or overthinking loop. The frequent breaks help reset my focus so I can tackle tasks with a clearer head, which naturally boosts my productivity and performance.

Most participants do agree that there is improvement in performance through avoidance of burnout and procrastination due to its structural aspect. Some, however, viewed the intervals as too short for deep attention and made modifications to their session durations. When compared to the quantitative data, both statements are likely in agreement but with a slight difference regarding emphasis. This explains that Pomodoro brings self-discipline, productivity, and motivation, with a grand mean of 3.87. The views of the students further corroborate that it helps reduce burnout and procrastination, however, there are some students who feel that it brings limitations to their deep focus.

Students who Preferred Flowtime

Student A: Yes, the flowtime improved my academic performance. Being fully immersed

in a task allows for better understanding and higher quality outcomes in academic work.

Student B: In my view, the Flowtime Technique will enhance academic performance by increasing productivity eliminating procrastination, increasing concentration, and establishing a routine as well as enabling the student to set a rhythm that suits his learning ability.

Student C: Yes, it enhances my focus and productivity.

Student D: Yes, especially since my program requires me not just to read but also to analyze information, through this method I was able to comprehend better the information I needed to carefully understand which led me to good teaching strategies as a pre-service teacher.

Student E: Yes, it positively helps me to become more innovative and creative in every task thrown at me. Especially when I am interested in certain stuff, I give my full effort just to satisfy myself and everyone by thinking outside the box— using rare tactics, producing unique ideas, or even a perspective that stands out. Through that, it enhances not only my academic performance but also my personal growth.

Student F: Flowtime improves my academic performance by means of increasing productivity so that I can focus on studying, time management, and balancing my activities and breaks to optimize study schedules, and also flow improves concentration and comprehension of learning that helps me enhance my understanding

Based on the answers of the participants, it improved productivity and understanding, as a result of immersion. Students think that the technique allows them to have an innovative approach to understanding and better personal growth with academics. The qualitative findings regarding academic performance also agree with the quantitative data. The statements explained how immersion intensifies Flowtime in terms of thinking and problem-solving, with an overall mean of 3.74. It agreed with the interview answers which state that Flowtime is worth utilizing in its relation to understanding and self-academic growth. On the other hand, the qualitative results also impart that students utilize the technique correctly for him/her not to lose their balance.

Q3: Does the technique enable you to balance study schedules? How?

Students who Preferred Pomodoro

Student A: Yes, because Pomodoro uses time to keep track during their study time.

Student B: Not really. I'm not a fan of the Pomodoro Technique because I find other tools more effective for balancing my study schedule. For instance, I use an app called TickTick, which allows me to list and organize all my tasks. This system works better for me, as it keeps me on track without the interruptions the Pomodoro Technique tends to bring.

Student C: The Pomodoro Technique allows me to balance my study schedule by providing a structured approach to time management. By setting specific intervals for studying and breaks, I can allocate time for other responsibilities, like self-care, without feeling guilty about not studying.

Student D: Yes, most of the time. By scheduling my study time for each subject and lessons that I need to study with at least 5-minute breaks, I can balance my study schedule and do some of my tasks.

Student E: Yes, by breaking down heavier tasks into less important ones and by allocating time for different subjects.

Student F: Absolutely. The timed sessions help me allocate effort to multiple subjects or tasks without spending too much time on just one. It's like setting a timer for priorities, making sure I don't hyper-fixate on one thing and neglect others.

The results show that the Pomodoro technique's structured schedule is one of its most critical advantages, enabling students to better manage both duties in academia and personal life. Meanwhile, some students are found to complain about structured intervals interrupting them, proposing that they have other tools. Nevertheless, generally, the qualitative data still aligns with the quantitative findings which conclude that the Pomodoro technique gives students the ability to effectively manage their time or schedules with a grand mean of 3.87.

Students who Preferred Flowtime

Student A: Yes, the Flowtime Technique helps students to balance their study schedules. This technique minimizes procrastination and ensures that students can complete tasks efficiently while leaving time for other activities.

Student B: The Flowtime Technique allows every student to plan a study timetable wisely, prioritizing tasks, dividing time into reasonable portions, setting reasonable aims and time limits, avoiding exhaustion, and insisting on the necessity of frequent breaks and the possibility of changing the more effective distribution of time on tasks at any time.

Student C: Yes, it helps us, as students, focus during study sessions, therefore, we can balance our study schedules.

