

EFFECTIVENESS OF ANIMATED LEARNING MODULE TO STRENGTHEN ACADEMIC PROCRASTINATION AMONG STUDENT-ATHLETES

SOURABH CHHATIYE

HARMANPREET KAUR

LOVELY PROFESSIONAL UNIVERSITY, PUNJAB, INDIA

PAWAN DEEP

GNA UNIVERSITY, PUNJAB, INDIA

DIVYAM PATIDAR

LAKSHMIBAI NATIONAL INSTITUTE OF PHYSICAL EDUCATION, INDIA

Abstract: This study examined the effectiveness of an animated learning module in reducing academic procrastination among student-athletes enrolled in the B.P.Ed. program. Forty student-athletes were randomly assigned to an Experimental Group (n = 20) and a Control Group (n = 20). The Experimental Group received a three-month animated intervention designed to improve time management, task awareness, sincerity, and personal initiative. Results showed a significant reduction in academic procrastination among the Experimental Group, with scores decreasing from 91.70 ± 11.58 (pre-test) to 52.40 ± 10.71 (post-test), yielding a t-value of 14.60 ($p < 0.01$). The post-test comparison between the Experimental and Control Groups also revealed a significant difference (52.40 vs. 101.80 ± 6.62), with a t-value of 17.54 ($p < 0.01$). The findings indicate that animated learning modules are an effective tool for improving academic discipline and reducing procrastination among student-athletes.

Keywords: Academic procrastination; Student-athletes; Animated learning module; Digital pedagogy; Time management.

INTRODUCTION

Academic procrastination is a prevalent challenge among students across various disciplines, often leading to detrimental effects on their academic performance and mental well-being (Steel, 2007; Sirois & Pychyl, 2013). While the consequences of procrastination are widely recognized, finding effective interventions that simultaneously target academic procrastination and enhance mental health is an area that requires significant attention. This research aims to address this gap by developing and validating an innovative intervention using animated videos for professional physical education students. Academic procrastination is characterized by delaying the initiation or completion of academic tasks despite knowing the negative consequences (Klassen et al., 2008). In professional physical education programs, students often face a unique set of challenges, including demanding coursework, practical training, and physical fitness requirements. These demands can create additional stressors that exacerbate procrastination tendencies, potentially leading to compromised academic achievement and well-being. Recent studies have highlighted the importance of integrating mental health interventions within educational settings, emphasizing the need for comprehensive approaches that target both academic and psychological aspects (Stallman, 2010; Regehr et al., 2013). Procrastination is closely associated with increased stress, anxiety, and reduced overall mental health (Sirois, 2014; Rozental et al., 2018). Therefore, developing interventions that address academic procrastination while simultaneously fostering mental health is crucial for promoting student success in professional physical education programs. Animated videos have emerged as a promising tool for delivering educational content and interventions, especially among digitally savvy student populations (Mayer, 2014; Zamani et al., 2016). The use of animation in interventions provides several advantages, including enhanced engagement, comprehension, and retention of information (Moreno & Mayer, 2007). By combining the power of animated videos with evidence-based strategies for procrastination reduction and mental health enhancement, this research endeavors to create a unique and effective intervention tailored to the needs of professional physical education students. Academic procrastination has emerged as a significant barrier to effective learning, particularly among student-athletes who balance intensive physical training with academic responsibilities (Chen et al., 2023). In physical education and sports-related programs, learners often face demanding schedules, frequent travel for competitions, and rigorous practice routines, which may reduce their available time and cognitive resources for academic tasks. These unique pressures make student-athletes more vulnerable to postponing assignments, delaying study routines, and struggling with consistent academic engagement (Apaak & Osei Sarpong, 2015). As educational environments increasingly shift toward technology-enabled learning, animated learning modules are gaining attention as an innovative pedagogical tool capable of

