

# Group Work Using Tuckman's Model Exploring the Influence of Storming in Teamwork Based on Tuckman's Model

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## ABSTRACT

Collaborative learning has been a fundamental aspect of education, particularly in higher education, where learners engage in both individual and group tasks. This study aims to explore learners' perceptions of teamwork stages based on Tuckman's Model, with a specific focus on the influence of the storming stage on group development. The research follows a quantitative survey approach, employing a 5-point Likert scale questionnaire rooted in Tuckman's (1965) framework. The findings reveal that learners exhibit mixed reactions toward the storming stage. While they acknowledge the importance of discussions in defining goals and structuring teamwork, conflicts and role disagreements emerged as challenges. As an implication, educators and team leaders should foster a positive team culture by clearly defining roles and encouraging constructive conflict resolution strategies. Implementing structured protocols and training on effective communication can enhance teamwork efficiency.

**Keywords:** teamwork, storming stage, forming stage, norming stage, performing stage

## INTRODUCTION

### Background of Study

Collaborative learning has historically been an essential element of education, particularly in higher education. University learners are frequently required to engage in both individual and collaborative tasks as components of their academic evaluations. Rick et al. (2022) assert that although learners may have communication challenges, they recognise the relevance of teamwork and value the opportunity to collaborate with their peers. Furthermore, the study demonstrates that collaboration enhances motivation and aids learners in maintaining focus on collective goals.

Collaborative learning and teamwork depend on productive group interactions. They improve problem-solving skills, promote information sharing, and increase productivity when properly organised (Luo & Lu, 2020). A strong foundation for teamwork is created by clearly defining objectives, assigning responsibilities, and providing organised instructions at the beginning. This fosters greater understanding and lessens conflict (Zakaria et al., 2023). However, issues including interpersonal disputes, role ambiguity, and poor communication can impede group dynamics, resulting in lower satisfaction and efficiency (De Prada et al., 2022). To maximise collaborative learning opportunities, it is essential to understand how learners view group interactions.

Tuckman's Model, a prominent framework for comprehending group growth, has four essential stages: forming, storming, norming, and executing. Sokman et al. (2023) observed that, despite the frequent application of this model to teamwork, research has produced inconsistent findings concerning its efficacy. This indicates that the efficacy of each phase is contingent upon its execution. Moreover, the study conducted by Wei et al. (2023)

emphasises that as groups progress through various stages, they cultivate distinct dynamics that influence their collaborative endeavors.

This study examines learners' perceptions of group dynamics based on Tuckman's Model highlighting the importance of teamwork and relationships. The research aims to better comprehend collaborative learning and improve team relations in academic environments by analysing essential processes between the stages. This investigation seeks to offer significant insights for enhancing collaborative efficacy and cultivating more productive learning settings.

### **Statement of Problem**

Teamwork has allowed learners to pool in their knowledge, skills, and perspectives to tackle complex problems, as evident when they go through the five stages of teamwork developments, which include forming, storming, norming, and performing (Colombini, 2012). While the storming stage may involve conflicts, it would ultimately lead to more creative and comprehensive solutions as team members negotiate differences and establish shared norms to function effectively (Kavanagh, 2023). Well-structured teamwork encourages the expression and integration of diverse viewpoints. Group writing assessments demonstrate how team members can utilise their negotiation and problem-solving skills to create a cohesive essay (Kavanagh, 2023). Teamwork allows for rich discussions that could challenge assumptions and may lead to more nuanced understandings. While achieving consensus may be a goal, the process of negotiating different perspectives is also a valuable skill for expanding the team member's thinking process (Colombini, 2012). Additionally, teamwork would encourage collaboration by creating a sense of shared purpose and accountability (Kavanagh, 2023). As team members establish rapport and work towards common goals, they would often experience increased motivation to complete tasks together (Akrivou, 2006). Said feeling of cohesiveness would usually be developed during the norming stage, which could make work more enjoyable and rewarding (Kavanagh, 2023).

