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Enhancing Undergraduate Group Project Outcomes through Blended Collaborative Supervision: A Supervisors' Experience

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ABSTRACT

Combining the task of student project supervision with the other responsibilities associated with teaching, research and administration can be demanding, especially in universities that are understaffed. Supervisors and students undergo significant stress to ensure completion of projects to specifications within stipulated time. When the project to be executed is a hands-on task, not by individual final year students, but by teams of sophomores, the challenge of supervision increases. There is high tendency that any approach that can facilitate the supervision of projects in an efficient, effective and ethical manner will be attractive to the average university lecturer, hence the need to share an experience with the use of the blended collaborative approach for supervision. The primary aim of the research is to explore the use of blended collaborative supervision approach in improving group project outcomes among undergraduates. After four consecutive sessions of blended collaborative supervision via a social networking site, data was collected through participant observation, and content analysis of group threads. Qualitative analysis of the posts identified the learning outcomes, challenges and coping strategies when supervising group projects through a blended collaborate approach. Results showed that the approach facilitated greater supervisor presence and attention, cooperative learning, effective resource utilization, relatively hitch free supervision and effective documentation. The study concluded that blended collaborative supervision has the potentials to ease supervision tasks and provide effective learning experiences for students engaged in projects; and that, a major strategy for handling group project challenges was the promotion of transparency through open communication.

Introduction

Handing out projects to students to execute is one of the ways by which the extent to which transfer of knowledge has taken place can be measured. In other words, projects give undergraduates the opportunity to demonstrate the extent to which contents learnt in the classroom can be recalled and creatively applied in the provision of solutions to a diversity of problems. It is also an avenue for lecturers to work closely with students and attempt some mentoring aimed at honing their generic skills as well as their soft skills.

For the average lecturer, combining the task of student project supervision with the other responsibilities associated with teaching, research and administration can be demanding, especially in universities that are understaffed. Supervisors and students often undergo a lot of stress to ensure the completion of projects to specifications within stipulated time. When the project is to be executed is a hands-

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on task, not by individual final year students, but by teams of sophomores, the challenges of supervision increase. The reason for this is not far-fetched; at the sophomore level, many undergraduates are just getting acquainted with the art and science of project execution. They have worked all alone for the greater part of their previous educational exposure and most probably devised their individual problem-solving strategies, which is now about to undergo some rigorous testing. Though the individuals involved have a common goal to achieve, they possess different academic aptitudes, attitudes to work, and emotional intelligence among many other soft skills, yet they must work together to complete the task at hand. This calls for consultation, collaboration, compromise, selflessness and endurance on the part of each and every member, who naturally with not be equally endowed with all these qualities.

Due to the fact that the daily schedule differs for individual members within a group, it is often not possible to get all members to report to the lecturer when the need arises. Secondly, the freedom given to the students to choose the topic to work on sometimes turn out to be a problem. Protracted arguments often ensue as a result of group members' inability to agree on a suitable topic. This is sometimes caused by the fact that some groups have a mixture of students from different departments. Turbulent beginnings of this nature tend to polarize group members into smaller caucus that exhibit rivalry at the smallest opportunity. One sub group contacts the lecturer to seek their consent on a topic, or seek guidance or advice on how to overcome a problem, only for another sub group to emerge, claiming not to have been briefed on anything by group members, and expecting the supervisor to repeat instructions over and over. One or more individuals approaches the supervisor to report the misdemeanor of a colleague, only for another one to surface shortly after, to give yet another angle to the story. Consequently, the frequent squabbles, excessive visits to the lecturer, and delays in completing the project often makes the supervisors irritable, unfriendly and seemingly aggressive, considering the load of teaching, grading and research that they already have to bear. A research into tools or strategies that could facilitate the supervision of team projects in an efficient, effective and ethical manner, led to the researcher experimenting with the use of a blended approach to team project supervision. The need to share the experiences accumulated after adopting the approach for four consecutive sessions informed this article.

Introduction to Educational Technology and Communications (ETL 202) is a faculty compulsory course for all two hundred level students at the Faculty of Education, Obafemi Awolowo University, Ile-Ife, Nigeria. The course exposes students to the why, the how and the when of technology in education. As part of the course requirements, students are tasked to produce an instructional medium based on a topic from their subject specialization. To accomplish this task, students are assigned into groups of twenty each. Each group is at liberty to select any topic and, determine the type of instructional medium with which to present it. This may be in form of charts, DVD Rom instructional packages, PowerPoint slides, models, flash cards, poster presentations, video recordings, audio presentations and a host of others. This is to help the teacher in training not just to be an enlightened user of instructional media, but to have a practical understanding of the nitty gritty of its production, adaptation and adoption.