Student D: Based on my own experience, I think yes, because if you want this technique to be as effective as you think then I believe that the first goal to make this effective is to balance your study schedules otherwise you face various interruptions which might lead you over-information by trying grasps everything in a single period.

Student E: Flowtime comes with its advantages and disadvantages. Students are more inclined and can grasp complex concepts more easily when they are fully engaged. However, exaggerated engagement in this method may lead to an imbalance in time management. It is when students are deeply focused on one task, that they may lose track of time and neglect other important responsibilities. So personally, proper use of the flow method is necessary for us students' study schedule.

Student F: Flowtime itself does not directly address scheduling. However, it can indirectly contribute to better time management by promoting efficient learning. When I am in a state of flow, I can learn more effectively in a shorter amount of time. This can free up time for my other activities, including socializing, hobbies, and relaxation.

Although it does not directly schedule anything, students believe that flowtime helps students manage their time better, promoting concentration and efficiency. The participants also mentioned that immersing too much in tasks may lead to information overload and an imbalance in time management. The qualitative and quantitative findings seem to go hand in hand in some aspects yet also reveal some discrepancies. On a quantitative scale, the conclusion asserts that Flowtime has a flexible schedule which gives productivity and focus enhancement with a grand mean of (3.80). Meanwhile, based on the qualitative data, the Flowtime technique has fostered the improvement of time management, but it cautions students from over-indulging in activities as it results in a loose schedule and balance.

Q4: In what sense does the technique make you inflexible in doing your tasks?

Students who Preferred Pomodoro

Student A: Because of time management a person can create a flow of activities to utilize their time.

Student B: Initially, I liked the satisfaction of completing a 20-minute study session, but over time, I realized it disrupted my workflow. It made my tasks feel intermittent and fragmented, which irritated me. Instead of constantly stopping and restarting, I prefer studying in longer blocks, like 1-3 hours straight, followed by a more extended break. This approach feels more natural and productive for me.

Student C: The Pomodoro Technique can make me inflexible at times, especially if I'm in the middle of a thought or problem. When the timer goes off, it can be frustrating to stop working, which disrupts my flow and may require extra time to regain focus afterward.

Student D: It actually depends on how many lessons and workloads are needed to do and to study. But based on my experience, this technique makes me inflexible sometimes in doing my tasks when I am overloaded with more workloads and more lessons to study.

Student E: Sometimes the timer can be disruptive, especially when I am really focused on my work. This forces me to suddenly stop my work.

Student F: There is, sometimes, a point in working in short bursts that shifting tasks for focused periods can be hard; it is like being programmed to stop at the alarm even while on a

roll, and this can present problems when tasks require thinking deeply or continuously.

As per the insights of the participants toward the Pomodoro technique, the rigidity of the time segments either terminates one's ability to concentrate or provides short moments of fragmented work. Some tasks require constant thought, especially in huge workloads, and the rigidity of the technique proves its difficulty to overcome. Both quantitative and qualitative findings coincide with the idea that the Pomodoro technique is very rigid and makes little room for any disruption or changes. It was also noted during the interview that interruptions in difficult tasks make it impossible to understanding and development.

Students who Preferred Flowtime

Student A: The Flowtime Technique can make one inflexible because it often requires uninterrupted time and the right conditions to achieve a state flow. Unexpected tasks can disturb this state and make it harder to stay focused on priorities.

Student B: The main disadvantages of Flowtime are: excessive fixation on rigid time segments, restriction of change, poor ability to address interruptions and some complicated tasks; and frustration with transitions from work to breaks and vice versa.

Student C: I think it happens when I am transitioning between tasks.

Student D: For me, I think it became inflexible when I failed to follow my study schedule, especially for my projects and requirements which tend to bug my head because of deadlines. Since this method requires so much of my time it became challenging for me.

Student E: As a college student, I am used to studying in a quiet corner with no people on it since then for it gives me a better concentration and deep focus. This method makes me inflexible for I am dependent and reliant on that kind of routine and environment, leading me to have a difficult time with circumstances changing whenever I need to study in crowded and noisy areas. That's why, this method not just enhances one's academic performance but also creates rigidity.

Student F: Flow Method can be inflexible in the sense that it requires dedicated time and focus. Like me, I need to set aside uninterrupted blocks of time to fully immerse myself in my studies. It can be challenging for me with busy schedules and prefer to study in short bursts.

