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Examining Team Collaboration: A Study Utilising Tuckman's Framework for Analysis

Aisyah Hani Mohd Habali[1], Janaki Manokaran[2], Bazrina binti Ramly[3], Nur Amalina bt Zaharudin[4], Norhayati binti Mohamad Hussain[5]

[1,2,3,4]Centre of Foundation Studies, Universiti Teknologi MARA, Cawangan Selangor, Kampus Dengkil, Dengkil 43800, Selangor, Malaysia, [5]School of Multimedia Technology and Communication Universiti utara malaysia, 06010 UUM Sintok, Kedah

Email: aisyahhani6629@uitm.edu.my, bazrina6784@uitm.edu.my, nuramalina4331@uitm.edu.my, norhayatimh@uum.edu.my

Coressponding Author Email: janaki7819@uitm.edu.my

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Abstract

Team collaboration unites diverse individuals to work collectively towards common goals, engaging in communication and task distribution. Team collaboration in higher education enriches learning and develops essential skills, preparing students for future endeavours. Team collaboration in classrooms is valued alongside other methods, aiding student engagement and learning outcomes but also posing challenges. Therefore, to achieve effective collaborative work, a well-known team development model in navigating the challenges faced by the learners is further analysed. This study seeks to investigate how the developmental stages outlined in the Tuckman model manifest within the context of team collaboration. This research employs a quantitative approach to examine team collaboration through the Tuckman's framework. 127 foundation students participated in this research. Five-point Likert scale is used in the questionnaire. Findings indicated that participants exhibit significant levels of team collaboration across the entire spectrum of the four stages: forming, storming, norming, and performing. This is evident in the higher mean scores for each stage. Group work aids learning by supporting effective studying and task completion through peer assistance. Educators should incorporate these strategies to help students. Further research should explore improving team collaboration in classrooms. Instructors should provide clear guidelines to establish goals and roles effectively.

Keywords: Team Collaboration, Tuckman's Model, Foundation Students, Learning Strategies, Team Engagement

Introduction

Background of Study

Team collaboration unites learners with different ideas, opinions, experiences and skills in working together towards a common goal. Through group work, learners are able to

communicate, discuss and delegate tasks in order to fulfil the academic requirement. In higher education, group work is widely employed as a teaching method in the classroom and is thought to be equal to all other teaching techniques (Chiriac, 2014). As the team members collaborate in pursuing their shared goal, each team member learns about task responsibilities and management while also working on their differences and accepting each other's viewpoints. These competencies are needed in a workforce that will foster the graduates' professional development and for them to be able to adapt to changes in the workplace (De Prada et al., 2023). Nurturing these interpersonal skills are vital in shaping the students to a holistic individual who are capable to adeptly respond to the dynamic shifts of the working environment in this ever-changing world.

Even though collaborative learning contributes positively to active learning and assists students in achieving their educational outcomes, it also comes with challenges. While improvement is seen in the students' qualifications and they appreciate this type of methodology Somer et al (2023), group work is also viewed as challenging for the learners due to the time, clashing of ideas, mismanagement in the delegation of tasks, limited initiative and feeling demotivated (Roskosa & Rupniece, 2016; Ferdous & Karim, 2019). This hinders successful learning and development in team-building skills. Without a shared responsibility and a consensus among team members, miscommunication will occur (Bakir et al. 2020) and lead to dysfunctional collaborative work. As working in a group is supposed to elevate the students' soft skills Lippman et al (2014) as cited in De Prada et al (2023), it will also change the learners' perspective to engage in collaborative work.

Therefore, to achieve effective collaborative work, a well-known team development model in navigating the challenges faced by the learners is further analysed. Tuckman (1965) proposed distinct and sequential stages: forming, storming, norming and performing. In this model, each stage will contribute to the evolution of team development and collaboration. By utilising Tuckman's model, a proper and systematic framework can be implemented to ensure a successful team collaboration as the team members can understand each other's actions which will lead to better interaction in the delegation and completion of the task.

