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Teachers' perception, competence, and performance in flexible teaching: inputs for instructional management plan

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ABSTRACT

Responding to the change from a physical to a digital environment for teaching and learning, the study looked into the perception, ability competence and performance effectiveness of faculty members. Utilizing the descriptive-correlational design, results disclosed that teachers' have high knowledge perception of the nature and characteristics of flexible teaching and learning and are generally exhibiting very high level of competence in implementation. They were found to be moderately high on course design and technical competence dimensions, but are highly competent on the ability competency aspects of course communication and time management. For every 10 teachers, eight of them are outstanding performers as per student assessments of teaching effectiveness. Result of the correlation analysis further revealed that young teachers who are still new in the teaching service tend to showcase outstanding teaching performance in the delivery of instruction than older counterparts. The study proposed instructional plan to sustain strengths and conduct support mechanisms to address needs of teachers responsive to better implementation of blended teaching-learning delivery system.

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1. INTRODUCTION

The congested standards of the new normal through flexible teaching empower teachers and students' habits beyond the boundaries of physical to digital teaching and learning. The COVID-19 epidemic intensifies societal, economic, and technological changes, which influence the path of the educational system [1]–[4]. This paradigm shift in the educational landscape, which is dubbed the new and now normal culture of education model, propels stakeholders' expanding duties and responsibilities, notably those of teachers.

Teachers must be fully prepared to conform to the new standard in order to adjust to changes in their expanding tasks and responsibilities. Teachers therefore are strongly urged to refresh their knowledge and skills in light of this paradigm [5]–[7]. With this, they are highly encouraged to update their knowledge and competencies so that they learn new abilities to play different roles to become adaptable and multifunctional. Truly, the COVID-19 pandemic has pushed educators to view the online academic experience as the culmination of all online teaching and learning activities [8]. It is crucial that, in order to guarantee students' participation in learning in the new normal, teachers' and students' usage of educational tools be sustainable, inclusive, engaging, and accessible.

Technology utilization in the academy encourages collaboration and connections between students and teachers when used properly [9]. A user's level of affirmation significantly affects how well flexible

teaching and learning work [10]. As a result, it is essential to take into account the factors that affect how individuals use and embrace technology in their training.

Teachers, as essential contributors in the educational system, are expected to be creative, adaptable, and attentive to the current problem because their expertise is a crucial component [11], [12]. In order to choose the digital resources that will operate best in their classrooms, teachers must first identify the pertinent digital resources for their classes and assess the caliber of those choices. Teachers must use higher-order knowledge and abilities to evaluate digital content, which go beyond the use of technology to provide curriculum [13]. Based on this, the study examines the competences related to online teaching readiness held by teacher educators in higher education and provides guidance on how to enhance their ability to support the long-term resilience of educational institutions.

Teachers' views or judgments of their own competency in the utilization of instructional methodologies are referred to as their instructor ability. According to Kim *et al.* [13], the development of tools to best satisfy faculty development goals can be aided by knowing how teachers' abilities affect what they do when they teach online. Teachers could thus be trained to competently carry out a variety of online teaching responsibilities, such as selecting technological resources, participating in virtual contact, assisting content migration, ensuring course alignment, and creating course structure, using the results of the current study as a guide. A professional development program for faculty was seen as improving the perception of teachers' readiness to teach online. Studies have likewise revealed that how teachers view the nature and characteristics of flexible teaching and learning delivery systems also affects how they perform. Higher perception tends to lead to greater judgments of the significance of these competencies and, ultimately, performance.