Based on the findings, reliance on definite conditions of uninterrupted attention can make personal and sudden intervals difficult to execute. Continued dependence on this strategy can imply that noisy or disruptive places, where concentration is problematic, become challenging. Both conclusions from qualitative and quantitative data agree that the reliance on focused attention causes difficulty adjusting in variable situations. The interviewees described the Flowtime Technique as overwhelming and inflexible to accommodate personal time, needs, and comfort. However, in general, the grand mean from the quantitative findings arrived at 3.24, marked as neural, which suggests that some respondents still view the technique as efficient and flexible in their learning endeavors.

Q5: What are the ways where the technique hinders you to focus with your tasks?

Students who Preferred Pomodoro

Student A: any form of destruction

Student B: As I mentioned earlier, the Pomodoro Technique makes me feel like I'm interrupting myself whenever the timer signals the end of a 20-minute session. This duration is too short for me to fully immerse myself in my tasks, and the 5-minute break doesn't feel sufficient to recharge. Instead of helping, it disrupts my concentration and feels counterproductive.

Student C: There are instances when the Pomodoro Technique hinders my focus, particularly during group study sessions or when I'm engaged in discussions. The strict timing can interrupt conversations or problem-solving, making it challenging to maintain momentum.

Student D: In Pomodoro Technique, sometimes hinders me from focusing on doing my tasks (for instance, the more complex/complicated tasks because of the time intervals and breaks when studying, although this technique helped me improve.

Student E: Distractions, especially on breaks, and when I am using social media when I take a break, it is hard again to go back to focus when I take breaks.

Student F: It's the constant interruption. I feel like I'm just getting into the groove of things, and then—beep! —it's break time. For someone who thrives on multitasking, it can be annoying when I want to keep the flow of several overlapping tasks going.

According to the views of the students, it is difficult to maintain the short intervals when most interruptions occur at crucial points. For instance, someone opens his or her social media during intense activity. It was also stated that a mere interruption hinders focus, especially in learning more complicated concepts. Therefore, the qualitative results directly relate to the quantitative findings. They both imply that frequent breaks in the Pomodoro technique disrupt concentration and are helpless when filled with social media distractions.

Students who Preferred Flowtime

Student A: It hinders focus if the task is easy or difficult, distractions can always break concentration and make it difficult for me to go back or to re-enter the flow of state.

Student B: Flowtime may be detrimental when students fail to properly transition from work to break phases, brief interruptions could cause fatigue or loss of interest thus length of time overrides the content of work.

Student C: If I am distracted by my study environment.

Student D: When I cram to meet my deadlines in different subjects

Student E: As I said above, it creates rigidity or inflexibility making it difficult for students to adapt when circumstances change. Additionally, when you are fully absorbed in your interested tasks, you tend to forget or ignore other important matters that need your immediate attention. Indeed, it led to a narrow view of what needs to be done missing out on other vital things.

Student F: Flowtime can hinder focus in situations where distractions are unavoidable. In my experience I am trying to study in a noisy environment and I'm constantly interrupted by notifications; it can be difficult to maintain a state of flow.

In line with the perception of the participants, a flow state cannot be attained during noise and distraction. Moreover, overemphasizing one task can lead to the neglect of several other tasks. The given statements concerning lack of focus tend to support the quantitative findings that noise, distraction, and overemphasis on one task leads to reduced focus. The interviewed participants also indicated that external distractions and prolonged immersion would impair concentration.

Q6: In what instances does the technique reduce your motivation to finish more complex tasks? Elaborate your answer.

Students who Preferred Pomodoro

Student A: Time, when there is limited time to study. The use of this technique is not helpful for me.

Student B: The Pomodoro Technique can reduce my motivation for more complex tasks because it fragments my workflow. When tackling something intricate, I need prolonged focus to immerse myself and make meaningful progress. However, with Pomodoro's short intervals, I often feel interrupted just as I'm gaining momentum. This constant pausing can be frustrating, making the task seem more challenging than it is.

Student C: The Pomodoro Technique can sometimes reduce my motivation to tackle complex tasks. For example, when studying for a challenging exam, the thought of only having 25 minutes to delve into dense material can feel limiting. I often find that I need longer periods of uninterrupted time to fully grasp difficult concepts, and breaking them into smaller chunks can be discouraging.

Student D: Sometimes, with this technique, it can also reduce my motivation to finish all the complex tasks. For instance, when it comes to time intervals (like 25-minute work) to do the more complex tasks, it may be too short sometimes and I can't finish that task after that time interval. Sometimes, when it comes to breaks, I don't realize that my 5-minute break is done because of minor distractions that can be bigger.

