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Addressing Social Loafing in Student Teams Within Large Classes

小故事、大世界

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摘要

專題與問題導向學習法已受廣泛關注與運用。這類學習法著重模擬生活中真實案例，並提出解決對策。在運用這些學習法的過程中，為符合真實情況，學生不能做獨行俠，而須經常進行小組合作。然而，小組合作易產生「社會惰化」，意即在群體工作中，成員可能出現的少當責、少出力的惰性現象。社會惰化一旦發生，就可能衍生小組產力下降、組員關係緊張以及失去合作動力等問題。針對此惰性現象，過去文獻提供解決對策大致可分為四類：分組、評量、訓練及配責。然，若要將其應用於大學課程中較大班級的小組，常會有無法將小班級分組合作策略有效地套用在大班分組中捉襟見肘的狀況。因此，本計畫執行了一年兩階段式研究，目的是以前述策略為基礎發展一套含具體流程及教學對策的實踐模式，以有效降低高等教育分組合作中發生的社會惰化，同時落實有效教學。計畫聚焦探討此模式在臺灣教育場域中的具體應用，並提出改良的評分機制、「配對」式分組策略、每週「我隊友，我麻吉」互動練習等去惰化教學舉措。學生訪談、隊員互評、自我團體表現與能力前後測之研究結果皆展示了去惰化教學舉措在提升學生自我團體意識及增強團體學習合作上之正面效益。

Abstract

Project-based and problem-based learning are growing in popularity. These types of learning often simulate real world conditions that students are likely to face in their future careers. One aspect of project- and problem-based learning is that more often than not, students have to work as a team instead as an individual to mimic real life even further. However, one issue with teamwork and team collaboration is the phenomenon of social loafing. Social loafing is a phenomenon where individuals within a team might not do their fair share of a task or a project (North, Linley, & Hargreaves, 2000). This causes a host of problems, to name a few, groups being less productive, interpersonal relationships within a group being strained, and group members being demotivated. Within the literature are many strategies to reduce social loafing. Upon observation, these strategies in general can be classified into four categories: grouping, evaluation, training and role assigning. However, many of these strategies are in need of modifications and special design if they are to be applied to large classes (numbering above 80). The literature offers possible solutions to reduce social loafing present in teamwork; however, protocols consisting of not only effective instructional strategies but also detailed plans like materials and procedures need to be developed in order to meet the needs and challenges of large classes at higher education levels. To achieve this goal, the intended purposes of this proposed study are to develop effective de-loafing instructional strategies and design protocols to reduce or minimize social loafing within student teams within large-sized classes. Using a mixed methods design, this one-year and two-phase study consists of student survey of peer and self-evaluations, pre- and post-course Team Collaboration Questionnaires and semi-structured interviews with the student participants. This proposal is significant in that it seeks effective instructional strategies and protocols to reduce social loafing in sizable classes. Special attention is paid to how these strategies can be applicable in Taiwanese educational context; to this end, a revised grading

strategy, a “matched” grouping strategy for team formation, and weekly training of team-building tasks are proposed, implemented and evaluated in this study as effective de-loading instructional measures. The qualitative and quantitative data gathered from an 85-student class have revealed positive outcomes, thereby demonstrating the effectiveness of the proposed de-loading instructional measures in reinforcing learners’ team awareness and collaboration. These results would be useful for curriculum designers and teachers to foster the quality of student collaboration and team-based teaching.

Table of Content

1. Research Motive and Purpose
 - Team-Based Learning Trend and Its Benefits
 - A Threat to Learning Efficacy
 - The Need for Alleviating the Threat
2. Literature Review
 - Social Loafing: The Origin
 - Primary Factors for Social Loafing in Classrooms
 - Existing Solutions
 - Current Challenges in Application
 - The proposed De-Loafing Protocols
3. Research Question
4. Research Methodology
 - Conceptual Framework
 - Research Participants and Sites
 - Research Instruments
 - a. Pre-Grouping Trait Diagnostic Questionnaires Used for Matched Grouping
 - b. Two-Staged Evaluation Likert-Scales and Holistic Grade Description
 - c. Pre- & Post-Course Team Collaboration Questionnaires
 - Research Procedures
 - Data Analysis
 - Implementing Procedure
5. Teaching and Research Outcomes
 - Findings and Discussion
 - a. Matched Grouping with Pre-Grouping Diagnostic Questionnaire
 - b. Two-Staged Evaluation Likert-Scales
 - c. Weekly Buddy Up Team-Building Tasks
 - d. Pre- & Post-Course Team Collaboration Questionnaires
 - Teaching and Learning Outcomes
6. Recommendations and Reflections
- References
- Appendix

Addressing Social Loafing in Student Teams Within Large Classes

1. Research Motive and Purpose

Team-Based Learning Trend and Its Benefits

Group work, or team collaboration, has become increasingly popular in higher education settings (Parmelee et al., 2012; Hoffman & Rogelberg, 2001). Team collaboration can be defined as a formal group of students who work together to accomplish a common goal, task, or project. The benefits of team collaboration have been well researched and documented. Research has shown that students who work in teams perform better on academic measures, learn from one another, and cultivate valuable communication, problem-solving and leadership skills (Chang & Brickman, 2018; Qin, 2013; Frash, Kline & Stahura, 2004; Hayes, Lethbridge & Port, 2003; Butcher, Stefani & Tariq, 1995). In addition, having students work as teams also takes the pressure off instructors. Instead of having to lecture to an entire class of students, instructors can place students into teams and have them take agency in some of their own learning. Most college students tend to have a favorable impression about participating in group work in their courses (Payne et al., 2006) since team collaboration offers a more student-centered approach to learning, instead of a typical teacher-centered lecture (Kooloos et al., 2011). Furthermore, students in team collaboration environments can gain such skills as developing rapport with others, negotiating a framework for working with others, generating and sustaining motivation and commitment to working together, making sense of what is going on in one's team, coping with stressful situations that may arise, and recognizing and making the most of individuals' dispositions to prefer particular team roles (Levin, 2002). More importantly, all these skills are transferable and will be useful in their future careers as well. For example, having these skills is highly desirable to many employers in business, who expect newly employed individuals to have experience with working within a group, as well as the skills needed to interact and communicate with other employees (Ye, 2015; Aggarwal & O'Brien, 2008). These benefits may explain why many university instructors in the U.S. have incorporated team collaboration as part of their classes (Hoffman & Rogelberg, 2001). In many instances, a clear majority of instructors as a whole assign team projects as part of their coursework. In one survey, 72% of the instructors in a business school assigned students to team projects at least once per semester (Vik, 2001).

In addition to its benefits, the popularity of team collaboration in higher education can also be attributed to the types of assessment that are being used. Instructors are increasingly incorporating problem- and project-based learning into their classrooms. The main impetus for this trend is that these types of learning mirror many of the situations that students will find themselves in in the professional world (Saghafian & O'Neill, 2018). In the workplace, students are much more likely to work as part of a team to accomplish a specific goal or overcome an issue or a problem. It is unlikely that students will have to pass an exam as part of their normal work responsibilities. In other words, problem- and project-based learning allows students to apply what they learn in class in a way that is more representative of the projects or problems that they may face after they graduate.

A Threat to Learning Efficacy

Despite its evident benefits, team collaboration is often undermined by social loafing, which refers to the phenomenon where individuals within a group have the tendency to put forth less effort and reap the fruits of peer labor (North et al., 2000; Karau & Williams, 1993). In the university setting, social loafing is typically illustrated as when an individual (or individuals) within a group does less work than the other members within the same group. A student group member who is loafing typically displays avoidant behavior, such as skipping group meetings, not participating in group discussions, and not completing tasks (or not completing them in time) (Kamau & Spong, 2015). While this phenomenon may seem trivial or be dismissed as a lesson that all students will

have to experience sooner or later, it can have negative effects on motivation for learning. For example, in Le, Janssen and Wubbels' survey in 2018, 19 teachers and 23 students at a pre-service teacher education faculty of a university in Vietnam were interviewed, and they revealed that more than two-thirds of the students (18/23) and two-thirds of the teachers (13/19) observed social loafing. It was reported that in team projects some team members contributed more, some less, and some even made no attempt to put in effort after completing their own tasks, thereby affecting students' collaborative experiences negatively. Hence, social loafing has been shown to lead to low productivity and poor group performance (Ying et al., 2014). Some researchers have described the effect of social loafing as "debilitating" to a group (Gillespie, Rosamond & Thomas, 2006). Students who have had to work with social loafers have reported being less likely to agree that group members learned from them, that they learned from group members, and that they looked forward to future group work (Payne & Monk-Turner, 2006).

