Beyond the Norm: Leveraging Carrots and Sticks to Fuel Post-graduate Students' Enthusiasm in Class

Nur Arfah Mustapha[1,2, *], Hadijah Iberahim[1], Syed Jamal Abdul Nasir Syed Mohamad[1]

[1] Arshad Ayub Graduate Business School, Universiti Teknologi MARA, 40450, Shah Alam, Selangor, Malaysia
[2] Yamaguchi University Management of Technology Graduate School of Innovation and Technology Management, Ube, Yamaguchi 755-8611, Japan

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ABSTRACT

This study assesses the carrot and stick theory's role in boosting engagement and enthusiasm among postgraduate students, particularly within a business research methodology course targeting adult learners. It confronts the challenge of maintaining these learners' interests, which tends to wane without innovative and captivating teaching methods. The investigation focuses on combating the noticeable dip in student engagement during presentations by testing a reward-based system. Over two semesters, the research compared three experimental classes that introduced rewards for active engagement—especially for those asking insightful questions—against one control class that utilized a rotation system for student participation as panellists. Engagement levels were quantified using student responses from Poll Everywhere polls, evaluating their reception and feedback on the sessions. The experimental approach significantly outperformed the control in terms of student enjoyment, engagement, and initiative, confirming the effectiveness of incentive-driven strategies in educational settings. These findings advocate for the carrot and stick method's utility in promoting a more interactive and engaging classroom atmosphere for adult learners, emphasizing its importance for improving educational experiences in higher education.

1. Introduction

In the realm of higher education, engaging students in class presentations is a fundamental aspect of fostering active learning and knowledge acquisition. However, in the context of a business research methodology course catering to adult learners, the issue of student disengagement during presentations has been observed.

"Lack of attention and active participation from the audience undermines the effectiveness of the learning experience for both presenters and their peers [1]. To address this challenge, the application of motivational strategies becomes crucial in enhancing student engagement and enthusiasm.

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* *Corresponding author.*
E-mail address: arfahmustapha@uitm.edu.my

By implementing various techniques such as gamification, interactive activities, and personalized learning experiences, educators can create an environment that fosters active involvement and promotes a deeper understanding of the subject matter. These motivational strategies not only increase student satisfaction but also contribute to improved academic performance and knowledge retention [1]. Therefore, incorporating these strategies into educational settings is essential for creating an engaging and effective learning environment."

One such motivational theory that holds promise in this context is the carrot and stick theory. Originating from behavioural psychology, the carrot and stick theory posits that individuals can be motivated through a combination of rewards (carrots) and consequences (sticks) to modify their behaviour and achieve desired outcomes [2]. By incorporating this theory into the context of class presentations, where students who are not presenting are incentivized to actively listen and ask questions, the aim is to create a dynamic and engaging environment that fosters knowledge exchange and deeper understanding.

In this empirical paper, we investigate the effectiveness of leveraging carrots and sticks to fuel postgraduate students' enthusiasm in class presentations within the business research methodology course. With a focus on adult learners, including a significant proportion of working professionals, we aim to address the observed lack of engagement and passive audience behaviour during presentations. By implementing the carrot and stick theory, where students who ask questions are rewarded, we seek to incentivize active listening, critical thinking, and participation among the audience. The gap in existing research primarily lies in the nuanced understanding of engagement strategies that effectively cater to adult learners, who exhibit distinct learning behaviours and motivational drivers compared to traditional undergraduate students. While undergraduate learners might engage more readily in classroom activities due to different stages of cognitive development and life responsibilities, adult learners often require more tailored approaches that acknowledge their unique needs and experiences. The literature indicates that adult learners, who typically juggle various personal and professional responsibilities, might not respond as effectively to conventional engagement tactics used in undergraduate education [24,25]. This study seeks to address this gap by exploring the effectiveness of the carrot and stick theory as a motivational strategy specifically designed for adult learners in a postgraduate setting. By focusing on adult learners enrolled in a business research methodology course, the research aims to uncover whether reward-based systems can significantly enhance their engagement and enthusiasm compared to traditional engagement methods. The distinction between the motivational triggers and engagement levels of adult versus undergraduate learners underscores the need for innovative teaching strategies that are sensitive to the mature student's learning context, thereby filling a critical gap in educational research and practice.