Every single member of the group is expected to contribute their cognitive, moral and financial support towards the successful completion of the project. In other words, it is the responsibility of each and every member to play an active role in planning, decision making, sourcing for materials and final execution of the project. Each member is also expected to pay their financial dues by contributing a fraction of the money for the purchase of needed materials and paying for workmanship where applicable.

With an average class enrolment of about 700 students, nothing less than 35 groups do emerge. The present staff strength makes it unavoidable that some members of staff end up having to supervise nothing less than five groups. This is in addition to existing obligations like supervision of final year students' projects and other primary assignments. The challenges that emanate from the supervision of these teams of "not so similar" individuals are usually many.

The following research questions were raised to guide this study:

1. What strategy was adopted to cope with the demands of group project supervision?
2. What were the outcomes of blended collaborative supervision?
3. What challenges emerged during blended collaborative supervision?
4. How were the challenges of blended collaborative supervision addressed?

Conceptual and Theoretical Review

A conceptual and theoretical review of the basic concepts in this study is necessary to establish the context of the current study. The study is multifaceted in scope and is therefore underpinned by various educational, psychological and social theories. However, prominence will be given to the Community of Inquiry model as well as the social interdependence theory (SIT). The Community of Inquiry Model (CoI)

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focuses on the interplay of social presence, cognitive presence, and teaching presence in online and blended learning environments. The model served as a guide in the analysis of how the supervisors' social presence mitigated some of the problems associated with face-to-face supervision of undergraduates and enhanced their group project outcomes in a blended supervision context. The SIT, developed by Morton Deutsch and further expanded by David W. Johnson, focuses on how the interdependence between group members affects their interactions and outcomes. It emphasizes the role that the extent of dependence of one group member on the other plays in the achievement of group goals. This can take the form of positive interdependence, negative interdependence or no dependence at all. The social interdependence theory stresses the sharing of goals, roles and resources. It calls for prompt recognition of behaviours that can lead to negative interdependence or disengagement of individuals or disintegration of the whole team. This study leveraged on the positive interdependence principle by practically facilitating interactive learning experiences, providing guidance, verifying and sharing resources, resolving conflicts and solving problems among groups of undergraduates through a combination of the face-to-face and online collaborative approach, now coined blended collaborate approach (BCS).

Previous studies have established the fact that shortage of both academic and non-academic staff is one the major problems being faced by Nigerian higher education (Ahaotu & Ogunode, 2021). The shortage of staff is oftentimes as a result of explosion in student population. This has implications for the workload on individual lecturers and the effectiveness with which their daily assignments which includes project supervision are discharged. The result of a study by Oladejo (2022) showed that teaching and supervision load of the academic staff was quite heavy; hence, suggesting that the performance of academic staff in terms of their teaching and supervision in the selected universities may be unsatisfactory.

Group projects are increasingly being used to engage students; to take care of the large population and teach them to solve problems collaboratively. However, as found by Joshua et.al (2021), it has been established that students are often unable to complete their projects on schedule due to manual documentation with supervisor and their geographical locations thereby making monitoring quite difficult. Articles and researches on the issues emanating from undergraduate project or dissertation supervision as well as ameliorative interventions abound in the literature year after year. These include Heinze and Heinze (2009), Adeyinka and Dike (2013), Adedayo (2015), Ajibade (2017), Roberts and Seaman (2018a), Roberts and Seaman (2018b), Peiris et. al. (2019), Aladejana (2020), Frith (2020), Dautel (2020), Pratt-Adams and Longcroft (2020) Joshua (2021) Malcolm (2023), Noor et.al. (2023), Osiesi (2023), Donelan and Kear (2023) and West (2023) among many others. However, the focus of most of the studies were on supervisors' supervision experiences while supervising individual final year undergraduates engaged in project or dissertation writing, and/or the students' experience while being supervised. One of such is Ajibade (2017) who investigated the challenges encountered and the coping strategies used by final year undergraduate students of sociology with regard to project writing at Kogi State University, Nigeria. He found that lack of money for meeting the financial demands of project work was the most common problem. Another one is Noor et.al. (2023) who conducted a study to investigate the extent to which expectations held by the supervisors matched that of the final year undergraduates under their supervision. The study revealed that both parties were often uncertain about their roles and responsibilities in the supervision process and stressed the need for a comprehensive set of guidelines which details specific roles and responsibilities for both the undergraduates and supervisors as well as a rigorous briefing to address the affective needs of the undergraduates as well as the supervisors in order to improve the quality of the final year projects and the supervision process.