enhancing motivation, simplifying complex concepts, and promoting self-regulated learning. Considering the persistent challenge of procrastination among sports students, it becomes essential to explore whether animated instructional content can serve as an effective behavioural and cognitive support mechanism (Kadaba et al., 2009; Kuyath, 2002; Chao et al., 2025). Digital learning tools, particularly animated instructional modules, have shown promise in improving academic engagement for students with diverse learning needs and limited time availability. Animation offers a visually appealing, time-efficient, and cognitively supportive mode of content delivery that can capture learners' attention more effectively than conventional teaching methods (Urquiza-Fuentes & Velázquez-Iturbide, 2013). For student-athletes who benefit from concise and high-impact learning materials, animated modules can provide structured guidance, reinforce concept clarity, and promote self-paced learning habits. Additionally, the interactive and multimodal nature of animation aligns well with the learning preferences of modern students, potentially motivating them to initiate and complete academic tasks more promptly (Ulfah et al., 2025; Barak et al., 2011). Thus, exploring animation-based interventions presents an opportunity to meaningfully address academic procrastination within sports education environments (Vacharathit et al., 2015; Koch et al., 2024). This study investigates the potential of animated learning modules not only as an academic aid but also as a strategic intervention aimed at strengthening academic discipline and reducing procrastination tendencies among sportspersons.

METHODOLOGY

The purpose of this experimental study was to investigate the effectiveness of an animated learning module in reducing academic procrastination among student-athletes enrolled in sports education programs. A pre-test–post-test experimental design was adopted to assess changes in procrastination-related behaviours after implementing an animation-based intervention tailored to the unique academic and athletic demands of sportspersons.

A total of 40 student-athletes, aged 18–24 years, were selected through purposive sampling Guru Nanak Dev University, Punjab, India. All participants were required to be enrolled in sports education programs and must have participated in national-level sports competitions. Participants were randomly assigned into two groups: Experimental Group (EG, $n = 20$) and Control Group (CG, $n = 20$). Both groups included students from the Bachelor of Physical Education program, ensuring equal representation from both academic streams.

Academic procrastination was assessed using the standardized Academic Procrastination Questionnaire developed by Dr. Savita Gupta and Liyaqat Bashir (2019). The instrument consists of 30 items rated on a five-point Likert scale and measures four dimensions: Time Management, Task Aversiveness, Sincerity, and Personal Initiative. The scale demonstrates strong psychometric properties, including Cronbach's alpha of 0.889, validated through expert review and factor analysis.

The intervention consisted of a self-constructed animated video module delivered to the Experimental Group over a period of three months, with sessions conducted four days a week. Each session lasted one hour and included animated scenarios, practical examples, and behavioural strategies aimed at reducing procrastination. The animated content focused on essential themes such as effective time management, prioritization of academic tasks, self-regulation, awareness of deadlines, and motivation-building techniques specifically suited for sportspersons. The module followed a progressive structure, beginning with basic concepts of procrastination and gradually incorporating advanced self-management strategies across the intervention period. Pre-test academic procrastination scores were obtained before the intervention, and post-test scores were collected after the completion of the three-month module for both participants.

RESULTS

The results of the study present the impact of the animated learning module on academic procrastination among student-athletes. Statistical analyses were conducted to compare pre-test and post-test scores within the Experimental Group, as well as post-test differences between the Experimental and Control Groups. The findings are summarized in the following tables.

TABLE 1 Effect of the animated learning module on academic procrastination among student-athletes of experimental group

Experimental Group	N	Mean	S. D.	df	t
Pre-Test	20	91.70	11.58		
Post-Test	20	52.40	10.71	19	14.60**