The Need for Alleviating the Threat

Thus, it is in the best interest of teachers and universities to be able to reduce the occurrence of social loafing in order to provide students with the benefits of working in teams to accomplish problem-based and project-based learning and to develop interpersonal communication and teamwork skills in the process. To help facilitate this, this research addresses social loafing. As discussed previously, it is well documented that having students work and learn in groups can yield higher learning outcomes, give students experience in working with other people, and help students develop interpersonal communication skills (Parmelee, Michaelsen, Cook & Hudes, 2012), which are all skills that students will use after they graduate from university and enter the workforce. However, social loafing is one common issue in team collaboration since the outcome is often evaluated by team effort instead of individual contribution. Social loafing can have negative effects on other members within the same group, such as raising other members' workload, increasing interpersonal conflicts, and decreasing overall motivation for learning.

While there is a wealth of research on the benefits of group learning and teamwork, published research on how to reduce social loafing has been sparse and solutions and recommendations have not been very specific or practical, especially for sizable classes (classes with more than 80 students). Very few studies have specifically looked at classes composed of students from multidisciplinary backgrounds, and even fewer have examined social loafing in a Taiwanese educational context, let alone offering applicable strategies. As instructors are increasingly relying on team collaboration to help stimulate students' motivation for learning, concrete measures should be taken to mitigate the negative effects so that students will more willingly devote themselves to learning, establish proper interpersonal communication skills, and have a better overall experience with teamwork.

Therefore, this work focuses on one central issue that should be addressed with a view to improving student learning as well as their experience with working in teams: the need to develop effective instructional strategies and standard protocols to mitigate social loafing in sizable classes. Special attention is paid to how these strategies can be applicable in Taiwanese educational context. The results of this study would be useful for curriculum designers and teachers to foster the quality of student collaboration and team-based teaching.

2. Literature Review

Social Loafing: The Origin

Karau & Williams (1993) explain social loafing as the tendency for individuals to be less devoted when working in group than working independently. Other terms synonymous with social loafing are free riding, shirking, and slacking. The term originated in studies conducted by Maximilien Ringelmann, a French agricultural engineer, between 1882 and 1887 (Kravitz & Martin,

1986). One of Ringelmann's experiments involved student volunteers pulling on a rope alone or in a group. What he found was that individuals pulled with less effort when they were part of a group than when they were by themselves. Further studies also found similar results. For example, one study (Latane, Williams, & Harkins, 1979) investigated undergraduates clapping and shouting alone or in groups. Individuals made less noise when they were part of a group than when they were alone. In this study, the researchers identified social loafing as "a decrease in individual effort due to the social presence of other persons" (ibid., p. 823).

In addition to physical tasks such as rope pulling or shouting, researchers have also identified social loafing within groups of students in classroom settings. Harkins and Petty (1982) found that students given the task of evaluating a poem would often put forth less effort when they were in a group than when they were alone. Students who are loafing will oftentimes display specific behaviors, such as a lack of participation, failure to complete tasks, and avoidance (Myers et al., 2009). What this means is that students will not take part in group discussions, give thorough feedback, complete "their part of the project," or display commitment and enthusiasm.

Social's Loafing's Impacts upon Collaborative Learning

Social loafing can have a highly negative impact on others within the same group, such as increasing the workload of other students, straining social relationships, and decreasing overall motivation. Many instructors require students to participate in graded group projects or team collaborations. However, graded group projects and team collaborations are problematic for both instructors and students (Hayes et al., 2003; Cheng & Warren, 2000; Yamane, 1996; Butcher et al., 1995). Specifically, a key question is then raised as to whether all students should receive the same grade or evaluations reflecting their personal contributions (Butcher et al., 1995). Szymanski and Harkins (1987) found that social loafing students have confidence that assessment is not possible by the experimenter, the individual, or a group member. Other researchers have suggested that social loafing occurs because students know that the instructor cannot accurately evaluate their individual contributions (Levi & Cadiz, 1998). Thus, if instructors are assigning a grade to a team of students, students who are not loafing typically will have to take on the duties and responsibilities that social loafers are not doing, or risk a lower grade in the class (Williams & Karau, 1991).

In addition to increasing the workload of others, social loafing will oftentimes strain relationships between group members. When assigned a team or group, students are often afraid of encountering social loafing. One complaint that students often have about group work is how to deal with members who fail to contribute equally or equitably to a group task (Livingstone & Lynch, 2000). One reason for this is that students often believe that social loafers are fully aware of their dysfunctional behaviors. In Myers' team research (2009) which interviewed undergraduates' perceptions of social loafers, one theme that consistently emerged was the idea that loafers knew what they were doing but did not care; they pretended that they were making an effort and acted as if they had helped. Another consistent theme indicated a common belief among group members that the lack of work on the part of the loafer showed "no respect" for the people doing the work for them. While many students may choose to ignore social loafers rather than confront them, this conflict avoiding behavior serves to only intensify the divide between loafers and their group (Colbeck et al., 2000).

One of the biggest negative effects of social loafing, however, is how it can decrease overall motivation for all members within a group. According to Ying et al. (2014), social loafing has been perceived as a major contributing factor for lower productivity and poor group performance. In their study, the overall peer evaluations by groups with indicated instances of social loafing scored significantly lower when compared to those by groups with no social loafing instances. In other studies, student interviews commonly revealed that working with social loafers within a team is frustrating because while group members may be excited to do well and work hard together, social loafing can oftentimes demotivate members of the team (Orlando, 2017; Myers et al., 2009). This decrease in motivation due to the presence of possible conflicts with social loafing can be

debilitating for the entire group (Gillespie, Rosamond, & Thomas, 2006), and may serve to preclude some students from ever wanting to work with others in a team (Payne & Monk-Turner, 2006).

Primary Factors for Social Loafing in Classrooms

There are various reasons as to why social loafing within teams in the university classroom system exists. As stated previously, one of the main reasons is the lack of overall accountability and low visibility of individual contributions within a group; as far as most summative evaluations are concerned, the perceived relationship between individual effort and reward is weak (Karau & Williams, 1993; Harkins & Jackson, 1985). Another reason as to why social loafing is so prevalent in group work is how projects, tasks, or problems are designed. Oftentimes assessment only happens at the end of the term, and peer evaluations are either not shared or done at the end of the term. Several problems may arise in this approach. First of all, instructors may be the last person to know the incidents of social loafing in groups. Students may feel that they have to deal with this issue by themselves, and may be reluctant to tell the instructor about it (Levin, 2002). Thus, if evaluations take place at the end of the semester, it is already too late for the instructor to intervene and the damage is already done. Second, it is a common scheme for the instructor to give equal marks to all group members as the instructor often perceives teamwork as a collective effort which should be graded as a team (Roberts & McInerney, 2007). Finally, one main contributor to the prevalence of social loafing in classroom team collaboration and group work is that students are not trained how to work in a group. Few instructors do more than assign students to teams. However, effective teamwork requires training in how to work in teams, how to troubleshoot team project problems, and when to fire a team member (Vik, 2001). Leaving students alone to deal with social loafing is often ineffective, with students either ignoring the loafer and expending more effort to make up for the lack of productivity, or reaching a point where social relationships between members become frayed (Myers et al., 2009). Thus, unless especial attention is being paid to designing projects and evaluations that enable instructors to get a sense of whether social loafing is present, and to training students how to work within groups, social loafing will continue to be present in many team collaboration situations.

Existing Solutions

The literature has offered some possible solutions to mitigate social loafing in the classroom. One solution is group formation. The initial formation of small groups may be critical for success (Burke, 2011). While there is ongoing debate about effective grouping strategies, a majority of researchers agree that in most cases it is better for instructors to form groups and not have students choose their own groups. Felder and Brent (2011) stated that groups performed better when instructors assigned members instead of letting students self-select their groups. Aggarwal and O'Brien (2008) found that social loafing did not decrease when students selected their own group, but that there was a decrease when groups were assigned by the instructor instead. One reason for this occurrence may be that students will have the tendency to work with people within their own social networks, or people that they already know. This familiarity, while seemingly positive, may interfere with how group members communicate with and expect of one another. Another study developed a Social Loafing Tendency Questionnaire (SLTQ) to measure individuals' social loafing habits (Xiangyu et al., 2014). The use of the SLTQ to identify individuals with a propensity for social loafing allowed instructors to more equally distribute possible social loafers among all groups, thus ideally ensuring the non-existence of the development of a disproportionate number of individuals with social loafing tendencies in any single group.

