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Shove Less, Nudge More: Stakeholders' Perspective from Writing Classrooms

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Abstract

Academic writing courses are critical in higher education. However, they often rely on directive measures, or "shoves," that impose rigid guidelines, high-stakes assessments, and punitive consequences. These approaches, such as inflexible deadlines and harsh grading penalties, can increase student anxiety, disengagement, and surface learning. As a result, some students resort to unethical strategies, such as using essay mills or AI-generated content. This qualitative study, conducted through interviews with 20 writing professors and 30 students, identified several common shoves in academic writing courses and explored their negative impacts on student engagement and academic integrity. The findings highlight critical areas of concern, including strict rubrics, high-stakes deadlines, standardized feedback, and plagiarism threats. In response, the study proposes a shift from punitive shoves to supportive nudges, categorizing the latter into intuitive and didactic interventions. These nudges, such as automated deadline reminders, scaffolded assignments, and ethical AI usage prompts, aim to foster more positive student behavior and engagement. The next phase of this research will investigate how these behavioral nudges influence learning outcomes and student well-being.

Keywords: nudge theory, shoves, academic writing, behavioral change

1. Background of the Study

At the undergraduate level, academic writing courses are mandatory in many academic programs, having the aim to develop essential competencies such as scholarly communication, critical thinking, and research proficiency. These skills are fundamental for academic achievement and professional development across disciplines (Teng & Yue, 2022; Karanja, 2021). Despite their importance, however, the courses are often perceived as being burdensome, disengaging, and disconnected from the students' future career goals (Johnson, 2018). This disengagement is particularly evident among international students, who face additional challenges, such as language barriers and differing academic expectations, leading to lower levels of engagement and motivation (Fatemi & Saito, 2019).

The challenges in academic writing courses are often rooted in the traditional reliance on directive or "shove" approaches, which prioritize rigid rubrics, stringent guidelines, and high-stake assessments aimed primarily at developing core competencies like clarity, coherence, and critical analysis. The courses are typically structured around detailed rubrics that outline precise requirements for evaluation. While such rubrics are intended to ensure fairness and transparency, they often limit students' creativity and confine their writing to a prescribed format. High-stake assessments dominate these courses, adding significant pressure and contributing to anxiety among students, mainly when the focus is more on following rules than on developing a genuine understanding of writing as a process (French et al., 2023).

These challenges frequently result in students adopting unethical strategies to cope with the demands. Common coping mechanisms include using essay mills, AI-generated content, and shortcuts that undermine genuine learning (Sweeney, 2023; Nchindia, 2022; Newton, 2018). Research highlights that nearly 60% of undergraduate students have engaged in academic dishonesty during their studies, with 15.7% admitting to submitting work that was not their own (International Center for Academic Integrity [ICAI], 2020). The availability of digital platforms has made contract cheating more accessible, fueling a global industry that generates significant revenue while compromising academic integrity (Cotton et al., 2023).

In academic writing courses, the educators often strive to shape student behaviors to support the goals in the

classroom and the students' independent study practices. For example, instructors may teach students how to structure their writing process, hoping this knowledge translates into effective writing habits. Nevertheless, influencing behavior is not solely the domain of traditional educational methods. This study explores the application of behavioral economics (i.e., nudging) as a tool for guiding student behavior in writing courses. By incorporating nudges into the curriculum—such as reminders for drafting stages or prompts for self-assessment—this study investigates how subtle interventions can enhance existing pedagogical practices and foster more consistent and effective writing behaviors.

As Thaler and Sunstein (2008) introduced, nudging is a psychological intervention technique that involves creating subtle environmental changes to influence behavior, guiding individuals toward more desirable actions without restricting their freedom of choice. Thaler and Sunstein define a nudge as:

> Any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To qualify as a nudge, the intervention must be easy and inexpensive to avoid. Putting healthy food at eye level is a nudge; banning unhealthy food is not (p. 6).

Thaler and Sunstein (2008) explain that nudging is grounded in dual-process theory, which describes human behavior through two systems of thinking: System 1 and System 2. System 1, the automatic system, relies on fast, intuitive, and often unconscious thinking, while System 2, the reflective system, is more deliberate and logical but requires more significant cognitive effort. Because System 1 is faster and more energy-efficient, it often drives everyday decisions, sometimes leading to behaviors that conflict with long-term goals set by System 2.

