

Impact of Positive Interdependence on Interest of University Students in Collaborative Learning Environment

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Abstract

This study investigates the impact of positive interdependence on university students' interest and enjoyment, a core component of intrinsic motivation. Positive interdependence, a key element of collaborative learning, refers to the perception that individual's success is linked to the success of their peers whereas interest and enjoyment, refers to an individual's internal drive to engage in an activity for its inherent satisfaction. Data were collected from 300 students across social sciences departments using a self-developed Likert scale questionnaire. Structural Equation Modelling (SEM) revealed that positive interdependence has strong significant effect on students' interest and enjoyment in academic activities. The high beta values and R^2 scores suggest that students who feel more interdependent on fellow students are far more inclined to take pleasure in and stay motivated in academic pursuits. These findings suggest that fostering positive interdependence where students rely on each other enhances not only academic engagement but also the overall learning experience.

Keywords: Positive Interdependence, Interest and Enjoyment, Collaborative Learning, Intrinsic Motivation.

Introduction

The word "collaboration" describes a meta-conceptual framework for social interaction and individual lifestyle decisions that enables one to learn from and benefit from the contributions of their peers. Recognizing and appreciating the particular talents and accomplishments of each group member is a suggested method of handling interpersonal relationships in a variety of settings, including group meetings. Every group has a hierarchy of authority and a common sense of accountability for the group's deeds. The main concept of collaborative learning is centered on the development of consensus through group members' cooperative efforts, as opposed to a competitive environment where individuals try to surpass their peers. The classroom, committee meetings, neighborhood groups, family interactions, and as a general approach to interpersonal connections are just a few of the settings in which CL practitioners apply this idea (Laal & Ghodsi, 2012).

The core of collaborative actions that characterize collaboration and turn group work into teamwork is positive interdependence. Scholars who are primarily concerned with fostering students' academic success and cognitive development as well as research that focuses on students'

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holistic development have highlighted this crucial aspect (Collazos et al., 2003; Ullah et al., 2020; Hassan et al., 2024). Serrano & Pons (2007) stated that Collaborative learning has the ability to increase profound comprehension by engaging students in top-notch conversations. This theory holds that positive interdependence among group members promotes collaboration. This is done when students consider the participation of each member as crucial for the group's success in accomplishing the specified activity (Scager et al., 2016)

According to Johnson and Johnson (2009), Interdependence comes in two varieties. Positive: when people's actions help achieve shared objectives; negative: when people's actions hinder the attainment of shared objectives.

Collazos et al. (2003) stated that the goal of interdependence is to promote group cooperation. Students must be motivated to collaborate. When group activities foster a sense of mutual reliance and dedication to the shared objective, they are considered collaborative. Such a mentality is essential for successful teams in everything they do. The most important component of classroom cooperation is thought to be positive interdependence.

A group's productivity and accomplishment are mostly affected by the level of positive interdependence among its members. Researchers concluded that groups with a significant amount of positive interdependence perform better than those with a small amount of positive interdependence (Borchert & Zellmer-Bruhn, 2010).

According to Borchert and Zellmer-Bruhn (2010) Positive interdependence in small groups of students can be organized in two ways,

Goal interdependence: individual achievement depends on collective achievement.

Resource interdependence: group members must share vital materials.

Goal interdependence encourages students to support one another in order to increase efficiency in groups, whereas resource interdependence encourages people to seek and use the resources of others to attain their individual objectives. Previous research has shown that goal interdependence leads to increased personal output than resource interdependence (Borchert & Zellmer-Bruhn, 2010).

When a learning environment is constructed with positive interdependence, a student believes that he or she can only accomplish their learning objective if the other students with whom they are collaboratively linked accomplish theirs as well. A student believes that reaching his or her learning objective is unattached to and separate from other students' goal fulfillment when there is no structure for interdependence in the learning environment. Positive interdependence, in theory, encourages group members to work hard and make sure that other group members perform likewise (Lew et al., 1986; ; Naz et al., 2023; Saleem et al., 2024).

