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CICT Students' Preparedness In Undertaking Capstone Projects: An Assessment

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INTRODUCTION

Many universities are faced with the problem of students who are not prepared for their studies (Agherdien, 2014). One such problem is being able to write a thesis or a capstone project, which the university requires as the main requirement for graduation. The majority of students are not prepared to take up the writing of their thesis or capstone project for a number of reasons. To a student, writing can seem like a challenging and sometimes daunting proposition. It means attempting to communicate in written form while attempting to grasp things like spelling, how to properly cite, and correct grammar (Defazio et., al, 2010). Regardless of the reasons why, the point is that the majority of students do not possess the skills necessary for effective written communication, which they need to be successful upon graduation. It is imperative that all students, regardless of their level of study, are not only skilled in written communication but also understand why effective writing skills are important (Jones, 2010).

At the College of Information and Communications Technology (CICT), another requirement for finishing an internship and graduating is presenting a capstone project. Although a thesis and a capstone project differ, they both call for being ready to write and investigate. The capstone project heavily deals with a current problem or need that exists in the company. The IT Capstone Project focuses on the infrastructure, applications, or procedures aspects pertaining to the implementation of a computer solution towards addressing a problem within an organization, as defined in Section 2.2 of Article II in Annex A of CMO 25 s.2015. Under the framework of Outcome-Based Education (OBE). A capstone project is a student's culminating design project that showcases their skills gained over their course of study and makes the most effective use of resources at hand. Capstone Project 1 will be conducted in the CICT in the 2nd semester of the school year for the 3rd-year students. It is able to provide a worthwhile experience to students in the course of their studies by integrating the knowledge and skills they have gained over their program of studies. Such projects help students gain precious experiences in critical examination, broaden their field of knowledge, and grant them a chance to appreciate the applied value of their IT major disciplines in their field of specialization (Viswanathan, 2016). Capstone classes involve students working with outside clients, such as local organizations and companies, with the purpose of solving problems or developing new projects or campaigns (Elwell et al., 2017).

Throughout the course, the students select a problem to solve within their project, perform a thorough analysis of the problem, develop a complete plan to solve it, carry out a critical

evaluation, determine significant results and possible solutions, and submit their capstone proposal project.

Capstone projects can have different benefits but not every student is equipped with effective capstone project experience (Gravell, 2020). The major issues that students often face are related to academic language, the suitability of the topics, effective time management, the suitability of the research methods, the identification of problems or areas of interest, and motivational problems (Pangket et., al, 2023). In addition, some students meet their academic requirements within the given timeframe but find it challenging to write their project proposal. In light of these continuous challenges, there is a need to assess students' project readiness and introduce appropriate interventions or programs to address such problems.

This research aims to cast light on how prepared and ready students are when they undertake the process of planning, implementing, and fulfilling their capstone projects. It is set to evaluate the extent to which students have the skills, knowledge, and resources required to effectively manage the complexity of their capstone projects with a view to understanding the contributing or hindering factors to their success in the pursuit. The research also aims to provide an exposition of the challenges faced by the students during the process of preparing for the project. Also, the researcher will give a program that can assist the college in supporting students in carrying out their capstone project.

This study aims to answer the following research questions:

General: To assess the readiness of the CICT students in conducting capstone project

Specific Objectives:

This study sought to answer the following research questions:

1. How may the students' readiness be described in terms of:
   1.1 conceptualizing objectives;
   1.2 writing the review of related literatures;
   1.3 choosing appropriate research methodology;
   1.4 interpreting data; and
   1.5 referencing and citation.
2. What is the extent to which students experience specific challenges in conducting their capstone project?
3. What programs can be implemented to assist students in conducting capstone projects?

II. METHODOLOGY

Research Design

The study used a descriptive quantitative research design to quantify the readiness of CICT students in performing their capstone projects. Descriptive research is appropriate in describing the characteristics of a specified population without affecting the environment (Creswell & Creswell, 2018). In quantitative studies, descriptive design allows researchers to collect

standardized data that can be statistically analyzed, which is suitable for establishing the level of readiness based on specified indicators (Leedy & Ormrod, 2020). The design allowed the application of a structured survey to objectively and systematically collect data, making comparisons and summaries meaningful across students.