Nudging leverages these tendencies by designing interventions that align with the cognitive shortcuts and biases of System 1, subtly guiding people toward choices that support their long-term objectives without coercion. A well-known example is automatically enrolling employees in a pension plan, requiring them to opt-out if they do not wish to participate. This approach results in higher enrollment rates, making the preferred choice the most straightforward and accessible (Thaler & Benartzi, 2004). Importantly, nudges preserve individual autonomy, allowing people to make alternative decisions rather than imposing strict rules.

1.1 Edunudge

Nudge theory has gained significant popularity across various fields due to its ability to subtly influence behavior without restricting individual choices. Originally rooted in behavioral economics, nudge theory has expanded into domains such as public health (e.g., Hollands et al., 2013; Cadario & Chandon, 2020; Halpern, 2015; Szaszi et al., 2018; Milkman et al., 2021), finance (Benartzi & Thaler, 2013), environmental conservation (Allcott, 2011; Olya et al., 2023), and even traffic management (Zadka-Peer & Rosenbloom, 2024). The versatility of nudge theory across many fields underscores its potential as a powerful tool in influencing behavior that aligns with individual and societal goals.

While nudge theory has been extensively applied in a number of fields, its adoption in education is more recent (Damgaard & Nielsen, 2018). Edunudge (Decuypere & Hartong, 2022) has emerged as a targeted application of nudging within education. Edunudge applies the principles of nudge theory to educational contexts to enhance student engagement, learning outcomes, and ethical behavior through subtle interventions such as reminders, goal-setting, and feedback loops.

One research strand actively promotes the potential benefits of nudging in educational settings, emphasizing its ability to boost student engagement and improve academic performance. For instance, McEvoy (2016) tested the loss aversion nudge and found that presenting students with a loss frame (e.g., "you lose points per wrong answer") rather than a gain frame (e.g., "you gain points per correct answer") led to higher grades in multiple-choice exams, particularly for students who were initially more insecure in their responses. Similarly, Clark et al. (2020) showed that asking students to set task-specific goals, such as how many practice exams they intended to complete before the final exam, led to better preparation and performance. Recently, Weijers et al. (2024) discuss how nudging can be integrated into teachers' toolkits for designing learning activities in both vocational and higher education settings. They suggest that educators can subtly influence student behavior using nudging principles, leading to more effective learning strategies.

In addition to enhancing engagement, Edunudge has shown potential in fostering student self-regulation and scaffolding, particularly in online and blended learning environments. Self-regulation is a critical skill that allows students to manage their learning processes, set goals, monitor progress, and adjust strategies. Research by Lock et al. (2017) demonstrates how nudges can be effectively integrated into online learning environments to promote self-regulation among K-12 students. Their study highlights how timely feedback, reminders, and

scaffolded tasks can help students stay on track and achieve their learning objectives. Applying these principles in higher education, especially in academic writing courses, can give students the tools to effectively manage complex tasks, such as writing assignments.

Ökten's (2023) research focuses on integrating nudge theory principles to address challenges related to the education of migrants and refugees. Specifically, it examines how policy adjustments, curriculum enhancements, and institutional developments can be shaped to better support migrant students by using nudging strategies. This application of nudge theory highlights its adaptability in addressing diverse educational challenges and supporting vulnerable student populations.

Edunudge has gained traction in recent educational research, but its application within academic writing courses still needs to be explored. Most studies and discussions around nudges in education focus on general interventions aimed at improving educational behaviors, such as attendance and engagement, but they often stop at theoretical explanations of why such strategies could be beneficial (Brinkmann, 2017; Brown et al., 2022; Damgaard & Nielsen, 2018; Decuypere & Hartong, 2022; Weijers et al., 2021). Where empirical evidence exists, it is typically limited to small-scale randomized evaluations that focus on nudging students and teachers to use text-based messages to enhance educational outcomes (Hanno, 2023; Taylor et al., 2022). Sometimes, personalized nudges guide educators toward better practices, offering targeted support to enhance learning outcomes (Azzolini et al., 2023; Hustus, 2021; Pugatch & Wilson, 2018).