Statement of Problem

Group work stands as a prominent instructional approach linked with collaborative learning, fostering the creation of learning communities. This method not only enhances academic performance but also mitigates performance disparities among students of varying abilities (Chi & Kadandale, 2022). The benefits of group work extend beyond the confines of the classroom, with students honing essential soft skills such as communication, leadership, and teamwork, which prove invaluable in professional settings. Despite the positive outcomes associated with group work, a disconcerting gap often exists between perceived and actual benefits. While it is commonly assumed that group work encourages collaborative learning through meaningful discussions, the reality may differ (Summers & Volet, 2010). Social dissonance among group members can lead to the formation of subgroups, resulting in an uneven distribution of tasks and heightened frustration among members (Jones et al., 2022). Additionally, challenges arise from learner resistance to group activities, hindering task completion and disrupting the learning process. Resistance occurs when students experience frustration due to breakdowns in group work conventions. Effective teamwork necessitates the collective efforts of team members and must evolve organically for success. Tuckman's

model (1965), comprising forming, storming, norming, and performing stages, proposes that group members evolve through these phases to achieve their peak performance. This framework challenges the notion of instant cohesive group dynamics. This research aims to explore how the developmental phases delineated in Tuckman's model occur in the context of team collaboration. By scrutinizing groups' advancement through these stages, the study aims to offer insights into team development dynamics and their influence on collaborative learning encounters.

Objective of the Study and Research Questions

This study is done to explore perception of learners on their use of learning strategies. Specifically, this study is done to answer the following questions;

- How do learners perceive forming stages in group work??
- How do learners perceive the storming stage in group work??
- How do learners perceive the norming stage in group work??
- How do learners perceive the performing stage in group work??
- Is there a relationship between all stages in group work?

Literature Review

Group Work in the Classroom

Classroom group work involves collaborative learning, where students collaborate to complete assignments, projects, or tasks (Hammar, 2014). This fosters active participation, discussions, and knowledge sharing. Recognized benefits include critical thinking development, better communication, motivation, and improved social skills (Poort et al., 2019). Cooperative learning, as highlighted by Johnson, Johnson, and Smith (1991), enhances critical thinking by exposing students to diverse perspectives, deepening understanding.Further, Webb and Palincsar (1996) highlighted the significance of group work in enhancing communication skills among students. In a group setting, students are compelled to articulate their thoughts and ideas, which in turn bolsters their ability to express themselves clearly and listen actively to others. This is particularly vital in a world increasingly reliant on collaborative endeavors across various disciplines.

Moreover, group work's impact on student motivation and engagement is underscored by the findings of Slavin (1996), who observed that cooperative learning environments often lead to higher levels of student engagement and motivation. This is attributed to the shared goals and mutual support among group members, which create a more dynamic and interactive learning environment.

Group work as structured through Tuckman's 1965 framework, progresses through four stages: forming, storming, norming, and performing. Each stage significantly contributes to the development of students' learning and skills. In the forming stage, group members get acquainted with one another and the assigned task. The educator's role is vital here in setting objectives and fostering a conducive environment for collaboration. During the storming stage, groups typically encounter conflicts and challenges, providing an opportunity for students to develop problem-solving skills and emotional intelligence. Navigating through these dynamics is key to building resilience. Next, the norming stage is where the group develops a cohesive identity, establishing norms and roles. This phase enhances the group's organization and focus on the task. Finally, the performing stage represents the peak of the group's efficiency. Here, the collective efforts and skills honed in earlier stages are fully utilized, leading to productive outcomes.

Recent research in the field of education has probed into various aspects of group work in classroom settings, with a focus on its effectiveness in enhancing critical thinking, the influence of individual differences and preferences, and the impact of role dynamics within group settings. For example, a study on the effectiveness of collaborative problem-solving in enhancing critical thinking, particularly in scientific fields such as mathematics and science, found this method to be particularly impactful. The research suggests that this approach not only improves cognitive skills but also positively influences attitudinal tendencies towards problem-solving (Xu et al., 2023).