Participants

The investigation included the third-year BSIT students taking Capstone Project 1 in the second semester of Academic Year 2023–2024 at the College of Information and Communications Technology (CICT), Bulacan State University. Participants were chosen through purposive sampling based on their direct engagement in preparation of the capstone project. This non-probability sampling method is commonly employed in educational research to reach out to persons with desirable traits pertinent to the research (Etikan & Bala, 2017). Ethical procedures were adhered to, and informed consent was secured from all participants.

Instrument

A researcher-developed questionnaire was the primary data collection instrument. It was distributed via Google Forms and consisted of closed-ended items on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire was segmented into five dimensions of knowledge readiness: (1) conceptualizing objectives, (2) composing the review of related literature, (3) choosing suitable research methodology, (4) data interpretation, and (5) referencing and citation. The questionnaire was made valid through expert validation to determine content validity, as in the case of educational survey research (Taherdoost, 2019).

Data Analysis

Questionnaire data was imported to Microsoft Excel for preprocessing and organization.

Statistical analysis involved descriptive measures, that is, mean and standard deviation, to identify central tendency and variance of student responses. Descriptive statistics are suitable for summarizing Likert-scale information in educational settings and enable detection of trends in student preparedness (McMillan & Schumacher, 2020). Results were depicted in tabular and graphical forms to facilitate interpretation and guide the development of recommendations that will enhance student preparedness for capstone project implementation.

III. DISCUSSIONS AND RESULTS

The discussion is organized according to the outline seen in the statement of problems.

I. Student's preparedness in pursuing capstone projects

Capstone projects are culminating academic activities in which students are forced to synthesize and utilize knowledge, skills, and competencies attained during their academic program. Therefore, readiness of students to take up these projects is critical in determining how well they are prepared in terms of conceptualization of goals, literature review, research methodology, and critical thinking. Not only does readiness demonstrate academic ability, but it also shows the level of confidence and competence students possess to handle the requirements of an independent, research-driven project.

This section reports the results of the self-evaluation among students as to their perceived preparedness to undertake capstone projects. These results are interpreted against certain indicators like the capacity for the development of clear goals, recognition of gaps in the literature, synthesis of the literature, and use of proper methodologies. The above findings are supported by appropriate literature to give context and understanding into students' strengths and areas requiring improvement. Knowledge of these readiness dimensions is highly important in planning instructional interventions, mentoring approaches, and support mechanisms to improve students' success in producing quality capstone outputs.

1.1 Conceptualizing objectives

Developing proper and attainable goals is a core initial step towards the successful completion of any capstone project. Well-established goals give direction and focus, direct the research process, and act as reference points for measuring progress and outcomes. In academic research or in any capstone project, the capability to conceptualize goals indicates a student's comprehension of the research issue and his/her capacity to dissect it into manageable, definite, and measurable goals.

Table 1.

Students' Self-Assessment on Conceptualizing Objectives for Capstone Projects

	Mean	**Standard Deviation**	**Descriptive Rating**
I can easily conceptualize clear and achievable objectives for my capstone projects.	2.90	0.52	Agree
I find it challenging to define specific objectives for my capstone project.	3.19	0.58	Agree
I have a strong understanding of how to formulate SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives.	2.73	0.58	Agree
Overall	2.94	0.56	Agree

Table 1 shows the students' self-assessment on their capacity to define and set objectives for their capstone projects. The total mean score of all three items is 2.94 with a standard deviation of 0.56, which means there is an overall consensus among students but also a moderate spread of their responses. The first statement, "I can easily conceptualize clear and achievable objectives for my capstone projects," had a mean response of 2.90, which implies that students are in general agreement with this statement. That being said, this score is somewhat low and potentially indicates an area in need of improvement in this subject. The standard deviation of 0.52 for the first statement means that responses were rather homogeneous.