Student E: When there is an overwhelming task that requires a long period to finish it. Taking breaks can lead to a slow progress of your work, which leads to feeling demotivated.

Student F: Sometimes, when I'm dealing with something difficult or overwhelming, the strict timing causes me to procrastinate before starting. The fact that I have only 25 minutes to "get it right" makes it feel a bit stressful, so I will sometimes not leap but wait instead.

Based on the answers from the interviews, short bursts of activity tend to break longer and more complicated activities into bits, and such a sensation often leads to procrastination and frustration. Furthermore, breaks during dire focus might inhibit progress and even make one motivated less. Therefore, there is an agreement with both qualitative and quantitative findings that short bursts of work and numerous breaks in the Pomodoro Technique reduce motivation by shattering flow when doing difficult workloads.

Students who Preferred Flowtime

Student A: No, it does not necessarily reduce. It can increase motivation if the task matches the person's skills. However, if the task feels overwhelming, the flow state can be challenging. It might take a while for it to adjust, which may reduce motivation initially.

Student B: Flowtime might decrease motivation for complex tasks in case time constraints create pressure, intervals interrupt the flow or thinking, and plain time division does not consider the specifics of the tasks.

Student C: Not really. I find it harder to use flowtime if I am not interested in the topic. However, in some instances, it really motivates me to finish my task because it allows me to break down complex information into something understandable.

Student D: No, because technically you will not choose a method that you think will make you struggle rather than to help you focus more. The main goal of each technique is to make us all productive meaning to say when you choose something it suits your preference.

Student E: I am the kind of student who is always aiming for excellence and thrives on challenges— finding myself more motivated when faced with complex assignments. Therefore, this technique does not reduce my motivation to finish tasks, instead, my intrinsic desire to learn helps me to understand that these difficulties often require critical thinking and problem-solving skills which are essential for my academic and personal growth. To end, it drives me to seek out challenges rather than shy away from them.

Student F: The Flowtime can increase motivation for complex tasks. When I experience flow, I often feel a sense of accomplishment and satisfaction. This motivates me to tackle more challenging tasks and persist through difficult learning experiences. The key is to break down complex tasks into manageable chunks and focus on achieving small victories along the way.

According to the perspectives of the participants, the Flowtime technique generally enhances motivation except that overly difficult jobs can become intimidating at the initial phase. Nonetheless, chunking the payload can manage this and keep one on track. The interview results match with the quantitative findings as the Flowtime Technique was rated neutral with a grand mean of 3.39. The qualitative data concludes that while the study technique can be used to heighten motivation because of the head-on interaction with the tasks, it can also decrease enthusiasm due to disinterest in the topic being learned.

Conclusion

The efficacy of the Pomodoro Technique, particularly in terms of memory retention, academic performance, and time management, is demonstrably higher for students who perform optimally within structured learning environments, in contrast to those requiring uninterrupted periods of focused attention. Conversely, the Flowtime Technique exhibits superior effectiveness for tasks demanding deep work and creative problem-solving, although its implementation is significantly challenged by uncontrolled environmental factors. Optimal application of both techniques necessitates a nuanced understanding of task demands, individual learning styles, and contextual constraints to ensure maximal productivity.

The implementation of Pomodoro and Flowtime study techniques presents several challenges, including difficulties in sustaining

focused attention, inherent inflexibility, and decreased learner motivation. To mitigate these limitations, a personalized approach is recommended, whereby students adapt these methods to align with their individual learning styles, thereby optimizing comfort, effectiveness, and efficiency. A key limitation lies in the overly structured nature of these techniques, which can disrupt extended periods of concentrated study. This aligns with cognitive load theory, which posits that optimal learning necessitates a balanced integration of periods of focused mental effort and restorative rest.

The effectiveness of these techniques can be observed in the different aspects of academic performance. The Pomodoro technique was successful for students as it significantly improved student productivity and focused the students by segmenting the work into manageable intervals. The technique provided regular, relieving breaks for students, making it most suited for periods when multiple subjects or tasks had to be addressed. However, students who needed long periods of consideration for clarity or flexibility were not able to work effectively under the strict timing of the technique because sometimes it would break their flow of work.