Another area of interest is the influence of student preferences and individual differences on the effectiveness of group work. Research indicates that while group work supports learning and offers advantages over individual learning, its effectiveness can vary significantly among students based on individual preferences and comfort in group settings (Gajderowicz et al., 2023). Positive attitudes towards group work have been linked to better learning outcomes and academic performance.

Lastly, the role of students within group work settings and its relationship with the amount of collaboration and cognitive load has been explored. Studies found that more motivated and active students often contribute more significantly to group knowledge, which benefits all members. This suggests that the specific roles students assume in group work can influence the overall effectiveness of the collaborative effort, especially benefiting those who are less active or contribute less directly (Costley, 2021).

Past Studies on Group Work

Due to the different needs of learning outcomes, learning pedagogy has shifted from individual learning to collaborative effort. Working in groups has allowed students to be more confident in learning as they receive assistance from their friends and also, they manage to solve more problems. Previous literature Harianingsih et al (2021); Wildman et al (2021) claim that students are able to complete their tasks in a simpler and more efficient manner. That is why, the importance of group work has been highlighted and used by many educators in classes to assist their students in lesson comprehension. However, much attention is needed to ensure team success as there are issues pertaining to group work such as lack of equal participation and different characteristics of the group members.

Despite the many claimed advantages of group work, working in groups does come with its challenges. Ferdous and Karim (2019) did research by using a mixed method of research to investigate the challenges in group work where they acquired responses from both students and educators. Based on the findings of their research, they have laid out 2 apparent difficulties of group work. Firstly, students' hectic schedules have hindered the opportunity for discussion which will disturb the positive outcomes of group work. Secondly, they found that visible characteristics differences among the members have made communication in group work strenuous. Consequently, these findings suggest that the success of group work will be hampered if these problems are not addressed. However, in another research done on 1399 students in Open Cyber University (OCU) in South Korea shows that even though there is presence of different member characteristics in group work, they found that those group work can still help all of the students involved (Hanafi et al., 2022). Their findings propose that high contributors can gain more input and understanding from teaching while low contributors can acquire more knowledge from the support of other group members. Hence, from a pedagogical point of view, the concept of group work profits all group members despite their differences.

In addition, Brannen et al (2021) investigates the impacts of group work in the teaching and learning environment. They divided their participants into two groups; 168 students enrolled in face-to-face lessons while another group consisted of 105 students enrolled in online classes. It was found that despite the different medium of lessons, the participants reported positive feedback with their group work. They claimed that the benefits of group work were even more pronounced when they started the group work at the beginning of their assignment. Notably, the participants were also able to get improved academic results when they participated in group work. These literatures have paved into the mechanism of group work that have highlighted the need of investigating the benefits of working in groups. Adesina et al (2022) propose further investigation is crucial to understand better the impacts of groups, especially in enriching learning experiences.

That is why, this current study aims to further study and address the challenges and benefits of group work through Tuckman's model. The five stages in the said model which are Forming, Storming, Norming, Performing and Adjourning will be used to further understand the role of group work in learning experiences.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. Class discussions have both advantages and disadvantages. One obvious benefit of class interaction is improved communication skills (Rahmat, 2020). During class discussion, team members work together to benefit from the communication. The interaction during the discussions can help learners acquire knowledge and skills. Nevertheless, there are also conflicts in group work. This stage is known as the storming stage. According to Tuckman (1965), there are 4 stage sin group work and they are the forming, storming, norming and performing stages.