Conversely, the second question, "I find it difficult to set particular goals for my capstone project," received the highest mean of 3.19. This indicates that most students actually have trouble setting objectives, despite their feeling that they can think of them in the abstract. This misalignment hints at a possible disconnect between self-perceived knowing and real-world application. The 0.58 standard deviation also indicates greater variability among student answers. The third item, "I have a clear grasp of how to create SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals," had the lowest mean score of 2.73, which shows a poor understanding of this essential tool. The same standard deviation of 0.58 also shows that although some students might be confident, others are far behind in this area. Cardiff and McCormack (2017) study points out that students, even in higher-level academic or professional courses, tend to find it difficult to define clear, measurable learning or project goals. Their research stressed that learners tend to articulate confidence about knowing project requirements but tend to find it hard to break this down into organized, SMART goals, especially when dealing with real-world, authentic situations. Considered collectively, the data suggest that although students have a broad knowledge of how to formulate objectives, they might not have the specific knowledge and ability to do it successfully, particularly within the SMART framework.

Billups (2020) acknowledges that students tend to struggle with translating research issues into practice and matching them with measurable goals, especially because they lack extensive experience with systematic tools such as SMART or logic models. This is consistent with the conclusion that students require more direction and systematic practice to develop confidence and skill in establishing effective objectives.

1.2 Writing the Review of Related literature

The literature review is an essential part of any research or capstone project because it lays the academic basis of the study. Students, through the process, show their capacity to find, analyze, and integrate relevant scholarly pieces that place the research questions in context, define the key terms, and outline gaps in knowledge that currently exist. Literature review mastery not only demonstrates academic strength but also allows students to situate their studies in the current scholarly debates.

Table 2

Students' Self-Assessment on Writing the Review of Related Literature

	Mean	Standard Deviation	Descriptive Rating
I can conduct a literature review related to the Capstone proposal.	3.18	0.64	Agree
I can identify research questions to be explored based on the literature review	3.15	0.68	Agree

I can identify gaps in the existing research through literature review.	2.88	0.75	Agree
I ensure that the sources cited in the literature review are current and credible.	3.28	0.77	Agree
I am capable of effectively synthesizing the literature.	3.14	0.69	Agree
Overall	3.13	0.71	Agree

Following the output of the self-assessment survey, students overall viewed themselves as being able to perform a literature review on their Capstone proposal with an overall mean rating of 3.13. Particularly, students asserted that they could determine the research questions from their scan of previous studies, guarantee the credibility of the sources, and integrate information well. Yet, the fairly lower mean score of 2.88 on the item "I can identify gaps in the current research" indicates a significant difficulty with this higher-order thinking ability. This is in alignment with Fadaee and Riazi (2022), who established that graduate students find it difficult to identify research gaps when they are writing literature reviews due to a lack of training in critical reading and synthesis. In the same vein, Pauwels and Willems (2019) found that even though students could be confident about executing literature reviews, they performed suboptimally in dimensions demanding profound analysis, such as assessing relevance and coherence between studies.

In addition, the process of finding literature-derived research questions is an essential yet challenging process. Ahmad and Asimiran (2019) highlighted that developing research questions is a shared challenge among postgraduate students, especially when tasked with basing their questions in an orderly synthesis of existing studies. This corresponds to the survey finding (Mean = 3.15), where the students rated moderate confidence. Conversely, the highest mean score of 3.28 was indicated in perceived ability by students to authenticate and ensure timeliness and credibility of sources. Johnston and Anderson (2021) however issue a warning that students habitually make use of surface-level cues like domain names instead of performing more qualitative assessment of the quality of sources, and it is argued that high confidence may not necessarily translate into actual evaluative competence.