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Promotive interaction is the result of positive interdependence. When people support and encourage one another's efforts to achieve the group's objectives (such as optimizing each member's learning), constructive interaction takes place. Oppositional contact is usually the outcome of negative dependency.

Motivation can be defined as the state of being driven or compelled to engage in a specific action or behavior. An individual who lacks the drive or inclination to engage in activities is commonly described as unmotivated, in contrast to an individual who is stimulated or driven towards

achieving a specific goal, which is regarded as being motivated. The majority of individuals who engage in collaborative activities, whether in professional or recreational settings, exhibit a vested interest in motivation. They grapple with the inquiry of the extent to which others, as well as themselves, possess motivation towards a given activity (Ryan & Deci, 2000; Mumtaz et al., 2024). According to the principles of Self-Determination Theory, an individual's actions can be broken down into their underlying motivations or aims. Doing something because it is interesting or enjoyable is an example of intrinsic motivation, while doing something because it will lead to a tangible reward is an example of extrinsic motivation. Thirty years of studies show that one's experience and performance can be influenced by their level of intrinsic versus extrinsic motivation. This study reviews the traditional divide between intrinsic and extrinsic motivation and provides a concise summary of the key differences between the two (Ryan & Deci, 2000).

The importance of interest in helping students achieve better outcomes is gaining more attention in current educational research. Recently, Thoman, (Thoman et al., 2011) found that interest in learning helps by leading the person to obtain the necessary tools for carrying out an activity. When students run out of mental energy after working on something, adding something that catches their attention can allow them to regain their enthusiasm and continue with the task.

There is a clear agreement in the literature about how interest operates. They discuss a variety of critical properties and explain those aspects relevant to how interest affects learning. First of all, interest is focused on a particular topic. Things we can focus on in psychology are as numerous as people's experiences, objects, thoughts, events, or activities. In this text, we will group all the points mentioned under the term "content." Next, people keep their interest by taking part in the interest's content. Focusing on an individual's interests will encourage them to interact with the environment more (Holmes, 2018).

Interest combines various feelings, mental processes and actions so that a person is motivated to face and take part in what the interest is about. For instance, (Thoman et al., 2011) in their study, made a difference between immediate "interest" and the general "interest" orientation. Researchers (Renninger & Hidi, 2011) have divided interest development into four phases, starting from a psychological state triggered by an event and ending in a general interest predisposition.

Few researches have examined the relationship between enjoyment and academic accomplishment, despite the fact that it is one of the most commonly reported good emotions in the classroom. There exists a positive correlation between students' satisfaction and their academic performance, as evidenced by their grades in educational institutions (Schukajlow & Krug, 2014). According to Renninger and Hidi (2011), there are four stages from temporary interest triggered by circumstances to the broad interest developed over time. In part, the idea stresses that the phases of interested show the time progression of interest in something. A person may be drawn to the thing, look at it closely, and begin to want to learn more about it in the first phase. During this phase, the interest of the content consumer is referred to as prompted situational interest. Spending more time on the subject may encourage children to notice or make an effort to find information, and this underlines the second part where children enjoy the situation for a longer period. With more time and repeated experiences, a person's unique interest may arise; they have gained knowledge about the topic and interacting with it means a lot to them.

At the last stage, a learner is considered to have an established interest because they know a lot about the topic, value it, and are emotionally moved when interacting with it. According to Borchert and Zellmer-Bruhn (2010), this growth process has an impact on learning, mainly in terms of how much support teachers should offer as students' interests change and develop.

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Enjoyment is often seen as having the ability to significantly improve institutions and education. Some observers and practitioners have long been interested in how pupils enjoy their education. Obviously, increased enjoyment in education may be associated with higher levels of student engagement and hence enhanced learning outcomes. But delight is about much more than that. It is significant in and of itself: it has the potential to improve school attendance and inclusion while also increasing engagement in education and training after school. It is part of developing a lifelong learner persona, inviting and seeking out future possibilities for learning (Gorard & See, 2011).