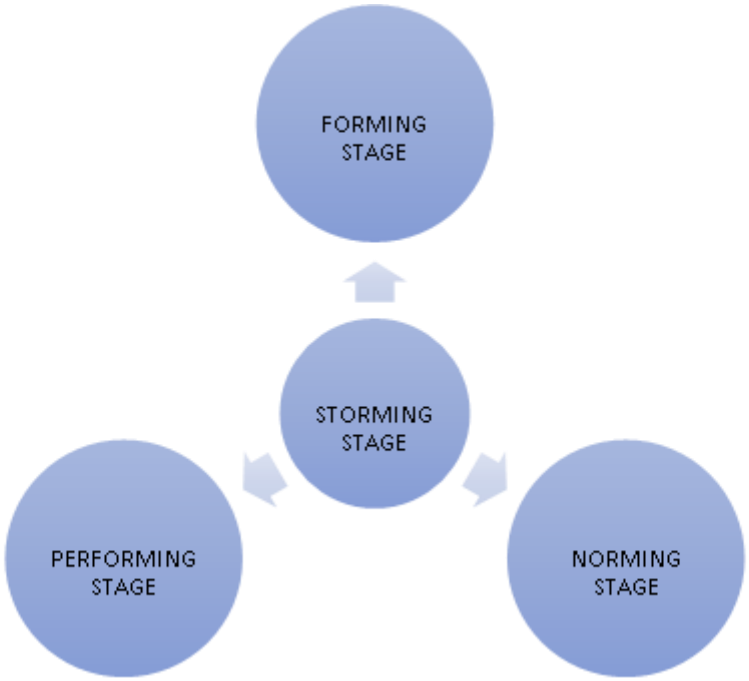


Figure 1- Conceptual Framework of the Study

Methodology

This quantitative study is done to explore motivation factors for learning among undergraduates. This research employs a quantitative approach to examine team collaboration through the Tuckman's framework. 127 foundation students from Pusat Asasi, UiTM Kampus Dengkil participated in this research. The five-point Likert scale is used in the questionnaire (i.e., 1-Never, 2-Rarely, 3-Sometimes, 4-Very Often and 5-Always) which is adapted from Tuckman's Teamwork Survey (2016) on strategies used in collaborative learning. Notably, the five-point Likert scale is used to increase response rate and response quality of the respondents (Babakus & Mangold, 1992). The questionnaire used for this study is divided into 5 sections. The first section is the demographic questions which cover participants' gender and courses. Section 2 until 5 will be focusing specifically on the stages in collaborative learning namely Section 2) Forming, Section 3) Storming, Section 4) Norming and Section 5) Performing. Each of the sections has a different number of questions which are 7, 6, 8 and 8 respectively. The questionnaire is created in Google Forms and distributed to respondents using simple random sampling. The data collected in the Google Form was analysed using the Statistical Package for Social Sciences (SPSS) statistical analysis software, which employed descriptive analysis to answer the research questions of this study.

Table 1
Distribution of Items in the Survey

SECTION	STAGE (Tuckman, 1965)	Items	Cronbach Alpha
B	FORMING	7	0.637
C	STORMING	6	0.708
D	NORMING	8	0.684
E	PERFORMING	8	0.857
		29	0.877

Table 1 also shows the reliability of the survey. The analysis shows a Cronbach alpha of 0.877. This thus reveals a good reliability of the instrument chosen or used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

Findings

Findings for Demographic Profile

Table 2
Percentage for Demographic Profile

Q1	Gender	Male	Female	
		24%	76%	
Q2	Discipline	Science	Engineering	Law
		36%	14%	47%

Table 2 shows percentage for demographic profile that focuses on gender and discipline of the respondents. 76% of the respondents are female while the remaining 24% are male. The respondents are pre-university students from different disciplines (Science, Engineering and Law). The highest percentage of respondents is 47% from Law discipline followed by Science discipline with 36% and the lowest is 14% (Engineering).

Findings for Forming Stage

This section presents data to answer research question 1- How do learners perceive forming stage in group work?