While teamwork offers significant advantages, it could also cause challenges during the formation process. One of the most common challenges in teamwork is conflict among team members during the storming stage, where team members struggle to define their roles and responsibilities and manage their expectations. This could result in power struggles if the team leader did not exercise their leadership skills correctly when addressing issues and expectations between other team members (Glowacki-Dudka & Barnett, 2007). Additionally, there could be personality clashes as each team member comes with their own unique work styles and approaches to issues (Colombini, 2012). If the team leader fails to fulfil their roles effectively, the team may experience unequal participation due to uneven distribution of work, accountability issues, and factions within the team. The accountability issues could be from communication barriers that exist between the factions in the team where the dominant team members are heard more than others (Colombini, 2012). This could then lead to emotional distress, where feelings of frustration and anxiety could colour the interactions between team members. Additionally, this could lead to loss of motivation for cooperation and could cause the team to be unable to move forward from the storming stage to the norming stage (Colombini, 2012; Kavanagh, 2023).

Hence, this study addresses these uncertainties by exploring the learners' perceptions on the stages of teamwork from the scope of Tuckman's Model. This study aims to contribute to a deeper understanding of learner's insights on how they view teamwork and analyse it from the scope of Tuckman's Model. Also, this study specifically looks at how the storming stage influences the forming, norming and performing stages. in academic contexts for the benefits of developing a more effective collaborative learning environment.

### **Objective of the Study and Research Questions**

This study is done to explore learners' perception on the stages of team work from the scope of Tuckman's Model. Specifically, this study is done to answer the following questions;

- How do learners perceive storming stage in team work?
- How do learners perceive forming stage in team work?

- How do learners perceive norming in team work
- How do learners perceive performing in team work?
- Is there a relationship between all stages in team work?

## LITERATURE REVIEW

### Theoretical Framework

#### Drawbacks and Benefits of Teamwork

Teamwork is an essential aspect of both organisational and academic settings, allowing individuals to achieve shared objectives through collaboration and mutual effort. It plays a critical role in promoting active participation among members and the development of critical thinking skills in achieving the objectives of the team formation. Extensive scholarly research has examined teamwork, providing insights into its drawbacks and benefits, particularly within academic contexts. Potential drawbacks associated with teamwork among learners often emerge due to misaligned goals, ineffective communication, or power struggles, which can impede team productivity and learning outcomes (Samad et al., 2023). Additionally, uneven workload distribution and a lack of accountability are common issues in team-based academic projects, where some members may dominate while others remain passive (Zakaria et al., 2023).

Despite these drawbacks, teamwork offers numerous benefits, particularly for learners in educational contexts. Effective teamwork enforces problem-solving skills among members with the incorporation of diverse perspectives among the members and fosters innovation (Luo & Lu, 2020). Also, Zakaria et al. (2023) assert that teamwork improves communication skills, nurtures interpersonal relationships, and cultivates a collaborative culture, especially in classroom settings. Moreover, teamwork aids learners in developing essential skills such as leadership, negotiation, and adaptability, which are crucial for future professional environments.

As cited by Habali et al. (2024), the concept of teamwork is thoroughly examined within Tuckman's model of group development, first introduced by Tuckman in 1965 and later refined with the addition of the adjourning stage in 1977. Tuckman's model proposes that teamwork progresses through five stages: forming, storming, norming, performing, and adjourning.

- **Forming Stage:** Characterized by team members acquainting themselves with one another and establishing initial ground rules. This stage is crucial for building trust and understanding (Zakaria et al., 2023).
- **Storming Stage:** Central to this study, this stage is marked by disagreements and competition as individuals assert their opinions and navigate conflicts. Hamid et al., (2023) note that this stage tests the resilience of a team, as unresolved conflicts can derail progress, while effective resolution leads to stronger cohesion. In the academic context, this stage often involves disputes over task delegation, deadlines, and varying levels of effort among learners.
- **Norming Stage:** As teams resolve conflicts, they transition to this stage, characterized by increased collaboration and mutual respect. This phase enables learners to effectively manage their tasks, ensuring equitable participation and the collective pursuit of academic excellence (Zakaria et al., 2023).
- **Performing Stage:** Teams achieve peak productivity, characterized by trust, flexibility, and shared commitment. Teams at this stage are capable of self-management, clear communication, and achieving objectives with minimal conflict (Samad et al., 2023).