Given the limited empirical studies on Edunudge applications in academic writing courses, this study offers a unique contribution by focusing on how these strategies can be specifically tailored to improve writing skills, engagement, and academic integrity in this context. By integrating behavioral nudges into the curriculum design of writing courses, this research aims to fill a critical gap in the literature and provide actionable insights for educators and policymakers.

To summarize, while limited empirical research has been done on applying Edunudge in academic writing courses, instructors still need to start employing strategies that align with the principles of nudge theory. Instructors may already be integrating techniques rooted in educational and behavioral paradigms that could be classified as nudges. Therefore, the aim is to first examine the existing practices within academic writing courses and assess them through the framework of nudge theory. The research question guiding this study is as follows: *What shoves currently exist in academic writing courses, and how can they be effectively transformed into supportive nudges to enhance student engagement and learning outcomes?*

2. Methodology

2.1 Conceptual Framework

2.1.1 Nudge Theory and Dual-Process Thinking

This study is grounded in Nudge Theory, originally proposed by Thaler and Sunstein (2008), which posits that small, non-coercive interventions (nudges) can influence behavior by guiding people toward better decisions without restricting their autonomy. The theory relies on dual-process theory, which explains human behavior as driven by two cognitive systems:

- **System 1** (intuitive) is fast and automatic, guiding routine decisions.
- **System 2** (reflective) is slow and deliberate, engaged in more complex decision-making.

In academic settings, **nudges** can steer students toward better learning behaviors by appealing to their System 1 thinking through reminders, social comparisons, and positive reinforcement. More deliberate System 2 nudges involve structured scaffolding and feedback loops to aid complex learning tasks.

2.2 Research Design

This study adopts a qualitative research design to explore shoves in academic writing courses and transform them into supportive nudges. The research is part of a broader project that seeks to enhance student engagement and learning outcomes by applying nudge theory in higher education. The first phase of the research focuses on identifying the directive measures, or "shoves," currently used in academic writing courses and then developing corresponding nudges based on the framework proposed by Weijers et al. (2024).

2.3 Participants and Course Context

The participants in this study included 20 writing professors and 30 undergraduate students from mandatory academic writing courses at a mid-sized university. While all courses shared common goals—developing scholarly communication, critical thinking, and research skills—teaching methods varied slightly across

disciplines. For example, business courses emphasized professional writing, while humanities courses focused on argumentative essays.

Despite these variations, core elements such as rubrics, deadlines, feedback mechanisms, and research expectations were consistent across programs. This allowed for a comparison of common "shoves" like strict deadlines and rubric-based grading, which were present in all courses. Differences in teaching methods were considered during data analysis to ensure context-specific findings.

The professors ranged in age from 30 to 65 years (M = 47.5, SD = 8.2), with 60% identifying as female and 40% as male. The students, selected from various academic programs including business, social sciences, and humanities, ranged in age from 18 to 24 years (M = 20.6, SD = 1.9), with 55% identifying as female and 45% as male. The diversity in age and gender among the participants provided a broad perspective on the different shoves encountered in writing courses.

2.4 Data Collection

The author conducted all interviews with the participants, ensuring consistency in the data-gathering process. It is important to note that the author was not one of the professors who taught the academic writing courses in which the student participants were enrolled. This helped reduce any potential bias or influence that might arise from direct involvement in teaching these courses. The semi-structured interviews focused on the participants' experiences with directive measures (shoves) and the potential for implementing supportive nudges in the courses. This method was chosen due to its structured yet flexible approach, which allows for deep exploration of complex phenomena (Roulston, 2021). The interviews were designed to elicit detailed descriptions of the shoves experienced in academic writing courses and their perceived impact on student engagement and learning. Professors were asked about their teaching practices, particularly the use of rubrics, deadlines, and assessment methods, while students were asked to reflect on their experiences in the courses, including any challenges they faced and the strategies they used to cope with them.