Table 3

Mean for -FORMING STAGE

ITEM	MEAN
SECTCaFQ1 At the start, we try to have set procedures or protocols to ensure that things are orderly and run	4.2
SECTCaFQ 2At the start, we assign specific roles to team members	4.3
SECTCaFQ 3At the start, we are trying to define the goal and what tasks need to be accomplished.	4.5
SECTCaFQ 4At the start, team members are afraid or do not like to ask others for help.	2.8
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.	2.9
SECTCaFQ 6At the start, it seems as if little is being accomplished with the project's goals.	3.2
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.	4.1

Table 3 illustrates mean scores retrieved for the forming stage that derived from seven items specifically focused on the initial process of group work . Majority of the respondents (M=4.5) agreed on “defining goals and tasks that need to be accomplished” while the least number of respondents disagreed with “team members are afraid or do not like to ask others for help” (M=2.8). Respondents believed that “assign roles” (M=4.3) and “set procedures or protocols” (M=4.2) are important parts in forming the stage. However, the result also indicated that although the respondents are not fully aware of the project’s goal, they claimed to be excited and proud to be on the team (M=4.1). On the other hand, the item five highlights trust among team members which the respondents slightly disagree with “trust among team members and closely monitors others who are on a specific task” (M=2.9). Meanwhile, the average mean score is 3.2 for item six, which respondents claimed at the beginning of group work, “little is being accomplished with the project’s goals. Overall, the result shows that in the forming stage, respondents focused more on the assigned task rather than the team members, roles assigned to each team member as they are proud to be on team and the procedures of the task to ensure things are organised.

Findings for Storming Stage

This section presents data to answer research question 2- How do learners perceive group conflicts (storming stage) in group work?

Table 4
Mean for - STORMING STAGE

ITEM	MEAN
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.	3.7
SECTCbSQ2During discussions, the team leader tries to keep order and contributes to the task at hand.	4.2
SECTCbSQ3During discussions, the tasks are very different from what we imagined and seem very difficult to accomplish.	3.2
SECTCbSQ4During discussions, we argue a lot even though we agree on the real issues.	2.5
SECTCbSQ5During discussions, the goals we have established seem unrealistic.	2.5
SECTCbSQ6During discussions, there is a lot of resisting of the tasks on hand and quality improvement approaches.	3.3

Table 4 shows mean scores for the storming stage which focuses on group conflicts in a group work. There are six questions in identifying the perception of the respondents regarding conflict faced during the group work process. Majority of the respondents agreed that the team leader plays a role in keeping the order of the group and has contributed to the task at hand (M=4.2). The data also shows that the respondents slightly agreed that they are quick to get on the task and do not spend too much time in the planning stage (M=3.7). Meanwhile, the respondents perceived average scores for item three (tasks very different) and six (resisting of the tasks) with the mean score of 3.2 and 3.3 respectively. The lowest mean scores recorded is 2.5 for both item four and five which the respondents disagreed with statements that they have a lot of arguments and the goals that they established seem unrealistic. Overall, the result shows that the respondents perceived group conflicts by agreeing on the role of team leader and they got on with the task quickly rather than spending too much time on the planning stage.

Findings for Norming Stage

This section presents data to answer research question 3- How do learners perceive norming stage in group work?

Table 5
Mean for - NORMING STAGE

ITEM	MEAN
SECTCcNQ1 In the group, we have thorough procedures for agreeing on our objectives and planning the way we will perform our tasks.	4.2
SECTCcNQ2In the group, we take our team's goals and objectives literally, and assume a shared understanding.	4.3
SECTCcNQ3In the group, the team leader ensures that we follow the procedures, do not argue, do not interrupt, and keep to the point.	4.1
SECTCcNQ4In the group, we have accepted each other as members of the team.	4.6
SECTCcNQ5In the group, we try to achieve harmony by avoiding conflict.	4.6
SECTCcNQ6In the group, the team is often tempted to go above the original scope of the project.	3.4
SECTCcNQ7In the group, we express criticism of others constructively	3.3
SECTCcNQ8In the group, we often share personal problems with each other.	3.0

Table 5 depicts the mean scores for the norming stage questions. The eight questions in this section mainly gather information on the respondents' perception on how they make effort in achieving harmony in group work. Most items scored positive mean scores as the majority of the respondents agreed on the given statements. The highest mean score is shared by both items (Item 4 and 5) which is 4.6. The respondents believed that they had accepted each other as members of the team and as a group they tried to achieve harmony in order to avoid conflict. Apart from that, most of the respondents also agreed on taking team's goals and objectives literally and shared understanding (M=4.3), team has thorough procedures for the objectives and planning on ways to perform the tasks (M=4.2) and the role of group leader to ensure team members follow the procedures and avoid conflict (M=4.1). Meanwhile, both items that highlight "going above the original scope" and "express criticism of others constructively" recorded an average score of 3.4 and 3.3 respectively. Overall, the majority of the respondents in the norming stage perceived actions like accepting the team members, avoiding conflict and following procedures and team leader are important to achieve the goal of task and the assigned roles.