Other proposed solutions to mitigate social loafing in the classroom include reducing group size. Overall, smaller teams perform better than larger teams (Hoegl, 2005). Previous research has indicated that there is an inverse relationship between the number of team members and individual performance (Ingham, et al., 1974). In other words, the greater the number of students within a team, the less each student will contribute. Thus, researchers have suggested that groups remain small,

with teams consisting of about three to five students (Felder & Brent, 2001). Small groups have been found to reduce social loafing, primarily because contributions become much more visible when compared to larger groups.

Another common strategy for reducing social loafing is training students to work effectively in small groups. Many students do not innately have the skills necessary to be effective group members (Burke, 2011). Some students may even have no prior experience working in groups, which is why instruction is necessary. Students need to understand why assignments are given and what skills they will develop. Burbach et al. (2010) suggested that an explicit instruction on how to work together in groups is required. This instruction may need to include such things as what to expect when working in teams, how to communicate with team members, and how to overcome differences of opinion, personality, and ideology (Levi, 2011).

In addition to instruction on how to work within a team, the effective use of peer and self-evaluations may help reduce social loafing. Evaluations need to be conducted throughout the semester and shared with members within a group. What has been suggested is that differences between peer and self-evaluations need to be discussed. These discussions can highlight the dissonance between how individuals feel about their amount of contribution to their group and what others see as their contribution (Aggarwal & O'Brian, 2008). Also, peer evaluations throughout the semester can inform the instructor of problems within groups before it is too late to intervene (Brooks & Ammons, 2003; Strong & Anderson, 1990; Harkins & Jackson, 1985). Thus, evaluations need to be conducted at multiple points in the semester in order to give group members the opportunity to discuss differences in perceived productivity and to give instructors time to intervene if necessary. Brooks and Ammons (2003) found that appraisal systems that incorporated feedback on explicit criteria at multiple points during a project helped reduce social loafing and also helped students perceive group projects more favorably. Other researchers have suggested administering informal peer reviews early in the project in order to help students work out problems related to social loafing (Dyrud, 2011). Aggarwal and O'Brien (2008) found that social loafing decreased as the number of peer evaluations increased.

Finally, there have been suggestions that assigning roles within a group may serve to reduce social loafing. Assigning roles for individual students may help overcome misconceptions about what students are responsible for in their team. In other words, assigning roles for students to assume while completing tasks is a way to promote individual accountability and to ensure that instructors can monitor contributions (Chapman & Van Auken, 2001; Davies, 2009). It has also been recommended that students be assigned specific roles to promote critical discussion and to prevent students from either dominating discussions or avoiding conflict by accepting the quickest answer during problem solving tasks (Heller & Hollabaugh, 1992). Another study that focused on leadership within groups also proposed a way of reducing social loafing within groups and boosting overall performance and satisfaction (Ferrante, Green, & Foster, 2006). In this study, students within a group nominated a leader. The leader of the group had the power to assign and distribute the work to members of the group. As a check, the leader was able to assign participation grades to group members, and group members decided on the participation grade of the leader. In addition, members of the group benefited from bonus points if they were in the top third of all groups in the class.

Current Challenges in Application

Despite a variety of proposed solutions to reduce social loafing, many of these solutions have not been designed in consideration of the higher education in Taiwan. Ultimately, general solutions can be summarized as: Grouping, Training, Evaluating, and Role Assigning.

While the literature is clear that smaller groups perform better and have lower instances of social loafing, and that groups formed by instructors are much more effective than groups selected by students on their own, these strategies are not practical in large classes where instructors'

familiarity with respective individual is made impossible. If a class of 80 students were to have groups of six individuals each, there would be over 15 groups, thus making it difficult for the instructor to check in with and oversee individual group work. Also, creating groups for a class of 80 students will take a disproportionate amount of time. Most research that stated that small group size was effective in reducing social loafing studied classes of between 20 to 30 students.

Furthermore, studies have shown that training students how to work within a team can reduce social loafing. However, few if any of these studies offered a specific model of how training was conducted. Different studies trained their students with different approaches; however, these approaches were not documented in detail. In other words, while research tells us that teaching students about teamwork and interpersonal communication is effective, how this training should be done is not explicitly explained. Clear procedures for this training need to be developed if they are to be replicated in other classrooms.

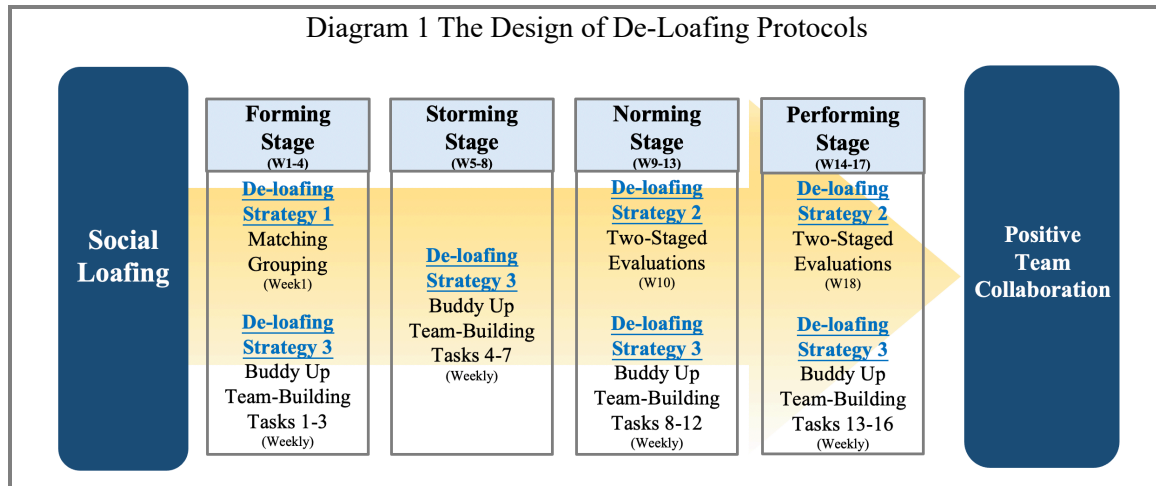
Evaluations are one aspect that can be directly applied to classes with informed consent. Instructors typically conduct individual and team evaluations during the semester, but as suggested in literatures that evaluations need to be carried out at multiple points throughout the semester. However, no standard criteria for peer and self-evaluations are provided with different instructors using different evaluations for their classes. If unified protocols could be established specifically to address social loafing in team collaboration, all classes that use teamwork and group work could greatly benefit from it.

The Proposed De-Loafing Protocols

The previous discussion has highlighted the importance of seeking effective instructional strategies and establishing standard protocols to mitigate social loafing and free-riding in an attempt to promote the quality of collaborative learning, and the strategies mentioned are likely to be able to accomplish the goal of reducing social loafing within teams and groups in large classes at higher education levels. What needs to be done, however, is to establish a protocol or protocols which includes all of these items effectively in both design and timing, as well as a refined pedagogy for educating students about collaboration and evaluation. These protocols should achieve the ultimate goal of being replicable in other large classes, hence the proposal of the De-Loafing Protocols (hereafter DLP) may be able to achieve these goals.

Among the four proposed solutions and strategies for reducing social loafing that are discussed previously, Grouping, Training and Evaluating—are most frequently mentioned in the relevant literature. In this proposal, these three instructional strategies are used as the basis of the proposed De-Loafing Protocols in this study. While Role Assigning also provides some advantages, it can be left aside as it requires the training of different duties and responsibilities of different roles, multiple attempts of role-rotations throughout the semester, time spent in avoiding or mitigating potential conflicts between roles and consistent monitoring. All of this demands great investments in time, effort and energy, whereas the integration of Grouping, Evaluating and Training requires time and energy at different points in time, thereby allowing teachers to efficiently distribute time, effort and energy throughout a semester—a very critical requisite for any effective instructional protocol.

In designing protocols, time, procedures, action and relevant details matter. As shown in Diagram 1, the primary objective of the DLP is to alleviate loafing and boost team collaboration through implementing three de-loafing strategies—matched grouping, two-staged evaluations, and weekly team-building tasks. To fulfill this, Dufrene & Lehman's high-performance team-building theory (2010) is applied to illustrate the typical four phases experienced in building effective teams: forming, storming, norming and performing. Each stage serves specific goals as an attempt to achieve the ultimate purpose of this research, and to meet these staged goals, weekly team-building tasks are designed (see Appendix I *Weekly Buddy Up Team-Building Tasks*) as one of the de-loafing strategies proposed in this research. There are a total of 16 tasks designed (termed Buddy Up Team-Building Tasks): three in Stage 1, four in Stage 2, five in Stage 3, and four in Stage 4.