Before the interviews began, ethical approval was obtained from the university's Institutional Review Board (IRB). Participants were provided with detailed information about the study, including its purpose, the voluntary nature of their participation, and assurances of confidentiality. Written informed consent was secured from all participants.

Interviews were conducted in settings that ensured privacy and comfort for the participants. Depending on the participants' preference and availability, interviews were conducted in person or via video-conferencing platforms like Zoom. Each interview lasted 45 to 60 minutes, which provided ample time for participants to share their experiences and perspectives. With the participants' consent, all interviews were audio-recorded to ensure the accuracy of the data collected. The author transcribed the recordings verbatim, with any identifying information anonymized to protect participant privacy. The transcriptions were carefully reviewed for accuracy before proceeding with the data analysis.

In addition to the interviews, document analysis was performed on course syllabi, assignment guidelines, and rubrics used in the academic writing courses. This analysis aimed to identify formalized shoves embedded in the course design, providing additional context to the interview findings. After each interview, participants were allowed to ask questions or clarify any points they had made. They were also informed about the possibility of follow-up interviews or further contact if additional clarification was needed during the data analysis phase.

This comprehensive approach to data collection ensured that the data gathered was rich and reliable, providing a solid foundation for the subsequent analysis and for developing effective nudges to replace the identified shoves.

2.5 Data Analysis

The data was analyzed using a grounded theory approach commonly employed in educational research to generate theory from qualitative data by uncovering underlying processes and patterns (Charmaz, 2014). Grounded theory uses an inductive process, allowing themes and theoretical concepts to emerge directly from the data, rather than being imposed by preconceived categories (Glaser & Strauss, 1967). This approach is particularly valuable for novice researchers, as it provides a systematic framework for analyzing qualitative data (Chun Tie et al., 2019).

The first step, open coding, involved breaking down the data into discrete parts and labeling them based on content (Charmaz, 2014). The transcripts were carefully reviewed multiple times to ensure a thorough understanding of the participants' nuanced experiences. Codes were assigned to highlight specific experiences related to shoves in academic writing courses and their influence on student engagement. Following this, axial coding was performed to identify relationships between the initial codes and organize them into broader

categories. This stage revealed patterns linking the shoves to factors such as student motivation and the use of unethical strategies, leading to the consolidation of codes into key themes (Corbin & Strauss, 2015).

Finally, selective coding was employed to refine the categories into a cohesive narrative that addressed the central research questions (Birks & Mills, 2015). Throughout the process, constant comparison was used to continually refine the emerging themes, ensuring they were grounded in the participants' experiences (Bryant & Charmaz, 2019). The resulting theoretical framework provided a foundation for designing nudges to replace the identified shoves, with the aim of supporting positive student engagement in academic writing courses (Chun Tie et al., 2019).

3. Findings

In this section, citations provide illustrative examples of the phenomena observed in the study rather than representing all of the participants' experiences. Through the analysis of interviews with 20 writing professors and 30 students, and the document analysis of 20 course-related documents—including syllabi, assignment guidelines, and rubrics—a number of shove categories were identified (Table 1). The categories reflect the directive practices or "shoves" embedded in academic writing courses that frequently result in adverse outcomes, such as student disengagement, heightened anxiety, and unethical behaviors.

The identified shove categories include the use of strict rubrics (see Table 1 for an example), which are highly detailed and inflexible. These often constrain creativity and limit the ability of students to explore different writing styles or approaches. Another significant shove is the imposition of high-stake deadlines with substantial penalties for late submissions. This practice can increase student anxiety and discourage thoughtful work. Similarly, standardized feedback, which is generic and one-size-fits-all, fails to address individual student needs or learning processes, making it another common shove in these courses.