Numerous studies emphasize the value of incorporating technology into pedagogical practices and suggest that doing so benefits both students and teachers in the learning process [14]. According to Islam *et al.* [15], the use of technology in the classroom increases teachers' competence in both pedagogical and content areas and facilitates students' effective learning through the use of technological tools. As technological proficiency has long been seen as the most formidable barrier to the digital transformation of higher education [16], [17], there is a need to venture on identifying the status of teachers' performance in flexible framework. Technology knowledge and skill in its application are seen as two distinct forms of competencies [18]. For instance, some researchers found that even while instructors were technology literate, they were unable to effectively use technology in the classroom [19], [20]. It shows that using technology in instructional practices and having technological understanding are two very distinct things. In a nutshell, it can be said that teachers can only use technology effectively if they possess all of the core abilities [21]. It is crucial to evaluate how well teachers adapt to flexible teaching in order to take appropriate actions. It is generally believed that when teachers use successful pedagogical approaches in a flexible teaching-learning environment, learners' motivation, and engagement are also expected to be at their best. Teachers should have regular opportunity to improve their abilities because of the growing usage of digital technologies in educational practices. Considering such, encouraging educators to experiment with new digital technology practices, devising innovative approaches to skill evaluation, and fostering a welcoming environment where learning is valued are all equally crucial [22].

The results of this study might be used as a quick gauge for online training skills that could be applied as training requirement analysis, making every teacher extremely capable of imparting knowledge using online teaching platforms. Trainings involving customization of learning contents, capacitation on technology adaption, and capitalization of teachers' essential and integral potentials in a flexible learning environment may be designed for implementation for a more resilient flexible learning delivery. Considering the results, practical suggestions for professional development programs or training along the lines of content, pedagogy, and technology integration would be highly taken into consideration. The need for research on online teaching abilities stems from the need to add to the body of knowledge and reveal potential methods for professional development programs in higher education institutions to assist and train online faculty in the new normal landscape. It is envisaged that the study would provide teachers with a more important learning opportunity to reframe their difficulties into more creative educational methods. Thus, this study explored Cagayan State University-Aparri Campus' teachers' technological characteristics, ability competency, and flexible teaching performance. The study specifically examined how teachers perceived flexible teaching, their course design competency, course communication competency, time management competency, technological competence and their teaching performance as assessed by their students. It also looked into the correlation among these constructs as input for an instructional management plan for flexible teaching and learning.

2. METHOD

The study employed quantitative research method using descriptive-correlative design. Data were gathered with the use of self-rated standardized questionnaires. Participants involved in this study were the

faculty members in the campus who handle online and blended courses. Both regular and part-time faculty members were tapped to answer the survey form. Calculated from 31 or 62% of the faculty are female while 19 or 38% of them are male. The study was conducted at Cagayan State University at Aparri campus. CSU-A, being one of the satellite campuses of the university utilized the learning management system (LMS) called learning environment network system which has been used by all faculty members for supporting online, and blended courses. By the time the study has been conducted, the respondents already had two semesters implementation of the LMS and other platforms like Zoom and Google Meet. The main instrument used to gather necessary data for the study is a survey-questionnaire which comprised of 3 parts. Part 1 of the questionnaire was designed to gather important demographic information. Part 2 dealt on the perception on flexible teaching-learning. The instrument is a 10-item survey determining perception on the nature and characteristics of the flexible teaching which was adapted from [1] using a 4-point Likert scale, with answers ranging from 1 (not knowledgeable) to 4 (very knowledgeable). Part 3, the ability competency questionnaire was adapted from the faculty readiness to teach online (FRTO) instrument [17]. All the procedures for the research's processes were explained to the participants. Each of them was made aware, prior to the distribution of the Google Form, that participation in the study was entirely optional and would have no bearing on their life as teachers or as individuals. With permission from office concerned, data on the performance of the teachers was obtained from the recently extracted report of the online faculty effectiveness system (OFES) to obtain validity. The data was limited only on the assessment of the students on the teachers' flexible teaching performance during the second semester of academic year 2021-2022. Data analysis included detailed descriptive and inferential statistics. Descriptive statistics (means and standard deviations) are reported both at the item level, at the subscale level, and (frequency and percentage) also by various demographic factors. Pearson r was utilized in determining significant correlations between the independent and dependent variables.