The first stage is the *forming* stage, which is scheduled from Week 1 to Week 4. In this stage, students are optimistic and cautious, individualistic, and slow in producing results. This stage is especially important in developing a foundation so that the team can better work together later on. Vik (2001) recommends that instructors use ice breakers, short interviews or problem-solving cases to help members to get to know each other in this stage, hence the first three getting-to-know each other Buddy Up tasks (see Appendix I).

Another protocol of the de-loafing strategy, grouping, takes place in Week 1. In grouping, the suggestion of designing a preliminary survey questionnaire before grouping offered by Xiangyu et al. is adopted. Hence, a preliminary survey will be conducted before the implementation of the matched grouping of the DLP to investigate the crucial traits which most students value in finding compatible teammates. The results will be used to design the matched grouping guideline which serves as a de-loafing strategy here. Some of these expectations (i.e., traits) could also serve as important references when peer and self-evaluation rubrics are designed later in Stage 3.

The next stage is *storming*, which is scheduled from Week 5 to Week 8. This stage is typically characterized by impatience or discouragement. This is the stage where members begin to learn about each others' abilities and responsibility levels. During this stage, productivity begins to increase, although sometimes very slowly. Most importantly, however, during this stage, instructors may have to mediate within each group, since this is when conflicts between group members begin to surface. Therefore, in this stage, the theme for Training is 'discovering one another,' where questions are designed to better understand one another and learn about how to provide constructive feedbacks. These attempts are made through the practice of Buddy Up tasks four to seven (see Appendix I).

After *storming* comes the *norming* stage, scheduled from Week 9 to Week 13, this period would be the time students start to work on their mid-term project. In this stage, the team begins to feel like a team, with members working together to accomplish goals with shared responsibilities, synergizing individual efforts into a larger whole. To facilitate this synergization, the designed discussion theme is 'supporting one another,' whereby students are encouraged to learn their own role in the team to assist one another, which are also taken as the goals of Buddy Up tasks eight to twelve (see [Appendix I](#)).

Additionally, two-staged evaluations are also designed as the last de-loafing strategy. The first peer and self-evaluation and the explanation to the evaluation rubric takes place in Week 9. Considering the potential dangers of having different learning expectations and understandings of the participation level and individual effort, evaluations with detailed explanations of the information allow for more effective group negotiation and communication. Also, evaluation results

which display score difference larger than four between the means of peer evaluation scores and that of the self-evaluation will be informed to the individual to motivate the transformations of collaborative actions in group. Synott (2016) found that through peer evaluations, students who were identified as loafers by their group members often were not aware that they were perceived as loafing. In fact, these loafers often felt that they were contributing equally with everyone else. Thus, it is clear that identifying social loafing to the loafers themselves can turn the situation around and serve as a valuable lesson for social loafers about how their actions affect the group as a whole (Orlando, 2017).

The final stage in team growth is *performing*, scheduled from Week 14 to Week 18. In this stage, the team is productive, sharing problems and responsibilities, solving problems as they arise, and feeling trust and respect for others in the team. Not all teams will reach this stage, especially within a semester, but if a team is able to get to this stage, they will be able to accomplish the assigned projects while also seeming to enjoy working with each other. To enhance these transformations, the discussion theme ‘trusting one another’ (i.e., Buddy Up tasks thirteen to sixteen) is designed to encourage self-reflections.

In addition, the second peer and self-evaluations are implemented in Week 18. Brooks & Ammons (2003) found that implementing evaluation early and at multiple points throughout the semester allowed students to learn about their relationship with their teammates in terms of contributions. Thus, not only should evaluations be used, they should be used at least two to three times through the semester in order to give students the opportunity to see if there is a discrepancy between their perceived contributions, and what their peers perceive.

3. Research Question

This action research addresses the issue of social loafing in student teams in big-sized classes and calls for the need to develop standard de-loafing protocols containing three effective instructional strategies to mitigate social loafing in sizable classes. To these ends, the following specific research questions are addressed:

- 1.How effective are the periodic peer and self-evaluations in reducing social loafing within teams?
- 2.How effective is matched grouping in reducing social loafing within teams?
- 3.How effective are weekly training of team-building tasks in reducing social loafing within teams?
- 4.Does the implementation of De-Loafing Protocols effectively reduce social loafing within teams?

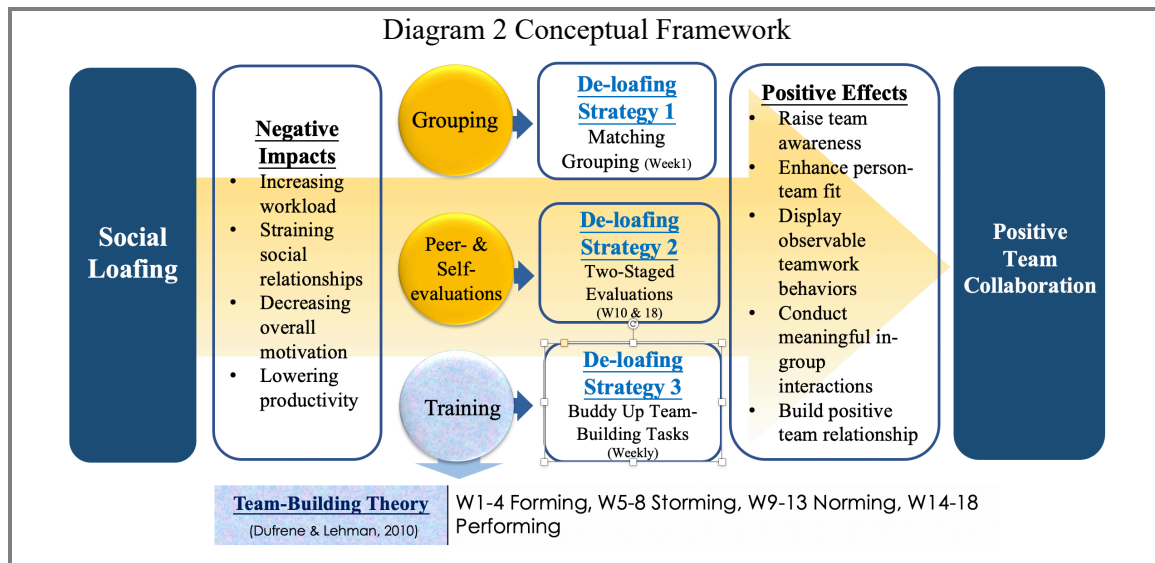
4. Research Methodology

This is a one-year two-phase study. Phase 1 aimed to design and develop the research instruments applied in Phase 2; Phase 2 aimed to implement the De-Loafing Protocols and its de-loafing instructional strategies in the *Storytelling and Communication for Social Change & Leadership* class in the 109-2 term. The design of the *Storytelling and Communication for Social Change & Leadership* course plans for Term 109-1 and 109-2 are given in Appendix II. The effectiveness of the de-loafing strategies and the proposed protocols were examined through pre- and post-course Team Collaboration Questionnaires, students’ interviews, and two-staged peer and self-evaluations.

Conceptual Framework

Diagram 2 illustrates that social loafing in student teams may easily lead to several negative impacts upon group learning. As discussed in the previous section “The Proposed De-Loafing Protocols,” to alleviate loafing in student collaboration, some researchers have suggested the

application of different strategies, namely, Grouping, Evaluating, and Training. In this proposal, considering the practicality and simplicity of implementation, Grouping, Evaluating and Training are adopted as effective de-loading instructional strategies. Even though the practice of these three strategies can be observed in different literatures, they are not designed or modified specifically for sizable classes with students from multidisciplinary backgrounds in the educational and social contexts in Taiwan. Therefore, three modified strategies—Matched Grouping with the use of pre-grouping Trait Diagnostic Questionnaire, Evaluating with specifically-designed analytical and holistic rubrics distributed at two different time points, and Training of how to collaborate with one another through weekly theme-based discussion task (i.e., Buddy Up Team-Building Tasks)—are proposed to bring about positive effects, thereby promoting good team collaboration.