Table 1. Sample of Strict Rubrics

Criteria	Points	Details	Penalties
Structure and Organization	30 points	- Clear thesis in the introduction (10 pts) - Topic sentences in each body paragraph (10 pts) - Conclusion restating thesis (10 pts)	-5 points for missing or unclear thesis, -3 points for missing topic sentences
Content and Argumentation	20 points	- Clear, arguable thesis (10 pts) - Exactly 3 sources used, no more or less (10 pts)	-5 points for each missing source, -3 points for unclear argument
Grammar and Mechanics	20 points	- Maximum of 2 grammar errors allowed (10 pts) - No spelling or punctuation errors (10 pts)	-2 points for each additional grammar error, -1 point per punctuation/spelling mistake
Formatting	20 points	- 12-point Times New Roman, double-spaced, 1-inch margins (10 pts) - Proper APA citation style (10 pts)	-5 points for incorrect font or spacing, -3 points for incorrect citation formatting
Timeliness	10 points	- Submitted by the deadline; full points awarded	-10 points per day late, no submissions accepted after 3 days late

Other identified shoves include penalizing late submissions, where strict enforcement of late penalties needs to consider individual circumstances, leading to rushed and lower-quality work. Mandatory peer reviews, often required without adequate guidance or training, can result in unproductive or harmful feedback, adding to the students' challenges. The enforced use of specific resources, such as mandated texts or databases, is another shove that can stifle independent research and critical thinking. Finally, plagiarism threats—where punitive language and severe consequences are emphasized—can create a climate of fear rather than fostering a genuine understanding of academic integrity.

The following sections will explore these shove categories, supported by direct participant quotes and examples from the analyzed documents.

Table 2. Shove Types and Summary of Findings

Shove Type	Number of Interviews that Mentioned the Shove (out of 50 interviews)	Proportion of Total Mentions of Shoves (out of 130 mentions)	Number of Documents that Stipulate Shoves (out of 20 documents)
Directive Shoves			
Strict Rubrics	22 (44%)	16.9%	8 (40%)
High-Stakes Deadlines	25 (50%)	19.2%	20 (100%)
Standardized Feedback	18 (36%)	13.8%	7 (35%)
Assessment Shoves			
Penalizing Late Submissions	29 (58%)	22.3%	100 (100%)
Mandatory Peer Reviews	23 (46%)	17.7%	8 (40%)
Content Shoves			
Enforced Resource Use	14 (28%)	10.8%	6 (30%)
Plagiarism Threats	36 (72%)	27.7%	10 (50%)
Mandatory Discussion Board Entries	16 (32%)	12.3%	7 (35%)

The findings of this study reveal that academic writing courses are frequently structured around various "shoves," or punitive measures that significantly influence the student experience. These shoves were identified through a comprehensive analysis involving 50 interviews with teachers and students and a review of 20-course documents (official materials used in the academic writing courses that provide structure, guidelines, or expectations for students such as syllabi, assignment guidelines, and feedback forms to name a few). The data revealed 130 mentions of shoves, categorized into Directive Shoves, Assessment Shoves, and Content Shoves.

3.1 Directive Shoves

Strict Rubrics emerged as a significant source of concern, with 44% of the interviewees (teachers and students) highlighting their impact. In 40% of the analyzed documents, strict rubrics enforced rigid standards, leaving little room for creativity or deviation from a prescribed format. One teacher commented, *"The rubric is our guide; it keeps everyone on the same page, but sometimes it feels too restrictive for students who want to express themselves differently."* While ensuring consistency in grading, this approach often stifles students' ability to explore alternative ways of structuring their arguments, leading to 16.9% of the total mentions of shoves.

High-Stakes Deadlines were the most frequently mentioned shove in this category, with 50% of the interviews discussing their impact. Found in 100% of the course documents, these deadlines contribute to a high-pressure environment, as noted by a student: *"The deadlines are strict, and there is no room for error. It makes me anxious, and I end up rushing my work just to meet them."* Another student commented, *"We have to finish so many things for this course, and there are so many deadlines! Sometimes I get confused about what is due and when."* This shove accounted for 19.2% of the total mentions, underscoring its pervasive influence on student stress levels and the overall quality of their submissions.

Standardized Feedback was cited in 36% of the interviews and appeared in 35% of the documents, accounting for 13.8% of total mentions. This practice often involves providing generic, non-specific feedback aligned with rubric criteria, leaving students feeling that their efforts must be adequately recognized. One student expressed frustration: *"The feedback I get is always the same; it is like they just copy and paste it. It does not really help me improve."* One of the comments criticized what they called "*the clickable feedback,"* where teachers click certain boxes that are supposed to represent the mastery skill level. This lack of personalization can diminish students' motivation and hinder them from developing more vital writing skills.