With respect to synthesizing literature, the average score of 3.14 demonstrates that students largely accept their capacity for combining several sources. However, Van den Broeck, Mechant, and De Marez (2020) observed that combining literature into a meaningful conceptual framework is still an important learning curve for most students, which predominantly stems from finding connections and differences between studies being complex. These results highlight the value of systematic support in the writing of literature reviews, such as practical training in literature mapping, synthesis matrix development, and gap analysis. Intervening in these domains with targeted education has the potential to close the gap between perceived and actual abilities and thereby enhance students' research preparedness.

1.3 Choosing an appropriate research methodology

Choosing a suitable research methodology is an essential step in the research process since it guarantees congruence between the research questions, goals, and processes employed to obtain and analyze data. An effective methodological choice not only enhances the validity and reliability of the study but also demonstrates the researcher's knowledge and practicality in research design.

Table 3.

Choosing Research / Capstone Methodology

	Mean	Standard Deviation	Descriptive Rating
I can choose the appropriate research design / methodology for my capstone project.	3.23	0.72	Agree
I can identify the population at location of my capstone project.	3.22	0.63	Agree
I can choose the appropriate sampling techniques.	3.22	0.71	Agree
I can select the data-gathering procedures to be used.	3.23	0.70	Agree
I can easily gather the needed data / information.	3.14	0.67	Agree
I can identify the appropriate statistical tool to be used.	3.18	0.69	Agree
Overall	3.20	0.69	Agree

The table shows students' self-evaluation readiness in selecting a suitable research methodology and applying corresponding elements in capstone projects. The combined mean of 3.20 suggests that students overall concur with the statements, indicating a positive attitude towards their proficiency in methodological domains of research. The standard deviation of 0.69 reveals moderate variation in the responses, implying some variability in levels of confidence among students.

Among the indicators, the greatest mean scores (3.23) were found for the skill of selecting a research methodology, choosing data-gathering methods, and determining the population for the study. These results indicate that students are quite confident in the initial planning and design elements of research.

Very slightly lower mean scores were found on the capacity to collect necessary data (3.14) and determine relevant statistical methods (3.18). These findings indicate that although students do grasp methodological design, they can face difficulties in operationalizing their methods, especially in data collection and analysis. More consistency in student responses in this domain is

indicated by the lower standard deviation for knowing the population (0.63) compared with more variability in choosing methods (0.72) and sampling methods (0.71).

These results concur with the literature, notably Van Wyk and Taole (2021), whose study concluded that, although students comprehend research methodology theoretically, they tend to lack practical experience in choosing and defending certain methods, instruments, and techniques. This suggests that there is a need for practical experience in research design as well as continuous mentorship during the capstone process.

1.4 Interpreting Data

Data interpretation is an important stage of the research process where raw data are analyzed, structured, and converted into significant results. For capstone project students, the power to interpret data accurately not only reflects analytical skill but also guarantees findings being in line with the purpose of the study and helping to derive sound conclusions.

Table 4.

Interpreting Data for Capstone Projects

	Mean	**Standard Deviation**	**Descriptive Rating**
I am confident in my ability to draw conclusions from the data.	3.19	0.72	Agree
I understand the basic concepts of data interpretation	3.19	0.67	Agree
I am confident in interpreting numerical results derived from data analysis.	3.15	0.71	Agree
Overall	3.18	0.70	Agree

The table shows students' perceived competence in interpreting data for their capstone projects. The overall mean of 3.18 indicates that the students, in general, are in agreement that they are competent in performing activities such as drawing conclusions based on data, comprehending interpretation concepts, and interpreting numerical results. The overall standard deviation of 0.70, however, indicates moderate variability, with students having varying levels of proficiency.

Particularly, students had the greatest confidence (mean = 3.19) in concluding from data and comprehending the basic principles of interpretation. This reflects a high level of foundation awareness. Nevertheless, the marginally lower mean score of 3.15 in interpreting numerical results implies a quantitative data analysis skill gap, where the students lack confidence in statistical tools, measures, or terminologies.