The perspectives on teamwork and Tuckman's model converge on the notion that teamwork is a dynamic and multifaceted process. In academic settings, teamwork fosters collaborative learning and the development of essential skills, though it is not without its challenges. While the drawbacks of teamwork, such as conflicts and unequal participation, is evident during the storming stage, these challenges are integral to fostering deeper

collaboration and group cohesion. Furthermore, the progression from forming to performing underscores the importance of structured development in achieving successful teamwork among learners.

In summary, teamwork can be defined as a dynamic process involving coordinated efforts among individuals, shaped by challenges and guided by structured stages of development. In academic contexts, teamwork promotes peer interaction, shared responsibility, and the cultivation of skills vital for personal and professional growth. This study builds on these insights to explore how the storming stage specifically influences the outcomes of teamwork based on Tuckman's model.

### **Tuckman's Group work**

Group work is an instructional form of learning where a group of individuals engage in interactions and collaborative efforts to realise mutual goals on specific outcomes. The application is observed through transferable skills among learners in four stages as proposed by Tuckman's Model (1965); forming, storming, norming and performing. Tuckman (1965) highlighted the importance of the storming stage in managing conflicts and differences in group progression.

Wan Yadri et. al. (2024) emphasised effective leadership in handling collaboration disagreements to ensure group work attainments, especially the online activities. By implementing a group-based collaboration strategy in the storming stage, the leader employs a fair and balanced allocation of group work among team members. This approach prioritises the learner's experience by engaging in multiple nature perspectives hence, equal delegation of tasks is required upon the leader's skills. At this stage, learners may develop problem-solving skills and emotional intelligence while consolidating different arguments. Besides, team members are expected to develop better understanding from each other while gaining more knowledge on the context of group work tasks (Habali et. al., 2024).

On the other hand, Awang et. al. (2024) argued that the storming phase is pivoted on conflict and competition among team members. The performance of each team may be disrupted due to unresolved issues and unproductive activities in group work. Thus, learners are inclined in finding dynamics and balance to avoid decline of performance by finding mutual grounds to the differences in opinions among team members. The collaborative journey in achieving consensus by receiving criticism or incorporating perspectives is a valuable outcome of this storming stage (Sokman et. al., 2023). In summation, the roles of leader and team members are equally important to thrive in the storming stage as proposed in Tuckman's Group Work model. The dispute over task distributions, efforts, and goals is the determiner to make a smooth transition to the norming stage.

### **Past Studies**

#### **Past Studies on Drawbacks of Teamwork**

Teamwork is essential to the learning process, especially in a university setting. It is essential for fulfilling course requirements and equipping learners for their future professional positions. A systematic study by Donelan and Kear (2024) emphasises that employers see interpersonal and collaborative abilities as vital traits, hence rendering teamwork as a crucial element of employability. Nevertheless, teamwork is not devoid of disadvantages. A study by Zakaria et al. (2023) among university learners evaluating their perceptions of teamwork in English classes indicated that a prevalent downside is inadequate communication.

Poor communication inside the team hinders cooperation and prolongs unsolved disagreements since individuals feel alienated or devalued. According to Luo and Lu's (2020) review of studies on team conflict, conflict management, and team performance, poor communication can make team dynamics worse and make it harder for people to work together, whether they are in the same room or not. A notable disadvantage of teamwork is role uncertainty. A research on team cooperation in schools by Habali et al. (2024), conducted by simple random selection, reveals that ambiguous positions among members lead to misalignment in group objectives and duties. It is further noted that uncertainty, particularly in leadership during the orientation period, is likely to hinder the progression of duties among members.