3.2 Assessment Shoves

Penalizing Late Submissions was the most frequently mentioned shove in this category, with 58% of the interviews highlighting its impact. This practice, found in 100% of the documents, accounted for 22.3% of the total mentions, making it a significant factor in the punitive culture of academic writing courses. A teacher noted, *"We have to penalize late work to maintain standards, but I know it stresses the students, especially when juggling multiple assignments."* One of the reviewed syllabi read:

> Please note that late submissions will result in an automatic deduction of marks. If the assignment is late, 10% of the total possible points will be deducted daily. After THREE days, the assignment will not be accepted, and a grade of zero will be recorded.

This shove often exacerbates anxiety and can lead to a focus on meeting deadlines at the expense of producing thoughtful, well-developed work.

Mandatory Peer Reviews were discussed in 46% of the interviews and appeared in 40% of the documents, representing 17.7% of the total mentions. While intended to foster collaboration and critical thinking, the reviews often lead to frustration when students feel unqualified to provide meaningful feedback or receive unhelpful comments. A student said, *"I don't mind peer reviews, but sometimes the feedback I get is useless. It feels like we are just going through the motions."* This shove can undermine the potential benefits of peer learning by creating a sense of obligation rather than genuine engagement. A teacher commented, *"The pressure to complete peer reviews can push students toward unethical behaviors, such as providing superficial feedback or even recycling comments from previous assignments."* The focus on compliance rather than meaningful engagement could thus undermine the educational value of the exercise, leading to a box-ticking mentality rather than fostering genuine learning and improvement.

3.3 Content Shoves

Enforced Resource Use was noted as a shove in 28% of the interviews and appeared in 30% of the documents, accounting for 10.8% of total mentions. This practice restricts students' ability to explore a broader range of materials. As one teacher explained, *"We require students to use specific resources to ensure they meet the academic standards, but it limits their ability to think independently and find sources that resonate with their interests."* One of the reviewed assignments stipulated:

> Write a 2,000-word essay [...] Your essay must include references from at least four peer-reviewed journal articles available through the university's library database. Please note that sources from external websites, popular media, or non-academic publications are strictly prohibited. Using any resources outside the approved database will result in a 15% deduction from your overall grade for this assignment.

Such restrictions can hinder the development of independent research skills and reduce student engagement.

Plagiarism Threats were a significant concern, mentioned in 72% of the interviews and appearing in 45% of the documents. This shove, accounting for 27.7% of total mentions, creates a climate of fear that can stifle creativity. A student remarked, *"The constant warnings about plagiarism make me second-guess everything I write. I am so worried about accidentally copying something that I cannot focus on being original."* The syllabus of one of the writing courses had the following warning:

> Plagiarism is a serious violation of academic integrity and will not be tolerated in this course. Plagiarism includes submitting someone else's work as your own, failing to properly cite sources, copying text or ideas without credit, and using unauthorized materials during exams or assignments, including AI-generated text. Any instance of plagiarism will result in an automatic grade of zero for the assignment in question and may lead to further disciplinary action, including failing the course or referral to the academic integrity committee. To avoid plagiarism, students are encouraged to use the university's plagiarism detection software before submitting their work and to review the guidelines on proper citation practices.

While necessary for maintaining academic integrity, these threats can lead to overly cautious writing and a lack of confidence in one's own ideas.

Mandatory Discussion Board Entries were mentioned in 32% of the interviews and appeared in 35% of the documents, representing 12.3% of total mentions. Although discussion boards are designed to promote interaction and critical thinking, their mandatory nature often results in superficial participation. A student noted, *"I post on the discussion boards because I must, but I do not engage with the content; it is just another box to tick."* This shove can reduce the effectiveness of discussion boards as a tool for meaningful academic discourse.

The analysis highlights the prevalence of shoves across academic writing courses, revealing how punitive measures can negatively impact student engagement, learning outcomes, and overall satisfaction. The data underscores the need for more supportive, flexible pedagogical approaches that prioritize student well-being and promote a more positive learning environment.