Findings for Performing Stage

This section presents data to answer research question 4- How do learners perceive the performing stage in group work. In Tuckman's Model, the Performing Stage is where the group members begin to adapt to meet the different needs of their members which are answered through these eight (8) items. Based on Table 6, the majority of the participants showed positive attitudes towards communication in group work based on their answers. For Item 1, participants agreed that they very often feel that group work promotes togetherness and collegiality (*M=4.6).* Next, Item 2 shows that the majority of the participants (*M=3.6*) chose "Sometimes" towards the absence of fixed procedures at the end of a group work. This shows that the procedures are made up as the project progresses because the participants are trying to cope with different needs of the members as suggested in the Performing Stage. Item 3 shows high mean scores (*M*=4.4) for "Very Often" which suggests that the participants enjoyed each other's company while understanding the group members' needs. Moreover, Item 4 highlighted the importance of a leader in a group work where most of the participants (*M*=4.3) agreed that their team leader is democratic and collaborative in group work. Item 5,6, and 7 shows that group work has indeed positive outcomes towards the participants in the Performing Stage as they learnt to accept each other's strengths and weaknesses, they managed to solve problems together which led them to have good relationships among the group members. This can be seen through their mean scores where the majority of the participants chose "Very Often" for these items (4.5, 4.5, and 4.1 respectively). Notably, the most important aspect of a group work is achieved in this Performing Stage as shown in Item 6 which has the highest mean scores (*M*=4.7) where the majority of participants chose "Very Often" group work helps them to get their work done.

Table 6
Mean Scores for Performing Stage

ITEM	MEAN
SECTCdPQ1 In the end, our team feels that we are all in it together and shares responsibilities for the team's success or failure	4.6
SECTCdPQ2 In the end, we do not have fixed procedures, we make them up as the task or project progresses.	3.6
SECTCdPQ3In the end, we enjoy working together; we have a fun and productive time.	4.4
SECTCdPQ4In the end, the team leader is democratic and collaborative.	4.3
SECTCdPQ5In the end, we fully accept each other's strengths and weakness.	4.5
SECTCdPQ6In the end, we are able to work through group problems.	4.5
SECTCdPQ7In the end, there is a close attachment to the team.	4.1
SECTCdPQ8 In the end, we get a lot of work done.	4.7

Findings for Relationship between all stages in group work
This section presents data to answer research question 5- Is there a relationship between all stages in group work?

To determine if there is a significant association in the mean scores between metacognitive, effort regulation, cognitive, social and affective strategies data is analysed using SPSS for correlations. Results are presented separately in table 7,8 and 9 below.

Table 7
Correlation between Storming and Forming

Correlations

		STORMINGSTAGE	FORMINGSTAGE
STORMINGSTAGE	Pearson Correlation	1	.627**
	Sig. (2-tailed)		.000
	N	127	127
FORMINGSTAGE	Pearson Correlation	.627**	1
	Sig. (2-tailed)	.000	
	N	127	127

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

Table 7 shows there is an association between storming and forming stages. Correlation analysis shows that there is a high significant association between storming and forming stages (r=.627**) 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 strong positive relationship between storming and forming stages.

Table 8
Correlation between Storming and Norming

Correlations

		STORMINGSTAGE	NORMINGSTAGE
STORMINGSTAGE	Pearson Correlation	1	.440**
	Sig. (2-tailed)		.000
	N	127	127
NORMINGSTAGE	Pearson Correlation	.440**	1
	Sig. (2-tailed)	.000	
	N	127	127

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

Table 8 shows there is an association between storming and norming stages. Correlation analysis shows that there is a moderate significant association between storming and norming stages (r=.440**) 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 norming stages.