In contrast, the Flow Method has been appreciated for allowing new creative reasons considering unconstrained task immersion to boost student value and rhythm. This helps to support further mastery over complicated topics. On the other hand, the absence of structured breaks led to fatigue and sometimes limited long-term productivity. Among these, maintaining concentration in diverse distracting environments or under low motivation was a major challenge for some participants.

This requires a varied approach for both students and teachers. Students need to learn about the pros and cons of different time management methods. They should be encouraged to try different techniques to find what works best for them. It's also important for them to become aware of their own learning styles and the best conditions for studying. Teachers, on their part, should create a classroom environment that supports this personalized method. They can provide advice on time management strategies, encourage self-directed learning, and offer flexible options for learning. Additionally, teachers should include strategies to tackle the issues that come with these techniques. This can involve giving structured breaks, creating distraction-free study areas, and promoting intrinsic motivation. By recognizing and responding to the individual needs of students and offering the right support, teachers can enhance the benefits of both Pomodoro and Flowtime methods. This leads to better academic performance and overall well-being.

Future research should look into several key areas to build on this study's findings. First, hybrid approaches that combine the structured Pomodoro Technique with the flexible Flowtime Technique need further investigation. This includes exploring the best ways to switch between focused work and less structured tasks, possibly tailored to individual learning styles and types of tasks. Second, long-term studies are important for understanding the lasting impact of these techniques on academic performance, well-being, and developing self-regulated learning. Finally, research should focus on creating and testing ways to overcome the limitations of both techniques. This includes strategies to improve focus, manage distractions, and boost intrinsic motivation, ultimately enhancing the effectiveness and long-term use of these time management methods for students.

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References

Angoluan M. (2023) Effectiveness of Pomodoro Technique on Memory Retention among Psychology Students in a University in Quezon City, Philippines https://www.researchgate.net/publication/376834587_Effectiveness_of_Pomodoro_Technique_on_Memory_Retention_among_Psychology_Students_in_a_University_in_Quezon_City_Philippines

Ardura, I.R., & Artola, A.M. (2017). Flow in e-learning: What drives it and why it matters. British journal of educational technology, 48(4), 899-915.

Aydin E. (2024). The Flow Method Note Taking: A Complete Guide to Taking Notes While Learning https://www.beforesunset.ai/post/the-flow-method-note-taking

Biwer, F., Wiradhany, W., oude Egbrink, M. G., & De Bruin, A. B. (2023). Understanding effort regulation: Comparing 'Pomodoro'breaks and self-regulated breaks. British Journal of Educational Psychology, 93, 353-367.

Burton, L. D. (2016). Can a Tomato Increase Your Productivity?. Journal of Research on Christian Education, 25(2), 95-96.

Creswell, J. W., & Plano Clark, V. L. (2010). Designing and conducting mixed methods research (2nd ed.). Thousand Oaks, CA: Sage. https://open.merelearning.ca/ssi/chapter/mixed-methodsresearch/#:~:text=According%20to%20Creswell%20and%20Plano,dataset%20might%20be%20embedded%20in

Csikszentmihalyi (1990). Flow: The Psychology of Optimal Experience. https://www.researchgate.net/publication/224927532_Flow_The_Psychology_of_Optimal_Experience

Dizon, R. J., Ermitanio, H. D., Estevez, D. M., Ferrer, J., Flores, S. J., Fontanilla, K. M., ... & Sugay, J. (2021). The effects of the pomodoro technique on academic-related tasks, procrastination behavior, and academic motivation among college students in a mixed online learning environment. Globus Journal of Progressive Education, 11(2), 58-63.

Forsberg M. (2023) The Flow Method of Note-Taking: Notes for Active Learning. https://e-student.org/flow-note-taking-method/

Galang, N., & Galang, E. (2017). Computer Aided Tool in Science for Kindergarten Pupils. Computer Science and Engineering p-ISSN, 2163-1484.

Gardiner, F. (2023). The Flow Method of notetaking. https://www.universitylibrarian.com/blog/the-flow-method-of-notetaking

Gobbo F. & Vaccari M., (2008). "The Pomodoro Technique for Sustainable Pace in Extreme Programming Teams. In: Abrahamsson P., Baskerville R., Conboy K., Fitzgerald B., Morgan L., Wang X. (eds) Agile Processes in Software Engineering and Extreme Programming", XP 2008. Lecture Notes in Business Information Processing, vol 9. Springer, Berlin, Heidelberg, https://doi.org/10.1007/978-3-540-68255-4_18.