Research reports on team project supervision experiences of freshmen, sophomore, pre-penultimate or penultimate years are available in the literature (Kaufman, Felde, & Fuller, 2000; Brandyberry & Bakke, 2006; Nygard, Bender, Walia, Kong, Gagneja, & LeNoue, 2011; Pieterse, and Thompson, 2010; Pieterse, Thompson & Marsha, 2011; Pieterse, Thompson, Marshal & Venter, 2012; Baker, M., Cluett, E., Ireland, L., and Rourke, S., 2014; and Agu et al., 2014; & LaBeouf et.al., 2016). In a substantial number of the studies, inability of supervisors to give adequate attention to supervisees was identified as one of the major problems. In a study conducted using respondents from an Australian University, Hall and Buzzwell (2013) concluded that the problem of inadequate participation, known as "free riding", or "social loafing by extention" was of utmost concern to student teams. This is a situation where a team member does not fulfil his obligations, probably in the hope that group members will fill the gap left by him. These problems are not insurmountable as another study by Zalewski & Brudwig (2022) demonstrates that faculty can encourage productive behavior in student teams with carefully crafted interventions. Other reports on teamwork supervision experience include those of Hansen (2016), Waychal (2016), Chyung, Winiecki, Hunt, & Sevier (2017), Jusoh and Fawareh (2017), Lohle & Terrell (2018), Milinga, Kibonde, Mallya, Mwakifuna (2019),

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Bhardwaj (2020), and Lau, Shim & Gottipati (2021). However, majority of them involved supervision through physical contact only, covered Engineering disciplines and were published in journals of engineering and engineering education.

To mitigate the challenges that often emerge from supervision, the need for technology-mediated project supervision was given prominence as far back as 2005 in a study by Reichlmayr (2005) and later by Jaldebarg and Lindsberg (2013) among similar others. Both studies recommended mediation by technologies and collaborative forms for the supervision of students' undergraduate dissertation as productive ways to enhance students' learning. In line with this recommendation, there are a number of interesting research reports on the use of ICT in student supervision using the virtual or e-learning approaches.

Aladejana (2020) examined the impact of e-mail services on supervision of research projects of undergraduate Physics students of the defunct College of Education, Ikere-Ekiti and Physics Students of University of Nigeria, Nsukka. The study showed that the utilization of E-mail service by the supervisor had significant impact on the effectiveness of supervision of students' research project. Timely completion of the research project by undergraduates was another observed benefit that cannot be taken for granted. According to Noor et.al. (2023) meeting the unforgiving deadlines for a final year project alongside having to juggle other course assessments are major challenges for undergraduates.

Joshua et. al., (2021) designed and developed a web-based final year project management system for effective group communication. He reported that the system enabled the supervisor to monitor the progress of the projects and the online collaboration and benefited both the students and supervisor as there is no need to interact physically. The system also provided features that facilitated effective communication among group members. Osiesi et. al. (2023) explored the perceptions and experiences of lecturers toward students' research project supervision using the computer-mediated corrective feedback, factors that facilitate its use, the most preferred computer-mediated corrective feedback types and the extent of its usage in project supervision. They found out that users' personal and device-related factors affect the deployment of computer-mediated corrective feedback for students' research project supervision. Generally however, the result of their study indicated that lecturers' perceptions towards the computer-mediated corrective feedback in students' research project supervision are positive, as they considered it flexible, speedy and economical, while their study recommended that lecturers should take full advantage of computer-mediated corrective feedback in supervising students' research projects in lieu of the Fourth Industrial Revolution. Similar studies included those of Lubega & Niyitegeka, 2008; Jaldemark & Lindberg, (2013), Konings, Popa, Gerken, Giesbers, Rienties, Van Der Vleuten, & Merrienboer (2016), Maor, Ensor, & Fraser (2016), LaBeouf et.al. (2016), Matyanga, Dzingirai & Monera-Penduka (2020), Aladejana et.al. (2020) and Duncan (2021).

Donelan and Kear (2023) carried out a systematic review of articles on the challenges of online group projects in higher education and the strategies for addressing them. Similarly, Opesemowo et. al. (2024) points out that remote supervision requires more than just identifying challenges; it also involves unveiling strategies to mitigate them and enhance quality outcomes. One of the studies that have modelled this is that of Zalewski and Brudwig (2022) whose study demonstrates that faculty can encourage productive behavior in student teams with carefully crafted interventions. This implies that beyond identifying challenges, more needs to be done by way of test-running different strategies to provide the best supervision experience for supervisors and project teams under their supervision.