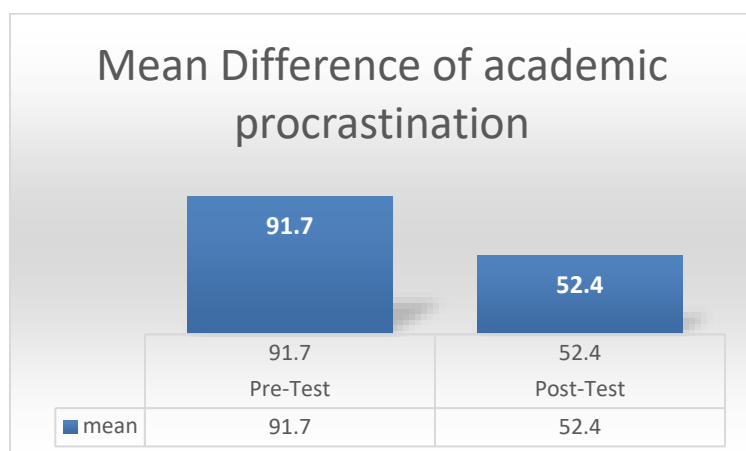


FIGURE 1 Pre-test and post-test academic procrastination scores of experimental group

Table and figure 1 show a highly significant reduction in academic procrastination among student-athletes in the Experimental Group after the implementation of the animated learning module. The mean score decreased from 91.70 (Pre-test) to 52.40 (Post-test), indicating a substantial improvement in procrastination-related behaviors. The obtained t-value of 14.60 is far greater than the table value at both the 0.05 (2.09) and 0.01 (2.86) significance levels, confirming that the reduction is statistically significant. This demonstrates that the animated module had a strong positive impact in reducing academic procrastination among student-athletes.

TABLE 2 Post-test comparison of academic procrastination between experimental and control groups of student-athletes

Group	N	Means	S. D.	df	t
Experimental	20	52.40	10.71		
Control	20	101.80	6.62	38	17.54

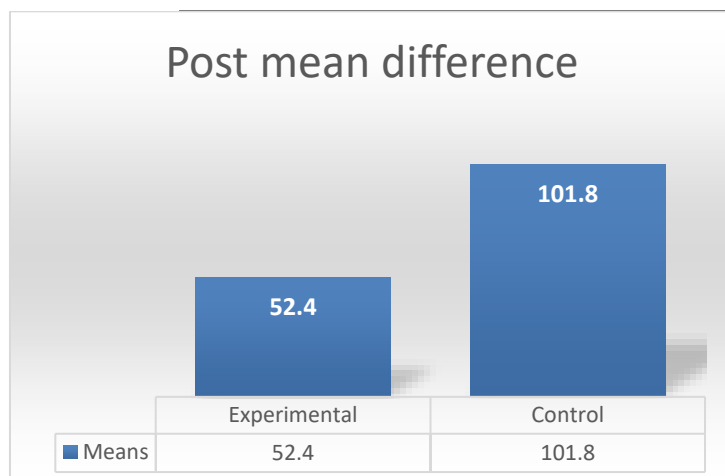


FIGURE 2 Post-test comparison of academic procrastination between experimental and control groups

Table and figure 2 The comparison of post-test scores between the Experimental and Control groups reveals a significant difference in academic procrastination levels among student-athletes. The Experimental Group obtained a much lower mean score (52.40) compared to the Control Group (101.80), indicating markedly reduced procrastination following the intervention. The calculated t-value of 17.54 exceeds the critical values at the 0.05 (2.02) and 0.01 (2.71) significance levels, showing that the difference between the two groups is statistically significant. This confirms that the animated learning module was highly effective in lowering academic procrastination compared to no intervention.

DISCUSSION

The findings of the study clearly indicate that the animated learning module had a substantial impact in reducing academic procrastination among student-athletes. The significant decrease in the Experimental Group's post-test scores compared to their pre-test scores suggests that animated instructional content can effectively modify

procrastination-related behaviors. Since student-athletes often struggle with time management due to training schedules and performance demands, the structured, engaging, and visually simplified format of animated videos may have helped them better understand task expectations and develop a more disciplined approach toward academic responsibilities. These results align with earlier studies suggesting that digital, engaging learning interventions can enhance behavioral regulation and motivation among student-athletes (Maloshonok, 2016; Ifenatuora et al., 2024; Maulana, 2024).