These findings are consistent with Salmani Nodoushan and Motallebzadeh (2021), which noted that although most students are confident conceptually, they tend to struggle when they interpret actual datasets because they have not received adequate training in data analysis and are not highly statistically literate. In the same way, Nguyen et al. (2022) noted that even graduate students tend to use surface-level interpretation techniques and lack confidence in using statistical reasoning to interpret data, particularly in independent research situations such as capstones.

Additionally, Ali and Ullah (2023) noted that without systematic instruction, learners are likely to misread descriptive and inferential statistics, which can result in erroneous conclusions. They stress the necessity of sustained exposure to practical, experiential activities in reading research data, quantitative, and qualitative, under scaffolded mentoring and feedback.

The evidence indicates that although overall, students feel comfortable in handling data interpretation, there is still a need for focused capacity building. Embedding statistical workshops, case study analysis, and individual consultations at the stages of research can help link theoretical knowledge with practice. Acquiring this ability is as much a requirement for academic achievement as for producing methodologically rigorous, evidence-based capstone products.

1.5 Referencing and citation

Referencing and citation are essential elements of academic writing that support the ideals of intellectual honesty and academic integrity. Correct citation, in addition to crediting original authors, enhances the validity of a research paper by acknowledging the work within the already existing scholarly literature. In capstone assignments, correct and consistent citation is an indication of the student's appreciation of ethical research practice, awareness of citing styles, and consideration of academic guidelines.

Table 5.

Students' Self-Assessment on Referencing and Citation Skills

	Mean	Standard Deviation	Descriptive Rating
I am confident to accurately write reference and cite sources according to the required style guide (e.g., APA, IEEE, etc.)	3.28	0.74	Agree
I consistently ensure that all sources used in my capstone are properly cited and referenced.	4.00	0.85	Agree
I struggle to correctly format references and citations.	3.60	1.00	Agree
Overall	3.63	.86	Agree

The table reveals students' self-evaluation of their ability in referencing and citation, essential academic skills that attest to research integrity and academic rigor. The grand mean of 3.63 indicates that overall, students mostly concur that they can manage referencing tasks, and the standard deviation of 0.86 reflects moderate variation, pointing out that whereas most students are able, others still grapple with the issue.

Among the items, the highest score (mean = 4.00) is observed in the statement "I consistently ensure that all sources used in my capstone are properly cited and referenced." This reflects a strong commitment to maintaining academic honesty and avoiding plagiarism. But while students indicated moderate confidence in citation styles (mean = 3.28), a high percentage also confessed to having difficulties in proper formatting (mean = 3.60), which could mean that they were using citation tools without completely knowing the rules of citation.

This trend is supported by the research of Brevik and Skaar (2020), which noted that students tend to employ citation generators or tools without subjecting the output to critical analysis, leading to common errors in formatting. In much the same way, Sefora, Wassermann, and van Wyk (2021) pointed out that citation literacy is still a problem with even senior students, particularly when they are required to adhere to style-specific elements such as APA or IEEE to the letter. Additionally, DaCosta (2020) explained that although students consider citation integrity important, training deficiencies and also differing faculty expectations frequently confuse them regarding citation practices to the point of over-dependence on fellow students or online resources.

With these findings, it is clear that though students are aware of the significance of citation and referencing, they need to be empowered to acquire technical expertise and confidence to utilize style guides properly. Guided learning interventions, including practical citation workshops, peer review sessions, and in-situ citation correction exercises, may decrease errors in formatting and develop deeper insight into academic writing conventions.

2. The extent to which students experience specific challenges in conducting their capstone project

Capstone projects are a summative academic undertaking that expects students to prove their capacity for synthesizing knowledge, utilizing research skills, and responding to actual problems in their disciplines. Although capstone experiences are academically enriching and professionally developmental, they are naturally complicated and challenging. Students frequently encounter a variety of challenges during the research process, from conceptualizing aims and carrying out literature reviews to selecting suitable methodologies, analyzing data, and providing adequate documentation of sources.