Furthermore, this study seeks to examine the impact of the carrot-and-stick approach on student perceptions and overall session outcomes. Through the use of real-time polling and feedback collection using Poll Everywhere, we gather valuable insights into student experiences, perceptions, and the effectiveness of the implemented motivational strategy [19,21]. By observing and analyzing data collected over two semesters, including a control class, we aim to provide empirical evidence of the efficacy of this approach in enhancing student engagement and enthusiasm during research methodology presentations. This study seeks to contribute to the existing literature by quantitatively evaluating the impact of the proposed approach on student outcomes, such as increased participation, improved comprehension, and heightened motivation during research methodology presentations. Additionally, qualitative feedback from students will be gathered to gain deeper insights into their perceptions and experiences [3]. The findings of this research will shed light on the

practical implications and potential benefits of adopting this approach in academic settings, facilitating evidence-based decision-making for educators and researchers alike.

By integrating motivational strategies tailored to adult learners, this research endeavours to contribute to the field of higher education and pedagogy, providing insights into effective techniques to facilitate engaging and impactful class presentations. Ultimately, the findings of this study have the potential to inform educators and institutions seeking to enhance student participation and learning outcomes in similar academic settings.

2. Past Studies
2.1 Adult Learners

Engaging adult learners in educational settings, particularly during class presentations, is a critical aspect of promoting active learning and knowledge transfer [3, 4]. While it is commonly believed that such interactive sessions are more effective with younger students, there is a growing body of research indicating that adult learners also highly value and benefit from these experiences[3, 5]. Adult learners often exhibit a strong willingness to actively participate and contribute to their personal experiences, enhancing the overall learning environment for both presenters and the audience [5]. This research suggests that interactive class presentations hold significant potential for fostering engagement and knowledge sharing among adult learners, challenging the previously held notion that they are more suitable for younger demographics [3]. By incorporating interactive elements into class presentations, educators can create a dynamic learning atmosphere that caters to the diverse needs and preferences of adult learners, ultimately facilitating effective knowledge acquisition and retention [5].

Several studies have highlighted the positive impact of incorporating interactive sessions in adult education. For instance, the previous study, [6] emphasized the importance of creating a learning environment that acknowledges the wealth of experience and knowledge adult learners bring to the table. By encouraging adult learners to actively participate, ask questions, and share their perspectives, educators can tap into the valuable resources they possess and foster a collaborative and enriching learning environment.

Furthermore, recent research conducted between 2020 and 2023 has consistently shown that when adult learners actively engage in interactive sessions, they not only contribute to the overall learning experience but also provide valuable insights that may not have been considered by the presenters themselves [7]. Adult learners, drawing from their diverse backgrounds, professional experiences, and personal anecdotes, often offer alternative perspectives that shed new light on the research or topic being presented [7]. This fresh outlook, stemming from the unique experiences of adult learners, encourages presenters to view their research or topic from different angles, stimulating critical thinking and promoting a deeper understanding of the subject matter [8].

Moreover, the act of asking questions during presentations has been consistently found to be beneficial for both the questioner and the presenter. When adult learners ask questions, they not only demonstrate their engagement and active involvement in the session but also enhance their own learning experience [8]. Research spanning from 2018 to 2023 supports this notion, highlighting the positive impact of questioning on adult learners' cognitive development and knowledge acquisition [3].