Research participants and sites

The data collection took place at a classroom on campus. The student participants were the enrolled students in the Terms 109-1 and 109-2 *Storytelling and Communication for Social Change & Leadership* classes. The course is designed to help undergraduates develop storytelling skills and guide them to more deeply see the “story of self”—personal narrative and experience—within the context of awareness and concern for our world today and society. Drawing from presentation and storytelling skills, from drama to delivery, students learn how to structure, engage and connect in their personal choice of communication mode, by transforming the arc from a “story of self” to a “story of us and now”, and through this, become engaging future leaders in academic and professional careers with a particular emphasis on and concern about pressing contemporary issues within the public sphere.

Since the course is a Basic Core Competence course, the student participants were undergraduates from different disciplines. With a total of 89 student participants in Term 109-1 and the other 85 student participants in Term 109-2, 174 student participants took part in the study. In the DLP-implemented stage, the 85 students were divided into 22 groups (19 groups of 4 members and 4 groups of 3). Among the 85 students, two members of each group were invited for semi-structured interviews in Term 109-2. As for the teacher participants, two teachers were involved in co-teaching the course. Both Teachers A and B have more than six years of oral presentation teaching experience and five years of experience in teaching big-sized classes.

Research Instruments

a. Pre-Grouping Trait Diagnostic Questionnaire Used for Matched Grouping

Sixteen volunteers, one from each group, were invited for semi-structured interviews in Term 109-1 to describe the traits of ideal teammates and share their previous teamwork experiences. The findings provided some insights into some crucial factors fostering success in teamwork. Four main factors were identified: learning habits, study hours, preference of communication means, and expectations of the course and other teammates (see Table 1 below). Interestingly, this suggests that the primary factors affecting students' collaboration is not personalities, which most people may often assume; instead, what matters is mostly means of communication. Therefore, these four factors were used as the surveyed traits to help students seek compatible teammates in the Pre-Grouping Trait Diagnostic Questionnaire used for matching groups in Term 109-2.

Table 1 Crucial Factors Fostering Success in Teamwork

Factor Affecting Collaboration	No. of S (n=16)
Cooperative attitude (time-wise; day-person or night-person)	14
Response/Reply Time (e.g., texting, emailing, phoning)	11
Expectation (to thrive or to pass)	9
Learning habits (last minute fighter or a planner)	9
Flexibility	6
Attendance	5

a. Two-Staged Evaluation Likert-Scales and Holistic Grade Description

Two-Staged Evaluation Likert-Scales focused on subjects' in-group group performance. The graded items include in-class group task performance, after-class group task performance, and in-class group participation (Table 2). A holistic grade explanation was also provided with the analytical rubric. The implementation of two different types of rubrics helped the subjects examine their teammates' and their own performance from different perspectives, thus enhancing validity of their judgements.

Table 2 Two-Staged Evaluation Likert-Scales

Item	Weighting	0 Unacceptable	1 Need Improvement	2 OK	3 Good
In-Class Group Task Performance	3				
After-Class Group Task Performance	3				

In-Class Group Participation	Weighting	0 Unacceptable	1 Need Improvement	2 OK	3 Good	4 Excellent
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Holistic Grade Explanation:
 9-10 Always participate actively; always respond promptly; always complete tasks on time; display cooperative attitudes
 7-8 Usually participate; usually respond promptly; usually complete tasks on time; display cooperative attitudes
 5-6 Need improvements on 1-2 items (participation, response time, task completion, and cooperative attitude)
 4 or below Need improvements on 3 or more items

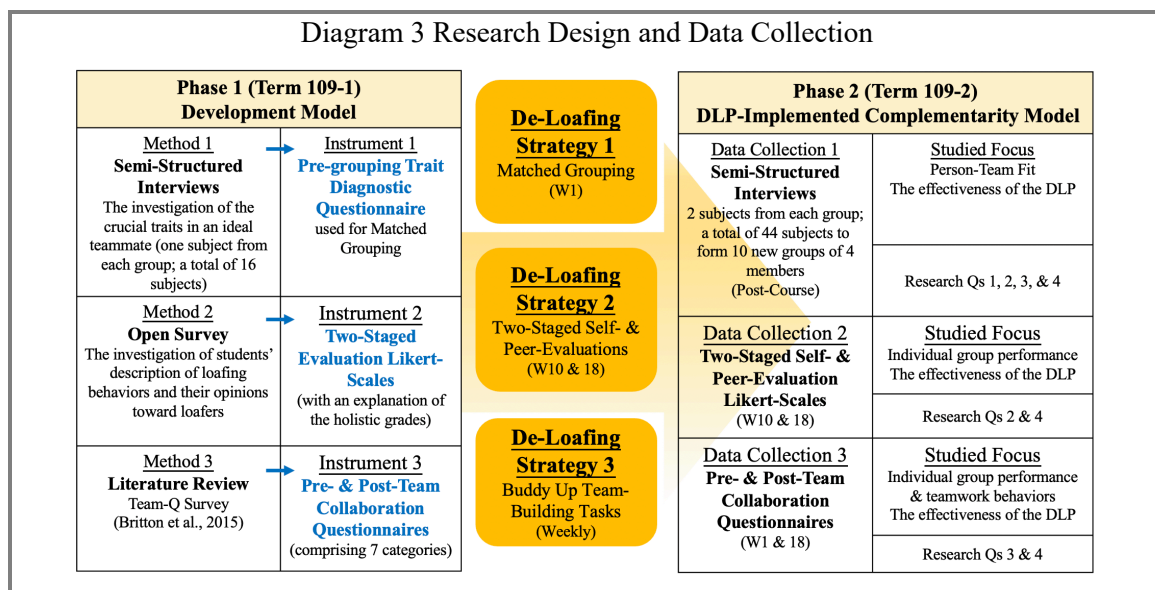
b. Pre- & Post-Course Team Collaboration Questionnaires

Team-Q Survey was developed for assessing individual teamwork skills, and is best suited for self and peer evaluation (Britton, Simper, Leger, & Stephenson, 2015). Britton and her colleagues argue that teamwork skills improve over time when taught and peer-evaluated because the Team-Q Survey provides clear guidelines about what constitutes effective teamwork. Britton's Team-Q Survey, classifies teamwork behavior into six different categories: contributing to team project, facilitating contributions of others, planning and management, fostering a team climate, managing potential conflict and overall performance. Each category also encompasses different descriptions of specific teamwork behaviors (see Appendix III *Pre- & Post-Team Collaboration Questionnaires*)

In addition to the six categories, one category was added into the Survey—opinions regarding teamwork. Since mentality also plays a significant role affecting an individual's opinions toward teamwork, which may inevitably influence one's teamwork behaviors, subjects' opinions regarding teamwork were also investigated.

Research Procedures

Creswell's Mixed-methods design is employed in this present study (2012) (see Diagram 3). Diagram 3 below summarizes the methods, participants involved in the development of each instrument in Phase 1, and the designs of data collection and their respective purposes in Phase 2. In Phase 1, the development model, the use of findings from the preliminary investigations (i.e., student interviews, surveys, and literature review) were used to inform the designs of the research instruments.



Three research instruments were designed and developed in Term 109-1. To start with, one interviewee from each group in class was invited to participate in semi-structured interviews to gather students' descriptions of the features and actions of active teammates, passive teammates and even loafers. These results were then utilized to design and develop the scale rubrics used for peer and self-evaluations. The results of the interview data, incorporated with four other types of information—learning habits, study hours, preference of communication means and expectations of the course and other teammates, were utilized to create Trait Diagnostic Survey Questionnaire used for Matched Grouping in Phase 2.

In addition, open question surveys were distributed in Week 1 to investigate subjects'

experiences of team collaboration and their opinions toward loafing and loafers. These results were then integrated with the findings gathered from the review of Britton's Team-Q Survey to develop the pre- and post-course Team Collaboration Likert-Scale Questionnaires to be used in Phase 2 to evaluate students' teamwork performance.

In Phase 2, the DLP containing the three modified instructional de-loafing strategies was implemented in class. To investigate their effectiveness in mitigating social loafing in teams, three measures were taken: (1) implementing the pre-course Team Collaboration Likert-Scale Questionnaire in Week 1 and the post-course Team Collaboration Likert-Scale Questionnaires in week 18; (2) conducting peer and self-evaluations using a ten-point rubric in Weeks 10 and 18; and (3) conducting student interviews at post-course stage. While the former two examined student participants' team collaboration experiences in quantitative sense, the latter answered the research questions qualitatively. The research design of mixed methods with complementarity purpose allows for a more holistic understanding of student participants' opinions through the analysis of quantitative data (i.e., peer and self-evaluations, pre- and post-course Team Collaboration Questionnaires) as well as more specific answers to the research questions which aim to examine the effectiveness of the proposed De-Loafing Protocols and de-loafing strategies through qualitative data (i.e., 44 students' semi-structured interviews).