The COVID-19 remote instructional experience has made blended learning to become more familiar as a means of facilitating academic interaction between staff and students in Nigerian higher educational institutions. Combing through the literature however, it will be observed that the blended approach has been adopted in supervision, but in the majority of cases, the researches were either outdated (Abiddin, 2009; Beer & Mason, 2009; Heinze & Heinze, 2009) or the supervisees were post graduate students, or trainee medical students in clinical settings (de Beer & Mason, 2009; Gerber & Futcher, 2013; Ayere, 2015; Maor & Currie, 2017; Karunaratne, 2018; & Miheso-O'Connor et. al., 2020. Furthermore, most of the studies were conducted in settings outside Nigeria and may not be readily generalisable.

It is worthy to note that in contemporary times, the blended learning model has been incorporated into the supervision of team projects, leading to another coinage tagged "collaborative blended supervision". Fang et.al, 2022 pointed out that since the 21st century, Cooperative Learning and Blended Learning have been gradually integrated into Blended Cooperative Learning (BCL) or Blended Collaborative Learning as often interchanged. In their study, which investigated the impact of blended Collaborative learning on deep learning, the result revealed high learner satisfaction and significant improvement in practical skills and teamwork ability.

Asogwa (2024) is one of the few relatively current studies on the implementation of the blended collaborative and cooperative research supervision model in a Nigeria based higher educational institution.

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The study reports that the blended model contributes to increased satisfaction and well-being, shows promise in yielding positive outcomes across various dimensions and enhances learning and skill development among both supervisors and supervisees. Team work is one of the major skills needed for the new world of work. According to Radhakrishnan (2022), interpersonal and teamwork skills is one of the critical skills that is highly valued in the new world of work.

Therefore, the literature review reveals a gap in knowledge on supervisors' experience when supervising team projects of non-graduating students using the blended collaborative model in the Nigerian higher education context. Also, it is generally observed, that quite a number of literature that would have been most relevant to this study are not up to date. It is hoped that the result of the study will serve as one of the efforts to bridge the gap in up-to-date literature on the blended collaborative approach to supervising team projects among non-final year undergraduates in tertiary institutions. The need to explore other means of learning interactions and highlight the experiences cannot be over stressed. After four successive sessions of supervising group projects of non-graduating students through the blended approach, this article highlights the emerging experiences from what is now known in contemporary times as "blended collaborative supervision" (Fang et.al., 2022; Asogwa, 2024).

Methodology

The action research design, which is used for investigating questions and finding solutions to problems that the teacher confronts in day-to-day lives was employed in this study. The study sample consisted two-hundred level students enrolled in ETL 202 and placed under the researchers' supervision for the team project. Qualitative data were collected through participant observation and recordings by the lecturer. The recorded observations were analysed to identify emerging patterns and themes related to blended collaborative supervision, the challenges, and the strategies adopted in addressing them. In addition, content analysis of posts, comments and interactions in the different groups was carried out to gain insights into the experiences and perceptions of the students while engaged in the team projects. Consequently, the key themes that emerged for detailed discussion were; the group interactions and project outcomes, the challenges experienced in blended supervision, and the strategies adopted in addressing them.

Strategy for Group Project Supervision - The Design of Blended Collaborative Supervision: To mitigate some of the problems associated with supervision of group projects, and in response to the recommendations of some previous studies, the researcher explored the prospects of interacting with the different teams via "WhatsApp" - a Social Networking Site. WhatsApp was selected due to its widespread use among undergraduates, user-friendliness, cost effectiveness and robust communication functionalities. Its chat, voice note and voice call features are all free of charge, and it requires only moderate network connectivity to function well. A WhatsApp group was created for each group, with the student group leader and the supervisor serving as group administrators. Students belonging to each group (as pasted on departmental notice boards) were added. A set of rules and regulations to guide online interactions were generated and posted to each group page. The regulation stressed the need for group members to post only project related contents, participate actively and be courteous in their interactions with members of their group.

Each group member was asked to introduce themselves and say "Hi" to the other members of the group. After these formalities, the page became free for the members to begin their deliberations which usually started with the selection of a topic. The supervisor's interaction with students took the form of chats, voice notes, images and relevant videos. Feedback from students were obtained through the same channel. Students had limited physical contacts with the lecturer during and outside onsite classes. To augment this, physical meetings of all the groups were held once a week to solve problems especially those that require physical manipulation, inspection or verification of materials in tangible forms. The lecturer kept group threads intact on her devices and created a diary for recording notable developments in both online and offline activities of the different groups as personally observed or as reported by participants.