By seeking clarification, requesting additional information, or challenging assumptions, questioners actively contribute to their research journey, refining their understanding and expanding their knowledge [8]. The incorporation of the carrot and stick theory in class presentations provides a practical framework for enhancing adult learners' engagement and enthusiasm. Recent studies

have demonstrated that rewarding those who ask questions creates an environment that encourages active listening, participation, and critical thinking among adult learners [7]. Adult learners, being motivated by both intrinsic and extrinsic factors, respond positively to such incentives, as they recognize the value of their contributions and the benefits gained from engaging in meaningful dialogue with their peers [5,9].

It is commonly believed that interactive sessions are more successful with younger students, recent research from 2018 to 2023 indicates that adult learners also benefit greatly from these experiences [3,7]. Their willingness to actively participate and contribute to their unique experiences fosters a dynamic and collaborative learning environment. Furthermore, asking questions not only enhances the presenter's perspective but also contributes to the questioner's research journey, deepening their understanding and expanding their knowledge base [5,8]. By leveraging the carrot and stick theory, educators can tap into adult learners' intrinsic motivation, further fueling their engagement and enthusiasm during class presentations [3]. This research from 2018 to 2023 emphasizes the importance of incorporating interactive elements and incentives to optimize adult learners' engagement and overall learning outcomes.

Engaging adult learners in educational settings is crucial for promoting active learning and knowledge transfer, especially during class presentations. Contrary to popular belief, a growing body of research indicates that adult learners value and benefit significantly from interactive sessions [10]. Incorporating interactive sessions in adult education taps into the wealth of experience and knowledge that adult learners bring, fostering a collaborative and enriching learning environment. Additionally, adult learners offer valuable insights and alternative perspectives, stimulating critical thinking and promoting a deeper understanding of the subject matter.

Asking questions during presentations is beneficial for both the questioner and the presenter. When adult learners ask questions, they demonstrate their engagement and active involvement, enhancing their learning experience by seeking clarification, requesting additional information, or challenging assumptions. The act of asking questions encourages active participation and contributes to the questioner's research journey, refining their understanding and expanding their knowledge.

Furthermore, researchers have found that incorporating the carrot and stick theory in class presentations can enhance adult learners' engagement and enthusiasm. By rewarding those who ask questions, educators create an environment that encourages active listening, participation, and critical thinking [11]. Adult learners, who are motivated by both intrinsic and extrinsic factors, respond positively to such incentives, recognizing the value of their contributions and the benefits gained from engaging in meaningful dialogue with their peers.

Interactive sessions have traditionally been associated with younger students. However, research indicates that adult learners also greatly benefit from these experiences. The active participation and unique experiences of adult learners contribute to a dynamic and collaborative learning environment [12]. Additionally, asking questions during presentations not only enhances the presenter's perspective but also promotes the questioner's research journey. By leveraging the carrot and stick theory, educators can tap into adult learners' intrinsic motivation, further fuelling their engagement and enthusiasm during class presentations.

As an academician, the focus of my current research is on the applications of constructivist learning theory and social learning theory on adult continuous development. This topic is of great significance as it is crucial to understand how adults learn and develop to provide effective education and training programs. In this empirical paper, I aim to explore the various ways in which constructivist learning theory and social learning theory can be applied to promote continuous development among adults.

To achieve the objectives of this research, I have referred to several studies that have investigated the topic of adult learning and development. The references that I have consulted are from the previous studies [13-19]. These studies provide valuable insights into the factors that influence adult learning and development and the various approaches that can be used to promote continuous development. These studies provide valuable insights into the factors that influence adult learning and development and the various approaches that can be used to promote continuous development.

In the previous study, [14] conducted a study on resistance and resilience to coral bleaching and its implications for coral reef conservation and management. The study found that coral reefs are resilient to bleaching events, but their ability to recover is limited by several factors, including water temperature, water quality, and other stressors. Another study [15] investigated the long-term region-wide declines in Caribbean corals and found that these declines were due to a combination of factors, including overfishing, pollution, and climate change.