This section discusses the degree to which students struggle to finish different parts of their capstone projects. Knowledge of these struggles is essential to determine learning gaps, improve instructional methods, and augment support structures. Students often face challenges as a result of limited research experience, technical skill uncertainty, and variations in academic guidance, as per recent research (Lea & Jones, 2021; Ndlovu & Sibanda, 2022). In addition, time management,

resource access, and the differences in preparedness add to these challenges further (Alahmadi et al., 2020). Through evaluating students' reported difficulties, this part seeks to advise faculty and academic planners on improving how they can support learners in overcoming the pressures of capstone research.

Table 6.

	Mean	Standard Deviation	Descriptive Rating
I find it difficult to choose a feasible and relevant capstone topic.	3.50	0.95	Agree
I struggle with time management during the capstone preparation process.	3.4	1.00	Agree
I experience difficulty in identifying a clear problem statement.	3.70	0.90	Agree
I have limited access to references or related literature.	3.40	1.10	Agree
I lack confidence in applying appropriate research methodologies.	3.60	0.95	Agree
I have difficulty interpreting and analyzing collected data.	3.50	1.00	Agree
I find referencing and citation formatting confusing.	3.70	1.00	Agree
I have limited support or feedback from peers and mentors.	3.30	1.10	Neutral
I experience technical difficulties when using tools/software for research.	3.20	1.05	Neutral
I feel overwhelmed by the overall process of completing a capstone project.	3.90	1.00	Agree
Overall	3.43	.06	Agree

The table provides students' self-ratings of the particular difficulties they encounter in undertaking their capstone projects. The overall mean of 3.52 shows that students largely concur that they encounter meaningful difficulties at different phases of the capstone process. The overall standard deviation of 1.01 demonstrates high variability, and it is likely that while most students encounter similar difficulties, others experience varying levels of readiness and assistance. Interestingly, the greatest reported difficulty was feeling overwhelmed by the entire process (mean = 3.90) and is

indicative of the intensive and all-encompassing nature of capstone projects. This is also consistent with Lea and Jones (2021), who discovered that students tend to feel anxious and emotionally drained trying to navigate the intricacies of independent research.

Students also indicated serious trouble with determining a definite problem statement and determining referencing/citation formatting (mean = 3.70 each). These results are in alignment with Sefora et al. (2021), who indicated that citation habits continue to be a significant obstacle even for advanced students, particularly when training is variable. Similarly, Ndlovu and Sibanda (2022) highlighted that defining research problems is a subtle undertaking that many students have trouble with as a result of limited exposure to research.

In addition, methodological application difficulties (mean = 3.60) and data analysis difficulties (mean = 3.50) indicate practical research skill deficits among students. This is in accordance with Alahmadi, Drew, and Adams (2020), who noted that most students lacked sufficient confidence to utilize theoretical knowledge in real research practice, especially in method selection and data management.

Interestingly, two indicators were scored lower: insufficient support from peers/mentors (mean = 3.30) and technical issues in utilizing research tools (mean = 3.20), both of which are under a "Neutral" rating. This could mean that while students encounter massive academic problems, institutional support mechanisms, although available, might not be optimally effective or evenly utilized.

3. Programs that can be implemented to assist students in conducting capstone projects

According to the results, there are various academic, technical, and psychological problems that students experience in undertaking their capstone projects—from concept difficulties in researching problems and choosing methodologies, to handling time management, data interpretation, and correct citation of sources. The overall high mean of 3.52 and standard deviation of 1.01 validate that these problems are both prevalent and felt in some measure across the student body. Thus, a multi-faceted support system is required. The following is an in-depth list of programs that institutions of learning can apply to effectively support students during the capstone process:

1. Capstone Project Bootcamp Series

Objective: To provide foundational training in research design, literature review, methodology, data analysis, and academic writing.

Content:

- Choosing and refining a researchable topic
- Writing problem statements and objectives
- Understanding research paradigms and selecting methodologies
- Using APA/IEEE citation styles
- Identifying credible sources

Rationale: Students showed high difficulty in defining problem statements (M=3.70), choosing methodologies (M=3.60), and handling citations (M=3.70), aligning with Brevik & Skaar (2020) and Alahmadi et al. (2020).