Communication challenges may impede development and cultivate misunderstandings, hindering effective resolution. Nor and Hassan (2023) discovered that learners from several Malaysian institutions recognised that ambiguous positions impede consensus-building and teamwork in group work. Successful collaboration among members occurs only when they acknowledge and comprehend each other's duties. Poorly defined roles in online group interactions, not restricted to physical group activity, impact members' performance (Donelan & Kear, 2024).

In summary, collaborative work is unquestionably beneficial for academic and professional development; nevertheless, it also presents disadvantages, including inefficient communication and role uncertainty. These difficulties may hinder cooperation among members, postpone work completion, and cultivate disputes, therefore impacting group performance. Consequently, it is essential to delineate clear communication and define roles and duties among group members. Luo and Lu (2020) underscore the need to address disagreements to enhance group cohesiveness and advancement.

### **Past Studies on Benefits of Teamwork**

According to Omer (2019), researchers have thoroughly studied teamwork as a collaborative method, particularly through Tuckman's Model, which outlines four phases of team growth. The four steps consist of forming, storming, norming, and performing. They provide a systematic framework for comprehending team dynamics, problems, and advantages (Omer, 2019; Tuckman & Jensen, 1977).

The team interacts and defines their responsibilities during the first phase, known as the formation stage, before executing duties assigned by the leader. This phase encourages the team to comprehend each other's strengths and shortcomings, facilitating the development of collaborative methods (Omer, 2019). This period offers advantages such as peer-to-peer comprehension, community development, and the enhancement of interpersonal and problem-solving abilities (Sokman, 2023). This stage promotes early-stage support, mitigating isolation and enhancing work engagement among group members (Omer, 2019).

In the storming stage, the team learns to manage disagreements. This provides a chance for the team to develop conflict resolution skills as members articulate their unique viewpoints and create team norms together (Sokman, 2023). This fosters critical thinking and negotiating abilities by interacting with diverse perspectives on task resolution (Kavanagh, 2023). It would also provide a mechanism for addressing individual disputes and enhancing the team's capacity to resolve issues (Kavanagh, 2023).

Upon successfully navigating the first two phases, the team will attain the norming stage, characterised by the establishment of cohesiveness. This phase will evaluate the resolution of disputes and the establishment of norms as procedures within the team's operations (Kavanagh, 2023). Fostering team cohesiveness and cultivating mutual respect indirectly facilitates networking for potential future initiatives, even if the organisation disbands (Omer, 2019). The team would also acquire the skills to provide and receive constructive feedback.

During the performance stage, the team should operate at peak efficiency, attaining their objectives via superior collaboration and communication (Omer, 2019; Sokman, 2023). During this phase, team members often exhibit self-regulation and devotion to tasks, leading to enhanced productivity and improved collaboration. Furthermore, it would cultivate a more profound comprehension of material and the actual utilisation of disseminated information (Kavanagh, 2023).

In conclusion, the effective implementation of Tuckman's Model as a framework for managing a successful team may provide advantageous results for both individual and team development of soft skills and knowledge. Leaders are urged to use the approach to cultivate cultures that promote cooperation, trust, and dispute resolution.

### **Conceptual Framework**

Do learners benefit from confrontations during group work? Studies have shown that class discussions offer more than just interactions (Rahmat et al., 2020). Learners learn to negotiate their ideas. They learn to fight for their proposition to be heard and accepted within the group. Similarly, Vygotsky (1978) suggests that group

work enhances critical thinking, engagement, and retention of information. According to Tuckman (1965), in group work, team members go through the forming stage where all team members get to know one another and understand the group task given. Next, team members go through the storming stage when they participate in discussions to get their ideas across. The next stage is the norming stage which is the quiet stage when all team members begin to re-focus to complete the group task. The last stage is the performing stage when the task is completed. This study (figure 1) explores learners' perception of the stages in group work. Specifically, this study looks at how storming (confrontations) influence the forming, norming and performing stages.