2.2 Motivational Theory

Motivation plays a vital role in student engagement and academic success. As educators, it is essential to explore various motivational theories and their implications for fostering student engagement in the classroom. By examining these theories, educators can gain insights into how to motivate students, promote active involvement, and establish a positive classroom atmosphere conducive to learning. One theory that holds significance in student engagement is Self-Determination Theory (SDT). According to SDT, students have inherent psychological needs for autonomy, competence, and relatedness [20]. Educators can foster student engagement by supporting autonomy, providing opportunities for mastery, and nurturing positive relationships within the classroom. By offering choices, encouraging self-directed learning, and promoting collaboration, educators can tap into students' intrinsic motivation and enhance their engagement in class activities [20].

Another theory that contributes to student engagement is the Expectancy-Value Theory. This theory suggests that students' motivation is influenced by their perceived expectancy of success and the value they attach to the task or subject [21]. To promote student engagement, educators should establish clear expectations, provide meaningful learning experiences, and emphasize the relevance and importance of the content. By creating a supportive and challenging learning environment, educators can help students develop a sense of competence and intrinsic motivation.

Achievement Goal Theory offers insights into how students approach achievement and the goals they set for themselves [22]. Educators can foster student engagement by promoting mastery goals, where students focus on learning and improvement rather than solely on performance outcomes. Providing constructive feedback, encouraging effort and growth, and fostering a classroom culture that values progress can enhance students' intrinsic motivation and engagement in the learning process [22].

Social Cognitive Theory highlights the reciprocal interaction between individuals, their behaviour, and the environment [23]. In the classroom, educators can employ strategies such as modelling, providing opportunities for observational learning, and fostering a supportive peer environment. By creating positive role models, promoting collaborative learning, and offering scaffolding, educators can enhance student engagement and motivation through social interaction and observational learning.

One theory that holds significance in student engagement is the Carrot and Stick Theory. The theory suggests that individuals can be motivated through a combination of rewards (carrots) and consequences (sticks) [24]. In the context of the classroom, educators can leverage this theory by

implementing a system where students receive rewards for active participation, high-quality work, and meeting set goals. Simultaneously, there may be consequences for lack of engagement or failure to meet expectations. This approach creates incentives for students to actively engage in class activities and strive for excellence. Below is the diagram to justify why carrot and stick were chosen as the underpinning theory for this research.

The connection between carrot and stick towards reward, performance, and learner. However, there is a missing link to connect rewards to postgraduate students. This paper will contribute to the connection between postgraduate students and rewards in the classroom. Figure 1 shows that the connection between the "carrot and stick" theory and rewards is an area that has not been thoroughly explored or encountered by adult learners or post-graduate students relating to rewards as compared with Figure 2 and Figure 3.
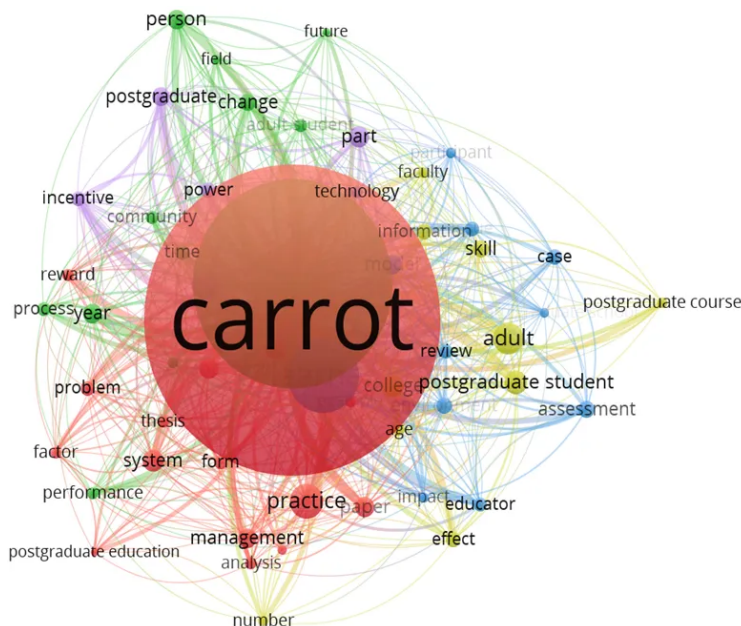