Research Methodology

“The research methodology is the procedure which is used by the researchers to gather data for resolving problems of investigation”. (Ahmad, A., Farhat, P. A., & Choudhary, 2022, p.524)

Research Design

“Design of the research comprises of the whole procedure which is conducted research”. (Ahmad, A., Farhat, P. A., & Choudhary, 2022, p.524). The present study employed a quantitative, correlational research design. This design was chosen to examine the effect of Positive Interdependence on Interest and Enjoyment of students at university level.

Participants

Students were selected from two universities of Rahim Yar Khan. The sample consisted of 300 students from 5 different departments of social sciences. Students were selected from two universities of Rahim Yar Khan using convenience sampling techniques.

Instrument

Instrumentation performs significant part and helps to assemble accurate information from the contributors (Ahmad, Cheema & Farhat, 2023; Rasheed et al., 2024). A self-developed structured questionnaire was used as the instrument for this research. The questionnaire was developed after a thorough review of relevant literature on Positive Interdependence and Interest and Enjoyment. Each item was rated on 5-point likert scale. The instrument was validated through expert review and a pilot study was conducted to check the internal consistency (Cronbach's alpha) which was 0.9, indicating good reliability.

Procedure

Participants were briefed on the purpose of the study and provided important consent. Questionnaire were distributed and collected during class hours. Data were entered and analyzed using SmartPLS 4. Structural Equation Modelling (SEM) is used to examine the effect of Positive interdependence on Interest and Enjoyment of students at university level.

Results

The analysis revealed that positive interdependence has a statistically significant and positive effect on interest/enjoyment. The standardized path coefficient ($\beta = 0.559$) shows strong effect. The t-value (12.77) significantly exceeds the conventional threshold ($t > 1.96$), indicating a highly

significant relationship between both the variables. The p-value (0.000) confirms the significance of the result at the 0.05 level. The R^2 value of (0.313) means that positive interdependence explains 31% of the changes in students' interest/enjoyment. This shows moderate level of prediction. The effect size ($f^2 = 0.455$) indicates large effect, further supporting meaningful impact of positive interdependence on students' interest/enjoyment. These results support the proposed hypothesis. These findings highlight the importance and effect of positive interdependence on students' interests and enjoyment. So, educators should create collaborative learning assignments that encourage positive interdependence to boost students' interest and enjoyment.

Table 1: Path Coefficient of PI and IE

Path	(β)	p-value	T-stat	R^2	f^2	Significance
PI -> IE	0.559	0.000	12.77	0.313	0.455	Significant

Discussion

According to the study findings, Positive interdependence has a considerable and statistically significant impact on students' Interest and Enjoyment, where positive interdependence is an element of collaborative learning and interest and enjoyment is an element of Intrinsic motivation. These findings are consistent with the Self-Determination Theory (Deci & Ryan, 1985), which holds that social environments that foster interchange and relatedness increase intrinsic motivation. Prior studies by Gillies (2004) and Johnson and Johnson (2009) attest to the fact that cooperative learning situations boost student happiness and participation. Building on this, the current study reveals the statistical significance of positive interdependence in influencing motivated experiences in higher education institutions.

The high beta values and R^2 scores suggest that students who feel more interdependent on fellow students are far more inclined to take pleasure in and stay motivated in academic pursuits. Vygotsky's (1978) notion that learning is socially constructed and improved by peer interaction is also aligned by these findings.

Conclusion

The study comes to the conclusion that among university students, positive interdependence is a significant predictor of interest and enjoyment. Teachers can increase students' motivation and participation in academic assignments by cultivating a sense of collaboration and shared aims. According to the statistically significant findings, students are more likely to enjoy learning assignments and have a steady interest in participating when they believe that their group depends on one another. The results support theoretical perspectives such as Self-Determination Theory, emphasizing the role of relatedness and cooperative engagement in fostering motivation. Overall, positive interdependence emerges as a powerful predictor of emotional and motivational engagement in higher education, underscoring its relevance in promoting not only cognitive outcomes but also the affective quality of learning experiences.

Recommendations

1. Institutions should encourage interdisciplinary collaborative teaching methods.
2. Teachers should use structured group projects that explicitly outline joint duties and objectives.
3. To further corroborate these findings, future studies should investigate this association in different academic fields and cultural contexts.

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