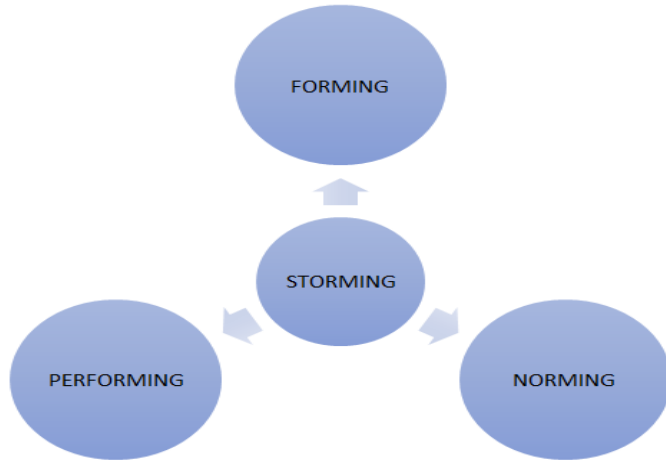


Figure 1- Conceptual Framework of the Study-Influence of Storming in Group Work

**METHODOLOGY**

This quantitative study is done to explore motivation factors for learning among undergraduates. A purposive sample of 255 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Tuckman (1965) to reveal the variables in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 7 items on forming stage. Section C has 6 items on storming stage. Section D has 8 items on norming stage and section E has 8 items on performing stage.

Table 1- Distribution of Items in the Survey

SECTION	STAGE	Items
B	FORMING	7
C	STORMING	7
D	NORMING	9
E	PERFORMING	8
		31

Table 2- Reliability of Survey

**Reliability Statistics**

Cronbach's Alpha	N of Items
.882	31

Table 1 also shows the reliability of the survey. The analysis shows a Cronbach alpha of .882, thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

## FINDINGS

### Findings for Demographic Profile

Table 3- Percentage for Q1- Gender

NO	ITEM	PERCENTAGE
1	Male	22%
2	Female	78%

Table 3 shows the percentage score for gender distribution of the survey. There were 22 percent male learners were involved and about 78 percent of the respondents were female.

Table 4- Percentage for Q2- Discipline

NO	ITEM	PERCENTAGE
1	Science & Technology	54%
2	Social Sciences	46%

Table 4 depicts the percentage of respondents according to respective disciplines. Only two disciplines were involved in the survey which were learners from Science and Technology for about 54 percent and another 46 percent were from Social Sciences.

### Findings for Storming

This section presents findings to answer research question 1- How do learners perceive the storming stage in team work?

Table 5- Mean for STORMING STAGE

Item	Mean	SD
SECTCbSQ1 During discussions, we are quick to get on with the task on hand and do not spend too much time in the planning stage.	3.4	.88965
SECTCbSQ2 During discussions, the team leader tries to keep order and contributes to the task at hand.	4.2	.7470
SECTCbSQ3 During discussions, the tasks are very different from what we imagined and seem very difficult to accomplish.	2.9	.87619
SECTCbSQ4 During discussions, we argue a lot even though we agree on the real issues.	2.8	1.8740
SECTCbSQ5 During discussions, the goals we have established seem unrealistic.	3.7	.86929
SECTCbSQ6 During discussions, there is a lot of resisting of the tasks on hand and quality improvement approaches.	3.7	.90898

Table 5 presents the average scores reflecting learners' perceptions of the storming stage. The results indicate that item Q4 has the lowest mean score of 2.8, followed by item Q3 with a mean of 2.9. Both scores fall within

the “disagree” range on the Likert scale. Despite these low scores, they positively highlight learners' views on task complexity and the dynamics of conflict and agreement within the group. Additionally, item Q1 has a moderate mean score of 3.4, categorised as “neutral” on the Likert scale, suggesting that learners tend to maintain a balanced approach, dedicating sufficient time to planning and execution. On the other hand, learners faced difficulties with goal feasibility and motivation to advance in their tasks, as reflected in items Q5 and Q6, both scoring 3.7. This suggests that group members may perceive the set goals as somewhat unrealistic, leading to hesitation in moving forward. However, item Q2 achieved the highest mean score of 4.2, indicating that the group benefits from a strong and actively involved leader who helps maintain focus and organisation. Overall, while the group demonstrates effective leadership and direction, issues related to planning, goal-setting, and interpersonal relationships hinder their overall performance. Addressing these challenges through structured strategies can enhance collaboration, clarity, and alignment with objectives.