4. Introduction to Nudge Interventions

In response to the various shoves identified in academic writing courses, a series of nudge interventions were designed and implemented, categorized into intuitive and didactic nudges. The interventions, rooted in behavioral economics, aim to subtly guide students toward more desirable behaviors without restricting their

autonomy. Unlike shoves, which often rely on punitive measures and can lead to adverse outcomes such as anxiety and disengagement, nudges offer a supportive approach that encourages positive student behavior and enhances learning outcomes.

4.1 System 1 (Intuitive Nudges)

System 1 (intuitive nudges) leverages natural human instincts and social behaviors to influence student actions in a way that feels effortless and aligned with the students' inherent tendencies. The nudges work subtly, often without the student realizing they are being guided.

4.1.1 Automated Deadline Reminders

Automated deadline reminders were introduced to alleviate the stress and anxiety associated with high-stakes deadlines. The reminders are strategically timed to appear in students' inboxes and LMS dashboards at intervals before submission deadlines, such as one week, three days, and one day in advance. The messages are designed to be supportive and encouraging, with prompts like "Only three days left to refine your draft. You are almost there!" This nudge helps students manage their time effectively, reducing the likelihood of last-minute work and the need for punitive late submission penalties.

4.1.2 The Default Research Pathway

A central nudge in the course involved structuring research activities to make reliable academic sources the easiest and most accessible option. This was achieved by pre-populating the course materials and assignment guidelines with curated lists of trusted databases and scholarly resources. This nudge steered students toward high-quality sources by simplifying the decision-making process and reducing cognitive load, diminishing reliance on dubious online content or AI-generated material. This nudge is grounded in the principle of default options, a key concept in nudge theory, which posits that people tend to follow the path of least resistance.

4.1.3 Social Comparison Nudges

Several nudges were integrated into the course structure to harness the motivating power of social comparison. A visual progress meter was implemented in the LMS, displaying the number of students who had completed the assignment and the dates they did so. This visual cue served as a subtle social comparison nudge, encouraging students to stay on track by observing the progress of their peers. An optional alarm feature was also introduced, which would ding each time a peer submitted an assignment, further reinforcing the social comparison effect. Building on Festinger's (1954) social comparison theory, which suggests that individuals evaluate their progress relative to others, these interventions aim to create a transparent and socially driven environment that leverages natural competitive instincts to foster timely submissions and reduce procrastination.

4.1.4 Citation and Attribution Reminders

The course's Learning Management System (LMS) included automated reminders prompting students to verify their citations and ensure proper attribution for traditional sources and AI-generated content. The reminders were strategically timed to appear during assignment submissions, reinforcing ethical research habits throughout the course. By integrating these reminders into the assignment workflow, the nudge subtly encouraged students to prioritize academic integrity.

4.1.5 Informational Nudges to Combat Plagiarism

To address the issue of plagiarism, a series of informational nudges (or honesty nudges as termed by Le Maux & Necker, 2023) were designed and integrated into the LMS to promote academic integrity and guide students toward ethical writing practices. The nudges provided students with timely, relevant information that reinforced the importance of original work and proper citation, aiming to prevent plagiarism before it occurred. Automated plagiarism awareness prompts appeared at critical stages of the writing process, reminding students to cite sources correctly and providing links to the university's plagiarism policy. In addition, a plagiarism awareness module offered interactive tutorials on citation styles, paraphrasing techniques, and the ethical use of sources, referenced periodically throughout the semester. Real-time feedback nudges were also included, alerting students to check their work through plagiarism detection tools before submission, focusing on learning and improvement rather than punishment.

4.2 System 2 (Didactic Nudges)

System 2 (didactic nudges) are more structured and instructional, providing clear and direct support within the learning process. These nudges offer explicit guidance while still allowing for student autonomy, to help foster a more engaged and motivated learning environment.

4.2.1 Progressive, Scaffolded Assignments

The course incorporated a series of staged, scaffolded assignments with clearly defined milestones to combat procrastination and the associated risks of last-minute plagiarism. The milestones, such as submitting a research proposal, followed by an annotated bibliography and a draft outline, were designed to nudge students toward gradual, consistent engagement with their work. Each stage was reinforced with embedded feedback loops, nudging students to refine their research and writing practices iteratively rather than seeking quick, unethical shortcuts.