Data analysis

NVivo were used to analyze students' open question surveys, questionnaires and student interviews. The use of NVivo alleviates the laborious task of data analysis and facilitate the storage, coding, retrieval, comparison, and linking of the data (Coffey & Atkinson, 1996). In this study, the qualitative data were transcribed, significant information classified into nodes, and nodes forming into parent nodes (i.e., themes) which address the research questions. Following the suggestion made by Creswell (2007) that themes and categories should be kept to a minimum for the convenience and simplicity of analyzing, in this study only the themes that are the most relevant to the RQs were analyzed. In addition to NVivo, Excel software and t-test were also used to analyze students' statistical quantitative data in the questionnaires.

Implementing procedure

Interview questions (see Appendix IV) and questionnaire items (Appendix III) were pilot tested. Before administering each questionnaire, interview, and survey, the consent forms were completed and subjects' rights were explained. Relevant materials including the rubrics and Trait Diagnostic Questionnaire were explained before the evaluation tasks. As for the interviews, interview questions were sent to the subjects one week beforehand. Interview transcriptions were sent to the interviewees via email for further confirmation. The details of research schedule and procedures are integrated into the class schedule which are presented in Appendix II.

5. Teaching and Research Outcomes

Findings and Discussion

This section reveals the qualitative findings gathered from 44 subjects' semi-structured interviews and the quantitative results from the Two-Staged Evaluations and the Pre- & Post-Course Team Collaboration Questionnaires, and is divided into three sub-sections discussing each de-loafing strategy respectively. Each sub-section discussion starts with a micro-analysis of the results and then moves to a macro-analysis which answers the research questions asked in the study. In the last part of this section, some insights into the teaching and learning outcomes are discussed.

a. Matched Grouping with Pre-Grouping Trait Diagnostic Questionnaire

This sub-section discusses the subjects' opinions toward the effectiveness of the Matched Grouping de-loading strategy in alleviating loafing behaviors within teams. This research adopted matched grouping with the use of pre-grouping Trait Diagnostic Questionnaire, and received positive feedback from majority of the subjects (77%, n=34). Among the positive responses, four themes were observed: a shared style of replying to messages, a common routine of working hours, a similarity in schedule arrangement, and goals and attitude towards taking the course. Twenty-five subjects shared similar opinions about how their similar social media preference and message-replying habits enhanced their collaboration, and 19 shared similar study habits that reinforced work efficiency, as shown below. This feedback demonstrates that the adoption of pre-grouping survey enabled students to seek more compatible group members.

"We all tend to respond message promptly and this ensures more efficient teamwork."
(Group 1 Subject 2)

"We are all day person. The class is scheduled on Monday mornings, so we usually complete group tasks on Wednesday afternoons. This works pretty well." (Group 2 Subject 3)

Apart from 77% of subjects' indicating positive feedback, 23% (n=10) expressed a more neutral attitude. Despite their confirmations of working with compatible group members, they were not confident in the causality between the grouping strategy and the good group chemistry. As Subject 4 in Group 4 shared, "We work smoothly and we do have a great time working with one another. I'm not sure if these could be attributed to the first week grouping or just luck."

To respond to Research Question 1, the interview data suggests that the Matched Grouping strategy had a positive influence in reducing loafing within teams.

b. Two-Staged Evaluation Likert-Scales

Regarding opinions toward the implementation of two-staged self- and peer-evaluations and their effects in alleviating loafing, 84% of the subjects (n=37) provided positive feedback which can be categorized into three themes: helping self-monitoring, encouraging self-improvement, and strengthening the effect of encouraging or discouraging others' teamwork behaviors. These findings are consistent with those of Aggarwal & O'Brian in 2008 and Brooks & Ammons in 2003, where evaluations at different times was also claimed to be an effective instructional measure. As shared by some subjects:

"Peer evaluations serve the function of reminding group members of our own duties. Individuals who received low scores were allowed to accumulate more credits by improving their performances based on the results of the rubrics. We could know better of the expected team actions." (Group 7 Subject 2)

Sixteen subjects provided similar ideas as Subject 2 of Group 7. Interestingly, two subjects reported that their good capability in assisting teamwork had become an "intimidating" factor which may serve as positive reinforcement most of the time and pressure a few times when rushing to meet deadlines. Additionally, some subject suggested that these measures could positively enhance self-confidence and motivation in teamwork.

"The results may encourage or discourage teammates. In my group, peer evaluations are seen as encouragement. Also, when receiving high scores from the other peers, I feel that my contribution counts." (Group 9 Subject 4)

"One of our members was about to leave the group, but stayed afterwards. That member texted me to ask about the feedback on the rubric and how he could better improve. After mid-term, his transformation took everybody by surprise and his end-of-semester peer evaluation grades were 'rocket high' in our team." (Group 8 Subject 1)

On the other hand, six subjects (14%) showed a neutral attitude towards the effectiveness of two-staged peer evaluations. Three themes were identified among these responses: the potential threat of peer pressure, the observation of small disparities in test score, and the need for more explicit and precise feedback. Six subjects shared similar opinion that due to the cultural context in Taiwan, people tend to be reserved and polite when offering comments. In addition, three shared that the small disparities in test score reduced the degree of impact of these scores upon individuals' team behaviors.

For Research Question 2: "how effective are the periodic peer and self-evaluations in reducing social loafing within teams," the results of qualitative and quantitative analysis are consistent with those of the quantitative results collected from the self- and peer-evaluations. Thirty-nine (89%) of the forty-four interviewees received higher scores in the second evaluation task taking place on Week 18 than those of Week 10, suggesting that a majority of the students performed better in teamwork as time proceeded, hence approving the effectiveness of the two-staged evaluations in promoting teamwork performance.

c. Weekly Buddy Up Team-Building Tasks

Corresponding to Dufrene & Lehman's team-building theory (2010), the weekly Buddy Up tasks aim to facilitate students' recognition of self-identity in teams, understanding of their teammates, seeking effective work patterns, and developing esprit de corps. Three-quarters (n=33) of the subjects showed a positive attitude, while the remainder (n=11) held a neutral view. Among most of the subjects, there was a consensus that such practice helped them recognize their roles in teams through interacting with their peers, thus helping them see themselves through their own and their peers' eyes, understand each team member's character, and raise their team morale. Several even demonstrated inclination to appeal to the sense of belonging. As shown below:

"Some of the interactive tasks provided me the chance to know my team members on a deeper level, instead of leaving me only a surface-level impression about them" (Group 6 Subject 4)

"Going through team-building tasks together as a team us a feasible channel through which we could cooperate better. During the process, little by little we built mutual trust when team members were willing to share feelings with, or even confide in, on another. We knew that we were not collaborating with 'co-workers', but helping each other as friends who were trying to understanding each other." (Group 108 Subject 1)

As for those who held a neutral view in how this helped them to recognize the benefits of using team-building tasks, they felt reluctant to constantly give obvious opinions, especially when they had to provide negative comments. Subject 3 from Group 4 stated that the optimal result of having team-building tasks was contingent on the genuine sense of team collaboration. However, he shared the concern that the process of morale-building required a long period of negotiation and self-adjustment, which could be a daunting task for reserved students to go through in a relatively short period; this opinion was agreed by six other subjects. On the other hand, a minority of students (n=4) expressed their unwillingness to give negative comments in an explicit way. While they felt comfortable with giving credits to members who they believed had provided helpful and constructive opinions, in the face of peers who were not helpful enough, they simply refused to acknowledge their contribution by not making any comments.

To respond to Research Question 3: "how effective are weekly training of team-building tasks in reducing social loafing within teams," the research adopted "Buddy Up Team-Building Tasks." The results showed that most subjects agreed with the concept of developing morale and motivation through participating in team-building tasks, establishing that weekly team-building tasks can be adopted in class to reduce social loafing.

d. Pre- & Post-Course Team Collaboration Questionnaires

The effects of matched grouping, two-staged peer evaluations, and weekly team building

tasks have been properly tackled, and the effectiveness of De-Loafing Protocols is at its core. The effectiveness of De-Loafing Protocols was positively recognized by 89% of subjects (n=39). Among their responses, three themes were identified: enabling initial understanding of self-expectations, encouraging effective opinion exchanges, and providing guidance of compatibility of personal traits, which all well-corresponding with the results in the previous sub-sections above. More explicit opinions were provided that not only did the practice of the De-Loafing Protocols fosters esprit de corps, but also increases the degree of “activeness” within the group. As put by Subject 3 of Group 3 and Subject 3 of Group 8, respectively,

“Giving feedback for personal stories was counted as teamwork. Our team members were quite willing to give feedback on stories, and in a formal manner. We were willing to spend extra time out of the classroom discussing about the story, and I think this shows our members’ willingness and activeness.”