Theme One: Group Project Outcomes in Blended Supervision

Simultaneous provision of firsthand information to everyone was one of the major achievements of blended supervision. Prompt response to posts helped to keep students on track, reduce arguments, minimize distractions and prevent frustration. This also helped to stem unnecessary visits to the lecturer to "hear from the horses' mouth" or "verify claims by colleagues".

Promotion of teamwork and discouraging of indolence, isolation, segregation, self-centeredness and monopolization was another major advantage of blended supervision. The WhatsApp fora helped to foster cohesion. Every member was encouraged to play active roles by expressing their views, posting useful resources to the page, making recommendations, taking their turns in some activities, assessing of samples/prototypes, volunteering in outdoor activities like locating/pricing materials and services, and

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participating in voting among other activities.

Effective monitoring of individual participation was made possible through regular examination of the group threads. These exposed the quality and quantity of participation of each and every group member and gave the supervisor the chance to know who deserved commendation or otherwise. Prompt recognition of commendable behavior promoted healthy competition among group members who also desired recognition. In addition, the supervisor was able to resolve conflicts and prevent crises through timely interventions in disagreements as soon as they came up.

Lack of sufficient social presence appears to be a major complaint by learners in online learning environments since post COVID 19. Blended supervision facilitated greater social presence and student-instructor interaction. The presence of the supervisor in the group went a long way to check indolence, aggression, and rudeness, among other unwanted behaviours.

Easy and fast sharing of resources helped to save costs and prevent duplication of effort. Certain resources were useful to groups working on similar themes. The supervisor only needed to get a good copy ready and sharing of such resources by different groups was made possible by just one or two clicks. Groups were guided to online resources just by supplying the links to relevant websites. The materials served as spring boards for the groups to launch their paths.

Effective time management towards achievement of project goals was made possible through blended supervision. The supervisor had the chance to have a glimpse of each group's routine and their plans towards the completion of the project. Stage by stage guidance and assessment of current effort were carried out with minimal stress. The supervisor in turn, uses the opportunity to remind them about important timelines and the deadline for submission. Intergroup competition was used to gear up the groups to work smartly. This the supervisor does, by showcasing the progress of leading groups to other groups to encourage them to work harder.

Another significant gain from the blended supervision initiative was documentation. The fact that important documents and pieces of information like the group rules, original manuscripts, corrected manuscripts, samples, price lists, audio clips, video, etc. are automatically retained on the group page and in the group media compartment made life easy for every member of the group. These stored records served as reference whenever the need arose, thereby, reducing unnecessary arguments over past discussions or actions. In addition, the site made it possible for every group member to have access to details of matters discussed during the online appearances of the supervisor. They only needed to scroll up to view previous chats and then ask their questions or drop their own contributions if there was need for it.

In summary, since the adoption of the blended collaborative approach in the 2019/20 academic session, there have been significant improvement in efficiency as well as effectiveness in the supervision of students' group projects. Students paid less visits to the lecturer's office, records were easier to keep and retrieve, and conflicts were resolved at faster rates.

Theme Two: The Challenges of Blended Supervision

Analysis of group threads exposed a number of challenges associated with blended supervision. The major ones were:

Inequalities in participation rate: A close examination of students that constitute most groups revealed four different types of personalities, based on level of commitment. On one extreme are the "autocrats", while on the other extreme are the "free riders". In between the two extremes are the diligent isolates and the moderate participants. The moderate group members seldom troubled their supervisor. They engage more in action than in excessive talking/arguing. They were more goal oriented and had a higher tendency to practice division of labour. They take advantage of their diversity rather than use it as a source of disunity. It is observed that groups that are predominantly constituted by the "moderates" often complete their projects within stipulated time with little or no draw backs.

The autocrats are the domineering personalities who usually attempt to lord their ideas over the majority, without necessarily seeking their opinion or considering their preferences or constraints. It is in this group that we find "self-styled contractors" – those who will usually claim to know how to get all the human and material resources needed to complete the project. This should not have been a problem, but then, the only feedback they convey to group members is their bills, which is sometimes inflated, and most importantly, other group members are not given sufficient opportunity to make their own cognitive contributions or learn from the production experience.