4.2.2 Ethical AI Usage Reflection Prompts

With AI tools becoming increasingly prevalent, the course integrated reflection prompts into key assignments. The prompts required students to critically assess the role of AI in their work, focusing on the boundaries between ethical assistance and unethical reliance. The prompts were designed to encourage transparency and responsible AI use, asking students to reflect on whether their use of AI enhanced their understanding or circumvented the learning process. This nudge aimed to cultivate metacognitive awareness and ethical decision-making regarding emerging technologies.

4.2.3 Interactive Modules on Plagiarism and AI Ethics

During the initial weeks, the course also featured interactive workshops on plagiarism and AI ethics. These modules included scenario-based learning, case studies, and group discussions, providing students a comprehensive understanding of academic integrity principles. Follow-up reflection activities and reminders throughout the semester ensured that these ethical concepts remained salient. The interactive design of these modules acted as a nudge by encouraging active participation and sustained engagement with the course's ethical guidelines.

5. Discussion and Conclusion

The findings of this study underscore the significant role that punitive measures, or "shoves," play in shaping students' experiences in academic writing courses. Strict rubrics, high-stakes deadlines, and standardized feedback emerged as major sources of stress and disengagement, contributing to increased anxiety and surface-level learning. These results are consistent with concerns raised by French et al. (2023) and Sweeney (2023) about the unintended consequences of rigid academic standards on student well-being and educational outcomes.

In light of these findings, the study highlights the potential for data-driven approaches to transform educational interventions by moving beyond rigid, standardized practices. The growing interest in using data creatively to inform teaching strategies allows for a shift away from traditional, one-size-fits-all methods toward more personalized and adaptive solutions. By analyzing specific patterns in how shoves impact student engagement, educators can design targeted interventions that address the unique needs of different student groups. This approach enables the development of evidence-based strategies, such as nudges, that are fine-tuned to promote positive learning behaviors and reduce the adverse effects of punitive measures. Ultimately, leveraging data in this way can help create a more responsive and supportive educational environment that fosters deeper learning and student well-being.

The study suggests that integrating behavioral nudges into academic writing courses can mitigate the negative impacts of traditional shoves, leading to improved student engagement and learning outcomes. This shift from punitive measures to supportive nudges aligns with broader educational research advocating for the use of behavioral insights to enhance teaching and learning practices (Sunstein, 2016). Behavioral nudges, such as automated reminders, scaffolded assignments, and social comparison cues, offer a flexible and motivating approach that can guide students toward more productive behaviors while maintaining their autonomy. As demonstrated in recent studies (e.g., Clark et al., 2020; Brown et al., 2023), such strategies can significantly reduce procrastination, foster consistent engagement, and promote deeper learning.

However, while qualitative data from this study provides valuable insights into the benefits of nudges, there are limitations that must be acknowledged. The findings are based on data from a single institution, which may not fully capture the diversity of experiences across different educational settings. Additionally, the study does not quantitatively measure the effectiveness of the proposed nudges, leaving their long-term impact on student behavior and academic performance open for future research. Despite these limitations, the implications of this study are significant for educators and policymakers. It highlights the need for more supportive and flexible instructional practices, suggesting that incorporating behavioral insights into curriculum design can lead to more positive learning environments and outcomes.

Future research should continue exploring the application of nudges in educational contexts to validate these findings through larger-scale studies and quantitative methods, such as randomized controlled trials (Thaler & Sunstein, 2008). This would provide a more robust understanding of how nudge-based approaches can be applied across various educational settings, particularly in online and blended learning environments where self-regulation plays a crucial role.

Overall, this study contributes to ongoing discussions about enhancing the quality and inclusiveness of academic writing instruction. By transitioning from rigid standards and punitive measures to supportive, nudge-based strategies, educators can develop a more adaptive framework that better meets the needs of students. Such a shift holds the potential for fostering improved engagement, academic integrity, and long-term educational outcomes, ultimately promoting a more positive learning environment in higher education.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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