Fig. 1. Carrot and stick underlying theory connections from previous studies
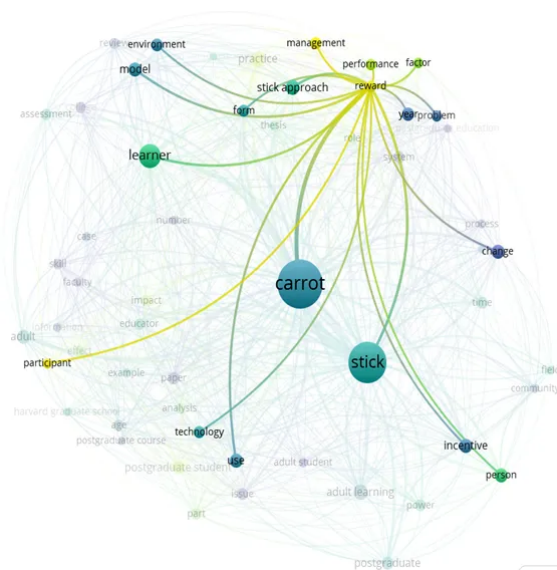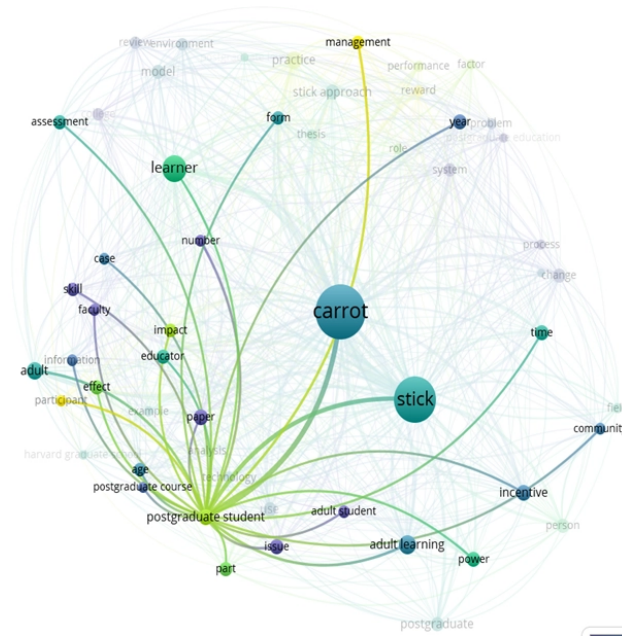

Fig. 2. Unexplored terrain: The carrot and stick paradigm in adult learning relating to reward

Fig. 3. Exploration of adult learners and post-graduate students, emphasizing the neglected realm of rewards

3. Methodology

To investigate the effectiveness of implementing motivational theories in fostering student engagement, a mixed-methods research approach was employed. The study was conducted over a semester, involving a sample of undergraduate students from multiple classes in a business research methodology course.

In addition, classroom observations were conducted to assess the dynamics of student engagement during class presentations and discussions. These observations helped capture the observable behaviours and interactions among students and between students.

3.1 Study Design

This empirical study employed a mixed-methods approach to investigate the impact of leveraging the carrot and stick theory on postgraduate students' engagement and enjoyment in research methodology class presentations. The study spanned two semesters, starting from May 2022, and consisted of three experimental classes and one control class.

3.2 Units

The study participants were postgraduate students enrolled in the business research methodology course. The students were adult learners, and approximately half of them were working professionals. The sample size and demographic distribution were consistent across all four classes.