### Findings for Forming

This section presents findings to answer research question 2- How do learners perceive forming in team work?

Table 6- Mean for Forming Stage

Item	Mean	SD
SECTCaFQ1 At the start, we try to have set procedures or protocols to ensure that things are orderly and run	4.1	.80752
SECTCaFQ 2At the start, we assign specific roles to team members	4.4	.69899
SECTCaFQ 3At the start, we are trying to define the goal and what tasks need to be accomplished.	4.4	.72181
SECTCaFQ 4At the start, team members are afraid or do not like to ask others for help.	3	.9852
SECTCaFQ 5At the start, team members do not fully trust the other team members and closely monitor others who are working on a specific task.	3	1.08213
SECTCaFQ 6At the start, it seems as if little is being accomplished with the project's goals.	3.8	.83098
SECTCaFQ 7At the start, although we are not fully sure of the project's goals and issues, we are excited and proud to be on the team.	3.9	.88497

Table 6 presents the average scores reflecting learners' perceptions of the forming stage. The results indicate that items Q4 and Q5 have a moderate score of 3.0. Both scores fall under the “sometimes” range on the Likert scale. This highlights that some learners may be hesitant or uncomfortable asking for help and that while they may trust their team members, there is still a tendency to monitor others due to uncertainty in their capabilities. Item Q6 has a moderately high score of 3.8, indicating that while learners make some progress, they may feel that not much is being accomplished in during the Forming Stage. Additionally, Item Q7 also has a moderately high score of 3.9 which suggests that while there is some ambiguity about the project goals, the learners generally feel excited and motivated to be part of the team. As for Item Q1 has a high mean score of 4.1 which indicates that the learners place significant importance on setting procedures and protocols early on to ensure smooth operations. Items Q2 and Q3 have the highest mean score of 4.4 which indicates that learners prioritise assigning specific roles at the beginning to establish clarity in responsibilities and for them to understand their goals and tasks early in the process. The forming stage aligns with these scores. Overall, while the learners may focus on organisation, structure, and goal setting, trust-building challenges and uncertainty may still occur during the early stages of teamwork. Addressing these issues could enhance overall team effectiveness.

The results align with Tuckman’s Forming Stage characteristics, where teams focus on organisation, structure, and goal setting but experience trust-building challenges and uncertainty. The team appears well-structured and motivated, but efforts to improve early communication and trust-building could enhance overall team effectiveness.

**Findings for Norming**

This section presents findings to answer research question 3- How do learners perceive norming in team work?

Table 7- Mean for NORMING STAGE

Item	Mean	SD
SECTCcNQ1 In the group, we have thorough procedures for agreeing on our objectives.	4	.78807
SECTCcNQ2 In the group, we have thorough procedures for planning the way we will perform our tasks.	4.1	.75842
SECTCcNQ3 In the group, we take our team's goals and objectives literally, and assume a shared understanding.	4.1	.76781
SECTCcNQ4 In the group, the team leader ensures that we follow the procedures, do not argue, do not interrupt, and keep to the point.	3.9	.86056
SECTCcNQ5 In the group, we have accepted each other as members of the team.	4.4	.64768
SECTCcNQ6 In the group, we try to achieve harmony by avoiding conflict.	4.5	.65667
SECTCcNQ7 In the group, the team is often tempted to do more than what was required for the project	3.6	.98574
SECTCcNQ8 In the group, we express criticism of others constructively	3.3	1.05911
SECTCcNQ9 In the group, we often share personal problems with each other.	3	1.12931