The significant difference between the post-test scores of the Experimental and Control groups further highlights the effectiveness of the animated learning module. While the Control Group showed consistently high procrastination scores, the Experimental Group demonstrated substantial improvements, indicating that the intervention played a direct role in reducing procrastination. This contrast reinforces the importance of innovative, learner-centered teaching strategies, particularly for student-athletes who often face dual pressures of sports and academics. The results suggest that traditional teaching methods may not be sufficient to address procrastination among this population, whereas animated modules through their clarity, brevity, and accessibility offer an effective alternative to promote timely academic engagement (Cosh & Tully, 2015; Rothschild-Checrone et al., 2012; Lamban et al., 2025).

Overall, the study contributes valuable insights into how technology-enhanced learning materials can support behavioral and academic improvement among sportspersons. The success of the animated learning module demonstrates its potential as an intervention tool that can be integrated into sports education curricula to help reduce procrastination and improve academic discipline. Given the demanding nature of athletic programs, such interventions can serve as a practical solution for educators aiming to strengthen self-regulation and academic responsibility in student-athletes. Future research may extend this work by examining long-term effects, exploring its impact across different sports disciplines, and integrating additional psychological elements such as motivation, self-efficacy, and stress management.

CONCLUSION

The present study demonstrates that animated learning module is highly effective in reducing academic procrastination among student-athletes. The significant improvement observed between the pre-test and post-test scores of the Experimental Group indicates that animated instructional content can meaningfully influence students' time management, task engagement, and overall academic discipline. Furthermore, the substantial difference in post-test scores between the Experimental and Control groups confirms that the positive changes can be directly attributed to the intervention. These findings highlight the value of incorporating visually engaging and structured digital learning materials into sports education, where students often struggle to balance academic commitments with demanding training schedules. The study concludes that animated learning modules offer a practical, engaging, and impactful approach to reducing procrastination and enhancing academic responsibility among student-athletes. Future research may explore their effectiveness across broader populations, diverse sports programs, and different psychological dimensions related to academic behavior.

REFERENCES

1. Klassen, R. M., Krawchuk, L. L., & Rajani, S. (2008). Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. *Contemporary Educational Psychology*, 33(4), 915-931.
2. Mayer, R. E. (2014). Cognitive theory of multimedia learning. In R. E. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (2nd ed., pp. 43-71). Cambridge University Press.
3. Moreno, R., & Mayer, R. E. (2007). Interactive multimodal learning environments. *Educational Psychology Review*, 19(3), 309-326.
4. Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders*, 148(1), 1-11.
5. Rozental, A., Carlbring, P., & Andersson, G. (2018). Procrastination: Why do you do it? A comparison of self-report and behavioral measures of procrastination. *Journal of Behavioral Therapy and Experimental Psychiatry*, 61, 45-50.
6. Sirois, F. M. (2014). Procrastination and stress: Exploring the role of self-compassion. *Self and Identity*, 13(2), 128-145.
7. Sirois, F. M., & Pychyl, T. A. (2013). Procrastination and the priority of short-term mood regulation: Consequences for future self. *Social and Personality Psychology Compass*, 7(2), 115-127.
8. Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist*, 45(4), 249-257.
9. Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133(1), 65-94.
10. Zamani, B. E., Abedini, Y., Kord, B., & Griffiths, M. D. (2016). Internet addiction based on personality characteristics of high school students in Kerman, Iran. *Journal of Behavioral Addictions*, 5(3), 369-376