Goldfinch, S. (2015). How To Enjoy Studying: Flow. https://www.pursuit-of-happiness.org/how-to-enjoy-studying-flow/#:~:text=In%20order%20to%20stimulate%20flow,in%20a%20set%20time%20period.

Golovkova, D.V., (2016). "Time management as essential skill for successful career in competitive environment. Problems of Geology and Subsoil Development", Proceedings of the XX International Symposium named after Academician MA Usov of students and young scientists dedicated to the 120th anniversary of the founding of Tomsk Polytechnic University, Tomsk, 2, 1231-1233.

Ismail, N. M., Putri, Z., & Noviyanti, A. (2022). Pomodoro Technique Analysis in Zoom-Based Classrooms. JEELS (Journal of English Education and Linguistics Studies), 9(1), 75-96.Iyengar, K. P., Vaishya, R., &

Botchu, R. (2024). Can We Apply Pomodoro Technique in Academic Publishing?. Apollo Medicine, 21(2), 176-177.

Kuan, G., Rizal, H., Hajar, M. S., Chin, M. K., & Mok, M. M. C. (2019). Bright sports, physical activity investments that work: Implementing brain breaks in Malaysian primary schools. British journal of sports medicine, 53(14), 905-906.

Law Hawaii Libguides. (2021) Flow-Based Method https://law-hawaii.libguides.com/notetaking/flowbased

McDonnell, J. W. (2019). Maine's workforce challenges in an age of artificial intelligence. Maine Policy Review, 28(1), 11-16.

Moral-Bofill, L., López de la Llave, A., Pérez-Llantada, M. C., & Holgado-Tello, F. P. (2022). Development of flow state self-regulation skills and coping with musical performance anxiety: design and evaluation of an electronically implemented psychological program. Frontiers in Psychology, 13, 899621

Parker, C., (2024). The Flowtime Technique: Find Your Flow for a More Productive and Enjoyable Workday. https://timingapp.com/blog/flowtime-technique/#

Pedersen, M., Muhr, S. L., & Dunne, S. (2024). Time management between the personalisation and collectivisation of productivity: The case of adopting the Pomodoro time-management tool in a four-day workweek company. Time & Society, 0961463X241258303.

Posey, J. (2024). The Flowtime Technique: Pros, Cons, and a Step-by-Step Guide. https://www.usemotion.com/blog/flowtime-technique

Que, Chelsea Gayle L., Adonis, Louis Vergel C., Casus, Andrea Isabelle A., Hugo, Aleisa Joy D., Sino-ag, Mary Ellen L., Tariman, Julia Monique O., Mary Ana Seline Angoluan. (2023). Effectiveness of Pomodoro Technique on Memory Retention among Psychology Students in a University in Quezon City, Philippines. European Modern Studies Journal, DOI:10.59573/emsj.7(5).2023.24.

Radvansky, G. A., & Dijkstra, K. (2007). Aging and situation model processing. Psychonomic Bulletin &

Review, 14(6), 1027–1042. https://doi.org/10.3758/BF03193088

Sani, A., Rochintaniawati, D., & Winarno, N. (2019). Using Brain-Based Learning to Promote Students' Concept Mastery in Learning Electric Circuit. Journal of Science Learning, 2(2), 42-49.

Sumaya, I. C., & Darling, E. (2018). Procrastination, flow, and academic performance in real time using the experience sampling method. The Journal of genetic psychology, 179(3), 123-131.

The Company Cebu (2023). The Flowtime Technique: A Productivity Revolution. https://thecompany.ph/the-flowtime-technique-a-productivity-revolution/

Trias, A. (2012). The holomorphic embedding load flow method. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=flow+method&btnG=

University Library (2024) The Flow Method of Notetaking. https://www.universitylibrarian.com/blog/the-flow-method-of-notetaking/#drawbacks

Vaishya R., Botchu R., Iyengar K. P. (2023) Can We Apply Pomodoro Technique in Academic Publishing? https://www.researchgate.net/publication/374629574_Can_we_apply_pomodoro_technique_in_academic_publishing

Villarin, S. J. B., & Emperador, E. A. (2023). Factors, Forms, and Functions of Code Switching on English Achievement among Grade 11 Students. International Journal of Science and Management Studies, 99–109. https://doi.org/10.51386/25815946/ijsms-v6i2p114

Zahariades, D. (2015). The Pomodoro technique: A 10-step action plan for increasing your productivity (1st electronic ed.). Kindle Edition purchased from Amazon. com, 96.