Table 7 presents the mean scores for the norming stage in team work as perceived by learners. The findings reveal a generally steady pattern, with most items (Q1–Q6) falling within the "Agree" category on the Likert scale. Q6 achieved the highest mean score of 4.5, indicating that team members strive to achieve harmony by avoiding conflict. This is followed closely by Q5, with a mean score of 4.4, showing strong acceptance of team members within the group. Q1, Q2 and Q3 obtained mean scores of 4.0, 4.1, and 4.1, respectively, reflecting thorough procedures for agreeing on objectives, planning tasks, and assuming a shared understanding of goals and objectives. Lower scores were observed for Q4, Q7, Q8, and Q9. Q4 received a moderate mean score of 3.9, suggesting that the team leader's role in ensuring adherence to procedures and maintaining order could be strengthened. Q7 scored 3.6, reflecting a moderate tendency for the group to exceed project requirements, while Q8 recorded a mean of 3.3, showing limited expression of constructive criticism, and Q9 had the lowest mean score of 3.0, highlighting infrequent sharing of personal problems within the group. Overall, the findings suggest that while the group demonstrates strong organisational processes and harmony, there is room for improvement in fostering interpersonal communication and deeper team connections.

**Findings for Performing**

This section presents findings to answer research question 4- How do learners perceive performing in team work?

Table 8- Mean for PERFORMING STAGE

Item	Mean	SD
SECTCdPQ1 In the end, our team feels that we are all in it together and shares responsibilities for the team's success or failure	4.4	.72776

SECTCdPQ2 In the end, we do not have fixed procedures, we make them up as the task or project progresses.	3.6	.97073
SECTCdPQ3 In the end, we enjoy working together; we have a fun and productive time.	4.3	.75499
SECTCdPQ4 In the end, the team leader is democratic and collaborative.	4.1	.78418
SECTCdPQ5 In the end, we fully accept each other's strengths and weakness.	4.4	.70589
SECTCdPQ6 In the end, we are able to work through group problems.	4.4	.67648
SECTCdPQ7 In the end, there is a close attachment to the team.	4.1	.86260
SECTCdPQ8 In the end, we get a lot of work done.	4.5	.64510

Table 8 shows the mean score for performing stage from learners ranging from 3.6 to 4.5. In general, the majority of the learners agree that the performing stage is smooth in which cooperation is seen as soon as conflicts are resolved, and harmony is achieved in the storming and norming stage. Q8 recorded the highest mean score of 4.5 indicating most tasks are completed at this stage in any group work. The lowest mean score recorded at 3.6 for Q2 stating that learners do not have fixed procedures but instead seeing them as progress. Q1, Q5 and Q6 had the same mean of 4.4 suggesting the cooperative and supportive efforts are practised among the learners.

### Findings for Relationship between

This section presents findings to answer research question 5- Is there a relationship between all stages in team work?

To determine if there is a significant association in the mean scores between all stages in team work, data is analysed using SPSS for correlations. Results are presented separately in table 9,10 and 11 below.

Table 9- Correlation between Storming and Forming Stages

### Correlations

		STORMING	FORMING
STORMING	Pearson Correlation	1	.460**
	Sig. (2-tailed)		.000
	N	255	255
FORMING	Pearson Correlation	.460**	1
	Sig. (2-tailed)	.000	
	N	255	255

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 9 shows there is an association between storming and forming stages. Correlation analysis shows that there is a moderate significant association between storming and forming stages ( $r=.460^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from

0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a moderate positive relationship between storming and forming stages.

Table 10- Correlation between Storming and Norming Stages

**Correlations**

		STORMING	NORMING
STORMING	Pearson Correlation	1	.383**
	Sig. (2-tailed)		.000
	N	255	255
NORMING	Pearson Correlation	.383**	1
	Sig. (2-tailed)	.000	
	N	255	255

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 10 shows there is an association between storming and norming stages. Correlation analysis shows that there is a moderate significant association between storming and forming stages ( $r=.460^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a moderate positive relationship between storming and forming stages.

Table 11- Correlation between Storming and Performing Stages

**Correlations**

		STORMING	PERFORMING
STORMING	Pearson Correlation	1	.287**
	Sig. (2-tailed)		.000
	N	255	255
PERFORMING	Pearson Correlation	.287**	1
	Sig. (2-tailed)	.000	
	N	255	255

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 11 shows there is an association between storming and performing stages. Correlation analysis shows that there is a low significant association between storming and performing stages ( $r=.287^{**}$ ) and ( $p=.000$ ). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a weak positive relationship between storming and performing stages.