“The level of compatibility between members decides whether they can really cooperate. Four of us in the group were quite compatible, so the matching was right. Through communicating, we tried to develop a proper mode of cooperation. The good chemistry motivates us to hang out more during our own time and this allowed us more opportunities to brainstorm alternatives on how we can better our works.”

In contrast, 7% of the subjects (n=3) disagreed with the effectiveness of De-Loafing Protocols. The main reasons could be attributed to two factors (i.e., themes): lacking sufficient interactions and the incompatibility among group members. Subject 3 of Group 4 reported that it took half of a semester for her team to reach an agreement on the means of communication, i.e., meeting face to face, instead of the initial decision of utilizing co-editing in a Line chat room which they all found poor efficiency. In addition, Subject 1 of Group 9 attributed the ineffective working mode of his own team to their failing to taking part in matched grouping in the first week owing to their late registration to the course in Week 2.

The effectiveness of the DLP is also examined through the analysis of the Pre- and Post-Course Team Collaboration Questionnaires. As shown in Fig.1, the distribution shifted from left (red bar graphs representing the pre-test) to the right (blue bar graphs representing the post-test), and this indicates that generally the respondents considered their own teamwork behaviors improved as the semester proceeded, which implying the development of the subjects’ teamwork skills.

Figure 1 Comparison of Pre- and Post-Course Team Collaboration Questionnaires Results

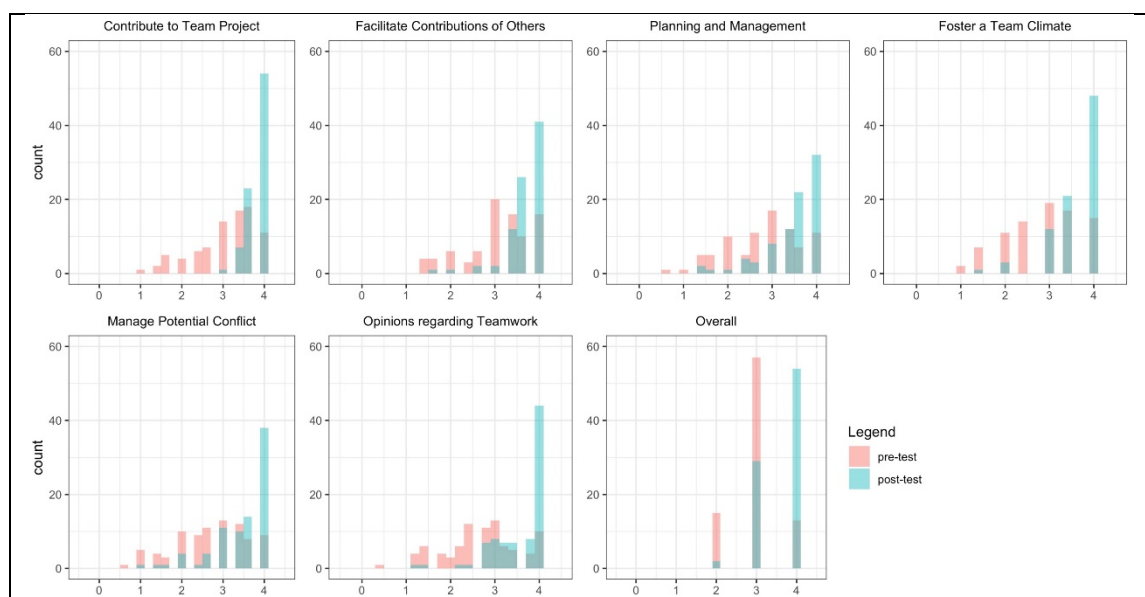


Fig. 2 shows the tendencies of lines shifting right-upwards, showing that in each item of peer-evaluations, the average scores of post-tests were higher than those of the pre-tests. In addition, the comparison results gathered from the Wilcoxon signed rank test indicate the p-values less than 0.05, demonstrating statistically significant differences (Table 3).

Figure 2 Comparison of Each Team Collaboration Category Averages at Pre- & Post-Course Stages

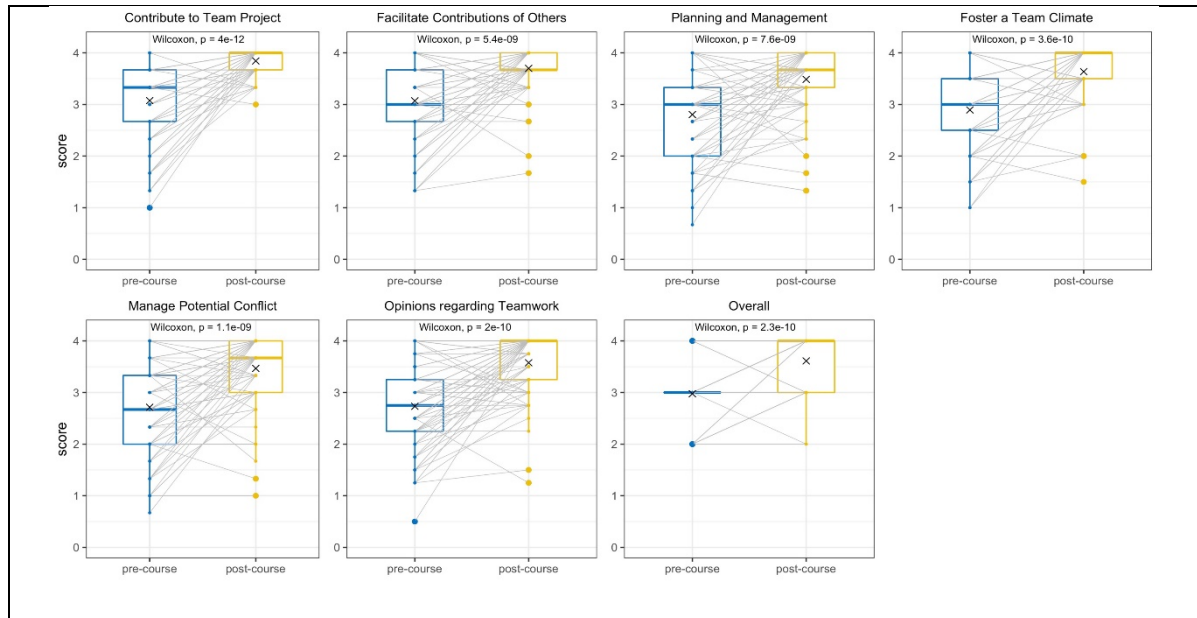


Table 3 Wilcoxon Signed Rank Test Comparison Results of Each Team Collaboration Category Averages

		mean	Median	Min.	Max.	q1	q3	Wilcoxon signed rank test on paired samples
Contribute to Team Project	pre-t	3.08	3.33	1	4	2.67	3.67	p-value 4.05E-12
	post-t	3.84	4	3	4	3.67	4	
Facilitate Contributions of Others	pre-t	3.07	3	1.33	4	2.67	3.67	p-value 5.41E-09
	post-t	3.7	3.67	1.67	4	3.67	4	
Planning and Management	pre-t	2.8	3	0.67	4	2	3.33	p-value 7.57E-09
	post-t	3.49	3.67	1.33	4	3.33	4	
Foster a Team Climate	pre-t	2.89	3	1	4	2.5	3.5	p-value 3.61E-10
	post-t	3.64	4	1.5	4	3.5	4	
Manage Potential Conflict	pre-t	2.71	2.67	0.67	4	2	3.33	p-value 1.09E-09
	post-t	3.47	3.67	1	4	3	4	
Opinions regarding Teamwork	pre-t	2.73	2.75	0.5	4	2.25	3.25	p-value 1.99E-10
	post-t	3.58	4	1.25	4	3.25	4	
Overall	pre-t	2.98	3	2	4	3	3	p-value 2.35E-10
	post-t	3.61	4	2	4	3	4	
p-value<0.05								

To answer Research Question 4: “Does the implementation of De-Loafing Protocols effectively reduce social loafing within teams,” through identifying themes and statistical analysis, De-Loafing Protocols are recognized as being effective for a majority of subjects. Those showing disagreement towards the protocols were limited by the constraints of online communication and the course adding/dropping period. Therefore, De-Loafing Protocols deserves a wider application in future big-sized classrooms.