The free riders usually had little or no participation in group activities. They exhibit manifest truancy and inadequate commitment to project goals. The tendency is for them to maintain the back seat in group affairs. Their excuses usually range from ill health, busy schedule, lack of data, to loss of, or malfunctioning communication devices. Some of them find it easy to pay their financial dues, but hardly ever contribute any

ideas that can meaningfully impact the task at hand. On the other hand, there are those that will participate sparingly in activities, and suddenly abscond when the call is made for members to fulfill their financial obligations. These two extreme classes of personalities are boat rockers in any group as they often constitute obstacles to the smooth flow of activities targeted at achieving the objectives of the project. They are either causing delays in transiting from one stage of the work to another or attempting to take the group off track as a result of over zealousness or the prospects of financial gains.

Few cases of diligent isolates were found in the groups. Diligent isolates are individuals who increase their efforts and willingly work alone in order to salvage group project (Pieterse & Thompson, 2010). The first (a female) was found in a group that had a high proportion of students who lived off-campus and had difficulties keeping their phone batteries charged due to constant power failure in the part of town where they resided. To mitigate the effect of group members' truancy and ensure timely submission, she had to single-handedly embark on the project and got financial dues from only a few members when the project was nearly completed. Another student had to volunteer as Graphic designer, printer and carpenter when group members were too slow in making their contributions available.

Exploitative tendencies: The tendency to exploit colleagues under the guise of possession of some "privileged information" crucial to the completion of the project was quite common in some groups. "Self-styled contractors" came up with prices of a list of products and services for which group members were expected to pay. At times, prices could be outrageously inflated. While some group members will outrightly resist the payment, and a few will remain indifferent, some others will eagerly pay up as their results was all they cared about. This was common with projects that required the services of artisans like printers, photographers, carpenters, welders or roadside artists.

Plagiarism and copyright infringements: It was common practice for the students to go online in search of ideas and inspirations for accomplishing their projects. However, the tendency for abuse began to grow when they wanted the easy way out especially when deadlines drew closer and application of ingenuity might cost more time, more effort or have financial implications. The "copy and paste' tendency was quite common among students. This is a situation where students lift sentences, passages, images or multimedia presentations completely without any attempt to paraphrase or edit it to inject some amount of uniqueness and authority. In one of the finished instructional charts, the labelling of the components were done in French language, while the chart was meant for use by students in an Anglo-phone country. This is a typical example of how careless and unselective students can become upon their exposure to abundant information from variety of sources across the internet.

Dissatisfaction with Grades: A few students expressed disappointment with the grades assigned to their projects. Some of them compare their scores to those of other groups whose production efforts or products they assumed were similar to theirs, but earned better grades.The tendency to compare completed projects based on external features, without recourse to the utility characteristic was common.

Theme Three: Addressing the Challenges of Blended Supervision

Having groups with a mixture of students from different departments was not by any means a mistake. It was with the intention of encouraging flexibility through inter-disciplinary approach to problem solving. Though the initial stage was usually turbulent for some groups as each student struggles to impose a topic in favour of his own specialization as opposed to those of others, group members soon learnt to appreciate the beauty in their diversity. The supervisor continued to help each party to look beyond the difference between them and the other group and focus more on the potentials of collaboration. To convince them and boost their confidence to try, the supervisor presents samples of products of interdisciplinary efforts for them to analyse. The marriage of ideas from two or more departments soon began to give birth to multi-purpose instructional materials. Some notable examples were images of sports materials labelled in French with English voice narration running in the background by Kinesiology, English and French students, a song composition to aid the mastery of some Mathematical concepts by Music and Mathematics students, a chart showing some age long African handcrafts by History and Fine Arts Students, and some concepts in government, with supporting biblical verses/parables by Religious Studies and Political Science students among others. Most of the students reported having a high sense of achievement after the completion of the projects.

Maintenance of transparency in financial transactions was key in the blended supervision. To stem the ugly trend of peer exploitation, the supervisor attempted creating some degree of standardization as far as the materials to be used, and properties or size of the finished projects were concerned. This is to assist in establishing some basis of comparison among the total cost of production of groups working on similar products. Each group was encouraged to either allow two volunteers or appoint two people to go to the field to identify raw materials and their comparative prices as well as service providers and their comparative

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charges. They were to present their reports to the group page for all group members to deliberate on the best options. Their reports came in form of quotes, price lists, complimentary cards, voice messages, digital photographs and videos. The supervisor considering the prevailing economy, usually encouraged them to opt for the cheapest among a range of materials and services possessing the greatest potentials to achieve the project objective. Thus, the breakdown of expenditure and the total cost of production became an important aspect of the students' post production reports.