2. Research Mentorship Program

Objective: To pair each student with a trained faculty mentor who provides consistent feedback and guidance.

Features:

- Scheduled 1:1 consultations
- Feedback on drafts (chapters, instruments, etc.)
- Emotional support and motivation

Rationale: Students reported limited support from peers/mentors (M=3.30). Mentorship bridges this gap and improves student outcomes (Lea & Jones, 2021).

3. Writing and Citation Assistance Clinic

Objective: To help students master the technical aspects of academic writing and citation formatting.

Services:

- One-on-one citation consultations
- Automated reference checker and APA formatting workshops
- Peer proofreading exchange

Rationale: Citation formatting was identified as a major hurdle (M=3.70), confirming the need for sustained writing support (Sefora et al., 2021).

4. Time and Project Management Training

Objective: To equip students with strategies for managing deadlines, milestones, and productivity.

Modules:

- Gantt chart creation
- Time-blocking and prioritization
- Tools for collaborative work (e.g., Trello, Notion)

Rationale: Students struggled with **time management** (M=3.40), a common issue in independent academic projects (Ndlovu & Sibanda, 2022).

5. Data Analysis and Software Skills Workshops

Objective: To build technical proficiency in using software for data analysis (e.g., SPSS, Excel, NVivo).

Topics:

- Cleaning and preparing datasets
- Descriptive and inferential statistics

- Thematic analysis in qualitative research

Rationale: Students cited difficulty interpreting data (M=3.50) and using tools/software (M=3.20), underscoring the need for more applied training.

6. Psychological Wellness and Resilience Program

Objective: To support students in managing stress, anxiety, and burnout during their capstone journey.

Activities:

- Group therapy or wellness circles
- Mindfulness and productivity sessions
- Capstone experience sharing forums

Rationale: The highest-rated challenge was feeling **overwhelmed by the overall process** (M=3.90), reinforcing the importance of emotional support (Lea & Jones, 2021).

7. Capstone Peer Support Network

Objective: To build a sense of community and shared accountability among capstone students.

Components:

- Peer feedback sessions
- Weekly accountability check-ins
- Capstone showcase events

Rationale: Peer interaction fosters collaboration, reduces isolation, and normalizes challenges experienced by students.

CONCLUSION

This research aimed to measure students' preparedness in carrying out capstone projects, review the level of difficulties that they face, and determine possible programs that could aid them in their studies. The results reflect significant insights about the complex character of students' capstone experiences.

Of readiness, students mostly indicated a high to moderate level of confidence in core competencies. They all consented that they can design research aims, undertake a literature review, select suitable research methods, interpret data, and use correct referencing and citation methods. Of these areas, students showed the highest readiness in referencing and citation, especially ensuring sources are adequately recognized. But categories like interpreting statistical information and setting SMART goals still showed areas of improvement. Such findings underscore that although students have basic research competencies, their preparedness is not consistent and is different in depth in terms of competencies.

In regards to student challenges, the research found that students experience drastic challenges during the capstone process. The most outstanding challenge was the sense of being overwhelmed by the general requirements of completing a capstone project, with high mean scores also reported

in issues such as coming up with a clear problem statement, working with citations, and using proper research methodologies. Technical issues, absence of peer or mentor guidance, and restricted literature access were also reported, albeit to a lesser degree. The heterogeneity of responses indicates that these issues are not only prevalent but are also framed differently based on preparedness and access to guidance of students.

In answer to all of these, the research suggests that there be comprehensive institutional programs instituted to help students transition through their capstone work. Some examples are: capstone project bootcamps, writing and citation clinics, guided mentorship programs, training in time and project management, data analysis workshops, mental health and resilience programs, and peer support networks. These programs are necessary for narrowing the gap between theoretical learning and actual research implementation, and to assure students are not just academically equipped but also emotionally and technically guided.

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