6. Recommendations and Reflections

Upon reflection of this teaching experience and sharing extracted from students’ interview data, some suggestions are made in the following.

1. Good team collaboration is an outcome of concrete systematic training in the classroom;
2. Each de-loading strategy in the DLP can be utilized as a set or applied independently;
3. Teacher monitoring is indispensable in the classroom;
4. Teachers need to assist in building constructive and positive communication channels;
5. The strategy of assigning roles could be integrated in the future attempt, as this would likely reinforce work efficiency.

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Appendix I Weekly Buddy Up Team-Building Tasks

W2-5	Forming Stage	Use one word to describe a specific group member.
		If you were an animal, what would you be?
		Story 1 Peer Review Feedback Summary & Self-reflection
		Identify the leader/ counsellor in your team.
W5-8	Storming Stage	I work best when ____ / I feel worst when ____.
		My weakness is ____ and I'm trying to improve myself by ____.
		One thing I would like to change about our team is ____.
		Story 2 Peer Review Feedback Summary & Self-reflection
W9-13	Norming Stage	One thing which has reinforced my confidence in learning is ____.
		Identify the role of each member in the group. Give reasons.
		One thing I have learned about someone/myself is ____.
		I hope to contribute to the team by ____.
W14-17	Performing Stage	One thing making impacts upon my group performance is ____.
		What's my expectation of the final project?
		I would like to thank <u>(someone)</u> for <u>(something)</u> .
		Story 3 Peer Review Feedback Summary & Self-reflection
		My main contribution to the group is ____.

Appendix II Storytelling and Communication for Social Change & Leadership Course Plan

Table 1. Course Plan and Schedule for Terms 109-1 & 109-2

Course Title	Storytelling and Communication for Social Change & Leadership Course Plan			
Objectives	This course is designed to help undergraduates develop storytelling skills and guide them to more deeply see the “story of self”—personal narrative and experience—within the context of awareness and concern for our world today and society. Using multiple modes of communication, the focus will be on developing competency through the practice of a variety of communication skills, and the acquisition of specific skills and techniques to become engaged as future communicators and leaders through the use of shared values and experiences to address pressing contemporary topics in our world and society.			
Teaching Methods	2 hours of lecture and 1 hour of tutorial (in which the class are divided into two tutorial classes). A variety of teaching approaches (e.g., Cooperative Learning Approach, Blended Learning, Task-based Learning, Problem-Based Learning) are incorporated.			
Grading Assessment	Story Presentations (1 group + 2 individual) 50% Mid-Term 20% Attendance 10% Collaborative Tasks: Peer Evaluations, Learning Tasks, Peer Reviews 20%			
Weekly Schedule	Term 109-1		Term 109-2	
	WK	Topic & Content	WK	Topic & Content
	1	Course Introduction Grouping Open Question Survey (for designing Team Collaboration Questionnaires)	1	Course Introduction “Matched” Grouping using Trait Diagnostic Survey Pre-Test: Team Collaboration Questionnaire I
	2	Structuring Your Story	2	Structuring Your Story Weekly training: Theme 1
	3	5 Golden Rules in Storytelling	3	5 Golden Rules in Storytelling Weekly training: Theme 1
	4	The Power of Stories: To Inspire and to Be Inspired	4	The Power of Stories: To Inspire and to Be Inspired Weekly training: Theme 1
	5	Story Power: Social Changes & Leadership Semi-structured interview I	5	Story Power: Social Changes & Leadership Weekly training: Theme 2
	6	Theme 1: Contemporary Issues	6	Theme 1: Contemporary Issues Weekly training: Theme 2
	7	Present to Impact	7	Present to Impact Weekly training: Theme 2
	8	Class Presentations Presentation Tactics	8	Class Presentations Presentation Tactics Weekly training: Theme 2

	9	Mid-Term Team Collaboration Questionnaire I Pilot Test	9	Theme 2: Reduce Inequality <i>Weekly training: Theme 3</i>
	10	Theme 2: Reduce Inequality	10	Mid-Term 1st Peer and Self-Evaluations using the rubric <i>Weekly training: Theme 3</i>
	11	Story of Self—Hero’s Journey	11	Story of Self—Hero’s Journey <i>Weekly training: Theme 3</i>
	12	Story of US and Story of Now—Spoken Word	12	Story of US and Story of Now—Spoken Word <i>Weekly training: Theme 3</i>
	13	Guest Speaker: Humanitarian Aid Programs and Missions volunteer	13	Guest Speaker: Producer, Commonplace’s social media <i>Weekly training: Theme 3</i>
	14	Presentation II (one-on-one)	14	Presentation II (one-on-one) <i>Weekly training: Theme 4</i>
	15	Story of Self, Us & Now—Putting it all together Team Collaboration Questionnaire II Pilot Test	15	Story of Self, Us & Now—Putting it all together <i>Weekly training: Theme 4</i>
	16	Theme 3: Challenge Yourself	16	Theme 3: Challenge Yourself <i>Weekly training: Theme 4</i>
	17	Online Presentations	17	Online Presentations <i>Weekly training: Theme 4</i> Student Interviews I
	18	Online Presentations	18	Online Presentations 2nd Peer and Self-Evaluations using the rubric Post-Course: Team Collaboration Questionnaire II Student Interviews II
Expected Teaching Outcomes	Students not only can apply their learned professional knowledge and skills to complete their individual tasks and team tasks but also are given plenty of opportunity to practice negotiating and communicating in team collaboration. The successful attempts in applying effective de-loading strategies in big-sized classes will ultimately lead to higher quality of collaborative learning and teaching as well as promote the effectiveness of class management in big classes.			
Assessment Instruments for Learning Effectiveness/ De-Loafing Strategies Effectiveness	Term 109-2: (1) 2 peer evaluations and self-evaluations (both with the use of a ten-point scale rubric) (2) 44 students’ semi-structured interviews (3) Pre- and post-course Team Collaboration Questionnaires			

Appendix III Pre- & Post-Course Team Collaboration Questionnaires

Name: _____

Team Name: _____

School: _____

Department: _____

Year: _____

Teamwork is behaviors under control of the individual team members. In your experience, how often do you demonstrate the following? Rate the frequency of your teamwork behavior by ticking the corresponding number (see **Key**) in the boxes provided.

Key:

0= Never

1= Sometimes

2= Usually

3=Regularly

4=Always

Component	Description	Self-Evaluation				
		0	1	2	3	4
Contribute to Team Project	Participate actively and accept a fair share of the group work					
	Work skillfully on assigned tasks and complete them on time					
	Give timely, constructive feedback to team members, in the appropriate format					
Facilitate Contributions of Others	Communicate actively and constructively					
	Encourage all perspective be considered and acknowledges contributions of others					
	Constructively build on contributions of others and integrates own work with work of others					
Planning and Management	Take on an appropriate role in group (e.g. leader, note-taker)					
	Clarify goals and plan the project					
	Report to team on progress					
Foster a Team Climate	Ensure consistency between words, tone, facial expression and body language					
	Express positivity and optimism about team members and project					
Manage Potential	Display appropriate assertiveness: neither dominating, submissive, nor passive aggressive					

Conflict	Contribute appropriately to healthy debate					
	Respond to and manage direct/indirect conflict constructively and effectively					
Opinions regarding Teamwork	Enjoy teamwork					
	Teamwork reinforces positive attitude in learning					
	Teamwork provide emotional support (e.g. confidence, less stress)					
	Teamwork helps alleviate workload					
Overall	Generally how would you rate yourself on effort you put into team tasks, your manner of interacting with others, and the quantity and quality of contributions you make to team discussions 0=Unacceptable; 1=Poor; 2=Acceptable; 3=Good; 4=Excellent					

(Adopted and Revised from Britton, Simper, Leger, & Stephenson, 2015)

Appendix IV Interview Questions

Question 1: How would you value the team collaboration in your own team?

Question 2: How effective do you think the Matched Grouping in helping you finding ideal teammates?

Question 3: Does it help reduce loafing behaviors?

Question 4: What's your opinion of the self- and peer-evaluations on Week 10 and Week 18?

Question 5: Do they help reduce loafing behaviors?

Question 6: What's your opinion regarding the weekly interactive discussion tasks?

Question 7: Do they help reduce loafing behaviors?

Question 8: What's your opinion regarding the practice of these three measures in our class?

Question 9: Do these three strategies make differences in your team collaboration? If so, in what way?

Question 10: Do you have suggestion that could better the practice or reinforce the effects of these instructional measures?