The project work was broken into phases for ease of accomplishment. Polling was often adopted when opinions differed. At times, minorities were also allowed to have their ways to encourage creativity and impress it on the students that there are several ways to solve a problem. This approach was often adopted at the blueprint or prototype production stage. The results emerging from each subgroup were then mounted online for constructive criticism, possible crossmatching of ideas and final selection. After every successive phase, end of task assessment/meetings were held online, where every single member of the group were asked to make a comment or complaint, give a recommendation, or ask a question in order encourage freedom of expression and self-assessment.

To reduce misunderstanding and avoidable wrangling, the supervisor noted, but avoided responding to direct messages, either by aggrieved team members or overzealous ones seeking special attention. Rather, the senders of such messages were advised to redirect such messages to the group page for all to view, and present their own perspectives. Only posts on the group pages were responded to, to maintain transparency, save time, minimize rumours/unsubstantiated claims and encourage timely record keeping. To address issues that remained knotty, or germane cases of unfair dealing with one or more members, weekly face to face meetings were held mostly after working hours, though full attendance was seldom achieved.

Once identified, free riders were interrogated one-on-one by the lecturer. Where device-related problems were pointed out as the reason for poor participation, they were encouraged to send in their contributions through their fellow group members. Group members were encouraged to be patient with their colleages in cases of delays in financial contribution associated with financial incapacitation. In glaring cases of non-commitment however, free riders were singled out for certain tasks and mandated to submit copies of their reports both to the lecturers' dm and to the group page, and thereafter, monitored more closely.

The researcher leveraged on the affordances of blended supervision to teach supervisees the ethical handling of intellectual resources, respect for intellectual property and most importantly, the need to be creative. The production of instructional materials can be undertaken from a trial and error beginning right up to the professional level. To help boost supervisees' creative capacities from what Kaufman and Glaveanu (2021) refered to as the "everyday creativity" to the "eminent creativity level", they were mandated to submit samples, prototypes, or previews of their final production to the group page for critical review. These samples were subjected to manual plagiarism checks to discourage students from simply "lifting readymade contents". Groups guilty of "lifting" were warned and asked to re-present another sample. Students were supported with materials in different formats to let loose their ingenuity in putting together concise, unique and impactful instructional materials.

Upon submission, completed projects are usually team-graded by lecturers that supervised the different groups. Before the final submission however, each group was required to load a video or image of the completed work to the group page. They were then encouraged to critique the work following stipulated criteria which include relevance to instructional objectives, appropriateness for educational background and level of target users, ease of use, durability, neatness and aesthetic value among others. The good aspects were commended while the grey areas were pointed out and students were encouraged to defend themselves, or make amendments that are deemed necessary. The essence of this exercise is to expose students to the practice of objective assessment using rubrics and prevent them from engaging in unreasonable comparison of grades among different groups.

Discussion of Findings and Implications

The study documents a lecturer's experience in the course of successive sessions of blended collaborative supervision of undergraduate team projects. The documented observations and group thread analysis shows that the outcomes were generally positive, while identified challenges were addressed as practically as possible.

The findings on improvement in practical skills and student satisfaction resonate with that of Bhardwaj (2020), Fang et.al. (2022), Osiesi (2023), and Asogwa (2024), among others. Student satisfaction with BCS is not unexpected when the present rate of inflation in Nigeria and the associated financial challenges are considered. Many students, especially those resident off-campus have difficulty commuting to school and back to their places of residence. Replacing some portions of the physical contacts with BCS will save them some costs, teach them to work as a team, and equip them with generic and social skills.

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Beyond satisfaction and timely fulfilment of project requirements, students they had the opportunity to be exposed to the practice of documentation with clarity, transparency, consultation, persistence on task, sharing, and tolerance among others. These additional positive outcomes recorded were as predicted by Asogwa (2024), who observed that BCS shows promise in yielding positive outcomes across various dimensions and enhances learning and skill development among both supervisors and supervisees.

The habit of free riding featured prominently as one of the challenges of BCS just as found in the works of Hall and Buzwell (2012), Zalewski and Brudwig (2022), and Berhanu (2023). Free riding, which is generically referred to by some authors as "social loafing" was also given attention in the works of Milinga et.al. (2022). Students do not feel comfortable with exerting themselves to achieve the group's goal while other students seem to be 'easing off". It is essential to nip free riding in the bud to prevent other group members from imitating the habit, getting involved in frequent wrangling and turning teamwork to a nightmare. Teamwork is one of the soft skills that is highly sought for in the new world of work, as stressed by Radhakrishnan (2022), and the group project is one of the best learning experiences for exposing students to it. Division of labour within team members helped to engage every individual and reduce free riding, just as Berhanu (2023) reported in his own study. Monitoring of the group threads also helped the supervisor to know who was active and who was not. Regular monitoring not just by group formation alone but by goal setting was given prominence in the study by LaBeouf et.al (2016).