**CONCLUSION**

**Summary of Findings and Discussions**

This study sought to examine learners' perceptions of team work according to Tuckman's Model, which includes the processes of forming, storming, norming, and performing. The findings disclosed substantial insights on learner interactions during various stages and their overall efficacy.

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### **How do learners perceive storming stage in team work?**

Learners recognised that the storming stage is often characterised by conflicts, differing opinions, and power struggles, particularly regarding role distribution and goal alignment. However, despite the difficulties, most learners acknowledged that structured leadership helped in conflict resolution, enabling smoother transitions into later stages. These findings align with studies by Glowacki-Dudka and Barnett (2007) and Colombini (2012), which highlight that conflicts in the storming stage, if managed well, can strengthen group cohesion and problem-solving skills.

### **How do learners perceive forming stage in team work?**

In the forming stage, learners reported initial excitement and motivation when joining a team. However, some learners hesitated to seek help, and trust issues were evident. The results indicate that while learners focus on organising roles and setting goals, they may require additional support in establishing strong interpersonal connections. Zakaria et al. (2023) assert that well-structured team formation minimises future conflicts and promotes collaboration.

### **How do learners perceive norming in team work?**

The norming stage was marked by increased cooperation, role acceptance, and structured processes for achieving goals. Learners reported that conflict avoidance strategies contributed to a harmonious work environment. However, constructive criticism was infrequent, which may have limited opportunities for improvement. These findings support Luo and Lu (2020), who suggest that effective group norms enhance learning outcomes but require balanced communication for optimal results.

### **How do learners perceive performing in team work?**

By the performing stage, learners generally felt more engaged, responsible, and satisfied with their teamwork experiences. Strong leadership and role clarity played significant roles in their ability to complete tasks efficiently. However, some groups lacked flexibility in adapting to unforeseen challenges. These findings align with Omer (2019), who emphasises that well-developed teams in the performing stage demonstrate high levels of collaboration and productivity.

### **Is there a relationship between all stages in team work?**

Statistical analysis indicated moderate correlations between storming and forming stages, as well as between storming and norming stages, highlighting the importance of structured conflict resolution in maintaining team progress. A weaker correlation was found between storming and performing stages, suggesting that unresolved conflicts in earlier stages could hinder long-term success. This supports research by Tuckman and Jensen (1977), which argues that group cohesion must be nurtured at each stage to ensure overall effectiveness.

### **Pedagogical Implications and Suggestions for Future Research**

To enhance teamwork effectiveness, educators should focus on leadership training to help learners develop essential skills such as conflict resolution, role delegation, and group coordination. Strong leadership can reduce conflicts in the storming stage and create a smoother transition to the norming and performing stages. Building trust early in group work is also crucial, as many learners hesitate to seek help during the forming stage. Incorporating trust-building activities at the start of teamwork can foster stronger relationships and create a more supportive environment.

Additionally, constructive feedback should be encouraged, as findings indicate that learners rarely provide criticism to their peers. Educators can introduce structured feedback mechanisms to help learners practice giving and receiving feedback in a positive and productive way. Flexibility in team work strategies is another key factor. Since unresolved conflicts in the storming stage can impact performance later, educators should allow teams to periodically reassess roles and expectations. Encouraging adaptability in group dynamics can lead to better collaboration and overall productivity.

Future studies could explore how teams develop over time by tracking their progress beyond the Tuckman model's stages. A long-term perspective could offer deeper insights into how teams evolve and adapt. Personality differences also play a role in teamwork, and research could investigate how individual traits impact group interactions. Understanding these differences could help educators create more balanced teams. Lastly, with the rise of digital learning, future research should examine how online collaboration tools impact teamwork. Investigating how these tools affect group interactions and progression through Tuckman's stages could provide valuable insights for educators in virtual learning environments. By addressing these pedagogical and research areas, educators and researchers can work towards creating more effective and engaging collaborative learning experiences.

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