11. Chen, A., Liu, H., Li, K.-C., & Jia, J. (2023). For educational inclusiveness: Design and implementation of an intelligent tutoring system for student-athletes based on self-determination theory. *Sustainability*, 15, 14709. DOI: 10.3390/su152014709
12. Apaak, D., & Sarpong, E. O. (2015). Internal challenges affecting academic performance of student-athletes in Ghanaian public universities. *Journal of Education and Practice*, 6(14), 18–23.
13. Kadaba, N. R., Irani, P. P., & Leboe, J. (2009). Analyzing animated representations of complex causal semantics. *Proceedings of the 6th Symposium on Applied Perception in Graphics and Visualization*, 77–84. DOI:10.1145/1620993.1621009
14. Chao, Y.-H., Wu, H.-Y., & Chang, T.-H. (2025). Development and evaluation of animated instructional materials and collaborative learning for nursing research courses: An action research study. *Nurse Education Today*, 155, 106854. DOI: 10.1016/j.nedt.2025.106854
15. Kuyath, S. (2002). How computer animations make teaching complex topics more effective and more efficient. *2002 Annual Conference Proceedings*, Montreal, Canada, 7.613.1–7.613.9. DOI: 10.18260/1-2—10240
16. Urquiza-Fuentes, J., & Velázquez-Iturbide, J. Á. (2013). Toward the effective use of educational program animations: The roles of student's engagement and topic complexity. *Computers & Education*, 67, 178–192. DOI: 10.1016/j.compedu.2013.02.013
17. Urquiza-Fuentes, J., & Velázquez-Iturbide, J. Á. (2013). Toward the effective use of educational program animations: The roles of student's engagement and topic complexity. *Computers & Education*, 67, 178–192. DOI: 10.1016/j.compedu.2013.02.013
18. Ulfah, W. A., Subagyo, S., Santoso, N., Putranto, D., & Ramadan, G. (2025). Application of video animation to increase students' interest and physical skills in primary school physical education. *Retos*, 66, 766–772. DOI: 10.47197/retos.v66.113
19. Barak, M., Ashkar, T., & Dori, Y. J. (2011). Learning science via animated movies: Its effect on students' thinking and motivation. *Computers & Education*, 56(3), 839–846. DOI: 10.1016/j.compedu.2010.10.025
20. Vacharathit, V., Newman, J. H., & Pettepher, C. C. (2015). Design and effectiveness of an animated module that integrates basic and clinical pulmonary mechanics for medical students. *Medical Science Educator*, 25, 13–18. DOI: 10.1007/s40670-014-0063-9
21. Koch, M., Günster, S. A., Widder, A., Seyfried, F., Germer, C.-T., Backhaus, J., König, S., & Lock, J. F. (2024). Improved learning gain in medical students by using animated whiteboard-videos in comparison to textbooks in surgery. *Journal of Medical Education and Curricular Development*, 11. DOI:10.1177/23821205241262684
22. Maloshonok, N. (2016). How using the Internet and multimedia technology in the learning process correlates with student engagement. *Voprosy Obrazovaniya / Educational Studies Moscow*, (4), 59–83. DOI: 10.17323/1814-9545-2016-4-59-83
23. Elbadiansyah, Masyni, & Maulana, A. (2024). Improving junior high school students' response and science learning outcomes in special sports class through animated learning media. *Jurnal Penelitian Pendidikan IPA*, 10(7), 4294–4300. DOI: 10.29303/jppipa.v10i7.7378
24. Ifenatuora, G. P., Awoyemi, O., & Atobatele, F. A. (2024). A conceptual framework for professional upskilling using accessible animated e-learning modules. *International Journal of Advanced Multidisciplinary Research and Studies*, 4(6), 2417–2423. DOI: 10.62225/2583049X.2024.4.6.4377
25. Cosh, S., & Tully, P. J. (2015). Stressors, coping, and support mechanisms for student athletes combining elite sport and tertiary education: Implications for practice. *The Sport Psychologist*, 29(2), 120–133. DOI:10.1123/tsp.2014-0102
26. Rothschild-Checroune, E., Gravelle, F., Dawson, D., & Karlis, G. (2012). Balancing academic and athletic time management: A qualitative exploration of first-year student athletes' university football experiences. *Loisiret Société / Society and Leisure*, 35(2), 243–261. DOI: 10.1080/07053436.2012.10707843
27. Lamban, C., Perez, C., Albarando, J., Sabate, J., Ygot, K. J., & Datulio, J. (2025). Juggling the clock: Exploring the time management strategies among student-athletes. *Psych Educ Multidisciplinary Journal*, 33(1), 16–26. DOI:10.70838/pemj.330102