Table 9
Correlation between Storming and Performing

Correlations

		STORMINGSTAGE	PERFORMINGSTAGE
STORMINGSTAGE	Pearson Correlation	1	.329**
	Sig. (2-tailed)		.000
	N	127	127
PERFORMINGSTAGE	Pearson Correlation	.329**	1
	Sig. (2-tailed)	.000	
	N	127	127

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

Table 9 shows there is an association between storming and norming stages. Correlation analysis shows that there is a weak significant association between storming and norming stages (r=.329**) 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 weak relationship between storming and norming stages.

Conclusion

Summary of Findings and Discussions

The present research investigated the expression of the developmental phases delineated in the Tuckman model in the realm of team collaboration. Based on the analysis and discourse presented earlier, it is evident that participants exhibit significant levels of team collaboration across the entire spectrum of the four stages: forming, storming, norming, and performing.

The findings indicated that during the forming stage, participants express a preference for learner-to-learner interaction by selecting their own team members, and their motivation to accomplish tasks increases when they receive support from their group members. Moreover, in terms of social interaction, engaging in team collaboration enables learners to consider various perspectives. Participating in group activities not only enhances classroom engagement but also facilitates interaction, the formation of new friendships, and collaborative problem-solving. This discovery aligns with the research conducted by (Sazali et al., 2022).

In the subsequent phase, identified as the storming stage, the most significant mean score is associated with the team leader who tries to keep order and contributes to the task at hand. Employing a team collaboration strategy, the leader ensures an equitable and fair distribution of tasks among group members. This approach not only enhances students' learning by exposing them to diverse perspectives but also contributes to the expansion of their knowledge. Additionally, the equal assignment of tasks by the leader fosters the improvement of communication skills as learners collaborate and learn from one another.

During the norming stage, group members actively strive to promote unity within the team. They endeavor to accept and appreciate each other's viewpoints and proposals. Time limitations are significant at this juncture, prompting the emergence of a spontaneous group leader to tackle any ongoing issues among members, stressing the importance of finding solutions promptly due to time constraints. It is during this phase that students identify the most efficient collaboration methods, resulting in the formulation of effective strategies. Conflict diminishes during this stage, allowing for smoother exchanges of thoughts and ideas, ultimately fostering unity and coherence among team members.In the concluding performing stage, the focus is on the zone of proximal development. Results demonstrate that, through collaborative efforts, learners acquire negotiation skills, particularly when distributing tasks among themselves. Additionally, their interaction within the group enhances listening and problem-solving skills. Learners recognise the importance of obtaining an overview of the content beforehand to facilitate individual study before the class commences. This finding aligns with the research conducted by (Martin & Bolliger, 2018).

Pedagogical Implications and Suggestions for Future Research

The educational significance highlights the positive impact of group work or team collaboration on learning, facilitating effective studying and task completion with peer support. The collaborative aspect fosters a supportive atmosphere, enhancing learner engagement. Therefore, educators are encouraged to integrate group work or team collaboration strategies to aid student learning. This study's findings are pertinent to educators, providing valuable insights into enhancing comprehension and fostering better teamwork among students.While team collaboration in the classroom offers various advantages, there is room for improvement in its implementation. Fredricks et al (2016) highlight that, despite the benefits, challenges such as uneven distribution of responsibilities and contributions may arise when completing assigned tasks (Nawi et al., 2021).

Consequently, team collaboration could become a drawback if instructors fail to provide clear instructions or guidelines.

Hence, it is crucial for further research to investigate methods for enhancing the efficacy of team collaboration in the classroom. Instructors should furnish explicit guidelines to students to enable the establishment of clear goals and roles among group members before commencing collaborative work. This proactive approach aims to address potential issues such as free ridership, lack of unity, and cooperation among team members in the future.

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