Analysis of conversation contents revealed that team members could not hide their discontent with earning the same grade as some identified free riders. However, the action of allocating one score per team as opposed to individuals was informed by the Social interdependence theory, which stresses collective success through interdependence. Also, the action can be justified when considering the observation made by Hall and Buzwell (2012) that, what can be identified as free-riding behaviour is sometimes not necessarily due to apathy or a deliberate attempt to do as little work as possible. In spite of the perceived ease associated with the BCS, some students still complained about lack of data, or malfunctioning devices, giving this as excuses for free riding. This aligns with Osiesi et.al's (2023) finding that, users' personal and device-related factors affect the deployment of computer-mediated corrective feedback for students' research project supervision.

Allocation of grades was given prominence in the study by LaBeouf et.al. (2016) which presented allocation of the same grade to group members regardless of effort as the biggest concern of group members. While most faculties (in LaBeouf et.al.'s study) did not share that perception, they however admitted difficulties in assigning group grades. This brings us to another finding of this study related to grading, which is the relative dissatisfaction arising from the tendency for one team to compare their grades with that of another team. The cause of this problem can be attributed to the disparity in their expectations about the grading system with those of their lecturers just as the findings of Noor et. al, 2023 indicate. It must be mentioned though, that this finding is somewhat surprising when the fact that a pre-grading assessment was usually conducted to point out flaws and intimate them with best practices is considered. Nevertheless, it underscores the need not just to prepare coherent rubrics for grading, but to make it accessible to the students right from the beginning of the project, to serve as a guide in the production process and as a step further in inculcating the spirit of transparency in them.

Solutions were provided by the researcher to mitigate the problems that surfaced during the blended collaborative interactions in line with Opesemowo et.al.'s recommendation, that beyond identifying challenges; remote instruction involves unveiling strategies to mitigate them and enhance quality outcomes. Findings show that the solutions went a long way to elicit desirable outcomes and sustain the initiative. This is similar to the findings of Zalewski and Brudwig's (2022) study which demonstrates that faculty can encourage productive behavior in student teams with carefully crafted interventions.

Post production assessment of project before formal grading was an established routine as reported in the study. This is identical with the routine reported in Fang et.al. (2022)'s study. According to their report, they engaged in this stage by stage evaluation of steps towards the group goals, with the view to forwarding suggestions for optimization, improvement, expansion and deepening of the research and practice tasks of each group. Subsequent BCS sessions will borrow a leaf from this practice by not just engaging in end of production assessment, but by formulating enabling objectives and engaging in stage by stage assessment of the achievement of each one as work progresses.

Addressing free riding with corrective measures rather than punishment is in alignment with the positive interdependence wing of the social interdependence theory. The effect of blended collaborative supervision on the development of specific soft skills by student teams will be addressed in a future publication.

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Conclusion

The task of team project supervision can be eased through the adoption of blended collaborative supervision using some of the regular day-to-day communication tools. Furthermore, numerous desirable learning outcomes can be achieved in team projects when the approach is adopted. Blended collaborative supervision helped relatively, to uniformly administer the much-needed checks and balances on all groups to minimize misunderstanding, unnecessary arguments, wrangling and apathy, while remaining focused on goals. This report shows the extent to which subject specific skills, generic skills as well as soft skills can be modeled to students through blended collaborative supervision. If handled carefully, it can facilitate cooperative learning, efficient and effective utilization of resources and the habit of documentation. Blended collaborative supervision did not take place without challenges. As it is carried out continuously session by session, the capacity to tackle associated problems in diverse ways increases due to accumulation of data and experience.

Recommendations

Lecturers should adopt blended collaborative supervision to ease their supervision tasks. Blended supervision is unavoidable in distance learning contexts. University authorities should provide necessary infrastructural support to assist lecturers to succeed in all their electronic teaching and learning endeavours. Students should be encouraged to embrace blended supervision initiatives to facilitate their participation in teamwork and increase the avenues available for them to learn and become more proficient in specified or generic skills. They can be assisted to become more academically engaged by making the best use of their devices as well as their social connections. The misuse of technology by modern day youths can be reduced if educators use it as an avenue to meaningfully engage them in their academic pursuits and active participation in research and development initiatives.

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