3.3 Experimental Intervention

The experimental intervention involved implementing the carrot and stick theory in three out of the four classes. In these classes, students who were not presenting were encouraged to actively

listen and focus on the presenters. At the end of each presentation, students were allowed to ask questions. Those who asked insightful questions were rewarded. The control class, on the other hand, had a different approach where students took turns acting as panellists and asked questions from various angles to the presenters.

3.4 Data Collection and Analysis

Data collection methods included quantitative feedback through students' polls and qualitative observations. After each session, students were asked to provide feedback using Poll Everywhere, a real-time polling platform. The polls assessed their enjoyment, engagement, and overall experience of the session. Additionally, qualitative observations were made by the researcher during the presentations to capture the dynamics and level of engagement among students.

Quantitative data from the polls were analyzed using descriptive statistics to summarize the students' feedback. The responses were examined to identify trends and patterns regarding their enjoyment and engagement in the sessions [7]. Qualitative observations were transcribed and analyzed thematically to gain insights into the overall session dynamics, including the level of interaction, knowledge transfer, and engagement among participants.

The data from the experimental classes were compared with the control class to evaluate the effectiveness of the carrot and stick intervention (Figure 3). The enjoyment, engagement, and level of interaction in the experimental classes were compared with those in the control class to assess the impact of the intervention on student experiences (Figure 4). Both quantitative and qualitative data were utilized to draw conclusions and insights. Ethical considerations were addressed by ensuring participants' confidentiality and obtaining informed consent for their involvement in the study. The study was conducted in compliance with the ethical guidelines and regulations of the institution.

By employing a mixed-methods approach and collecting both quantitative and qualitative data, this methodology aimed to provide a comprehensive understanding of the impact of the carrot-and-stick intervention on postgraduate students' engagement and enjoyment of in-class presentations.

Fig. 4. Analyzing student feedback to enhance course dynamics

Fig. 5. Analyzing student feedback on sessions for enhanced educational experiences

4. Conclusions

In conclusion, the implementation of the carrot and stick theory in the research methodology class presentations resulted in lively, engaging, and enthusiastic sessions. The experimental classes, where students who were not presenting were encouraged to actively listen and ask questions, exhibited higher levels of effectiveness, resourcefulness, and enjoyment compared to the control class. This finding suggests that the carrot and stick approach holds promise in enhancing adult learners' engagement and enthusiasm in educational settings.

The positive outcomes observed in the experimental classes indicate that adult learners, despite their mature status and professional commitments, are receptive to and benefit from motivational strategies such as the carrot and stick theory. By incorporating their personal experiences and perspectives, adult learners were able to provide valuable insights that enriched the presenters' understanding and expanded their research journey. Furthermore, the active participation and questioning from students during the sessions demonstrated their eagerness to contribute and enhance their own learning experience.

The results of this study highlight the importance of creating interactive and engaging environments for adult learners, where they feel motivated and involved in their educational pursuits. The use of the carrot and stick theory effectively captured the attention and interest of the students, fostering a positive and dynamic atmosphere. Such sessions not only fostered knowledge transfer but also encouraged critical thinking, deeper understanding, and active engagement among the participants.

These findings underscore the significance of employing innovative teaching methods to address the unique needs and preferences of adult learners. The carrot and stick theory, when applied thoughtfully and appropriately, can be a valuable tool in promoting student engagement, enthusiasm, and active participation in class presentations. This study contributes to the existing literature on adult learning by demonstrating the efficacy of this motivational approach in postgraduate education.

It is recommended that educators and institutions explore the incorporation of the carrot and stick theory in their teaching practices to create more vibrant and interactive learning environments. Future research can further investigate the long-term impact of these motivational strategies on adult learners' academic performance, motivation, and overall learning outcomes. By continually adapting and refining instructional approaches, we can cater to the diverse needs of adult learners and foster an environment that promotes their success and satisfaction in higher education.

Acknowledgement

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