3. RESULTS AND DISCUSSION

3.1. Perception of flexible teaching-learning

Table 1 asks respondents to describe what they know about the qualities and nature of flexible learning. Acknowledging diversity of sources of learning, the respondents were very aware that teachers are not the only source of knowledge and information (3.88). They likewise reported that flexible learning is not always an online approach (3.82) and that flexible learning is a learner-centered approach (3.76). Meanwhile, the faculty also reported high level of knowledge that flexible learning increases the diversity of learning contexts and experiences (3.72) and that pedagogical flexibility refers to the implementation, interaction, assessment, and media of instruction (3.68); and that learning outcomes are the competencies that students must demonstrate after a course of study (3.68); Finally, they also reported high level of knowledge that constructive alignment is the congruence of teaching and learning activities to the learning outcomes (3.66).

Table 1. Perception of flexible teaching-learning

Statement	Weighted mean	Descriptive value
Students can learn at their own pace	3.36	Knowledgeable
Teachers are not the only sole source of knowledge and information	3.88	Highly knowledgeable
Flexible learning increases the diversity of learning contexts and experiences	3.72	Highly knowledgeable
Flexible learning allows students to demonstrate course-specific learning objectives	3.54	Highly knowledgeable
Pedagogical flexibility refers to the implementation, interaction, assessment, and media of instruction	3.68	Highly knowledgeable
Location, time, and pace of learning denote logistical flexibility	3.5	Highly knowledgeable
Learning outcomes are the competencies that the students must be able to demonstrate after a course of study	3.68	Highly knowledgeable
Constructive alignment is the congruence of teaching and learning activities to the learning outcomes	3.66	Highly knowledgeable
Flexible learning is a learner-centered approach	3.76	Highly knowledgeable
Flexible learning is not always an online approach	3.82	Highly knowledgeable
Overall mean	3.66	Highly knowledgeable

While almost all of the items are perceived as very knowledgeable to the respondents, they reported that students learning at their own pace as knowledgeable which presents the lowest acquired mean value. The finding clearly signifies, moderate knowledge on students learning at their own speed. On validation through interview, respondents reflect on the statement as knowledgeable as they would usually have to remind learners of course deadlines. The data may posit the need to make teachers understand and use flexibility in online academic courses based on learning time, place, and access to learning resources.

Academic courses must provide students with flexible learning opportunities by allowing them to make choices regarding diverse aspects of their learning process [23].

3.2. Competence on flexible teaching and learning

The table on the ability competencies of the teachers is reflected in Table 2. The table reveals that overall, the faculty members of the locale exhibit high level of competence in flexible teaching and learning. Out of the four dimensions considered, the faculty had high level of competence in course communication and time management. Meanwhile, they only reflected moderately high level of competence in course design and technical competence. The finding indicates a refinement on these dimensions. With the possession of adept technical proficiency through technology-assisted instruction, teachers become technological role models, improves students' opportunities to connect with real-world experiences, offers convenience and mobility in flexible instruction, enhances communications and organizational skills, and engages and excites students in activity designs.

Table 2. Competence level of faculty in flexible teaching and learning

Indicators	Weighted mean	Descriptive value
Course design	4.14	Moderately high level of competence
Course communication	4.41	High level of competence
Time management	4.21	High level of competence
Technical competence	4.16	Moderately high level of competence
Overall weighted mean	4.23	High level of competence

They did, however, demonstrate a relatively high level of competence in the creation of online assignments (4.16), instructional videos (e.g., lectures, demonstrations, and tutorial videos) (3.98); writing measurable learning objectives (3.96) and manage grades online (3.96). While these are still moderately high, they insinuate concern in instruction as objectives confirm solid alignment or organization of learning activities and assessment. They form integral part of the instruction process. Flexible teaching requires course designs that are also technology oriented requiring competence. Teachers who used digital tools in their classrooms were frequently more digitally competent, based on the notion that competence grows with practice [24]. Meanwhile, as learning environment network system (LENS) in itself takes grade and assignment as system features, moderate competence determines a need for support mechanisms along this fields of course designing.

According to the data, teachers were highly proficient at using email to interact with students (4.52); promptly answering inquiries (4.52); communicating compliance with academic integrity policies (4.48); applying copyright law and fair use guidelines when using copyrighted materials (4.48); creating and moderating discussion forums (4.46); communicating expectations for student behavior (e.g., netiquette); and giving feedback on assignments (4.44); applying accessibility policies to accommodate student needs (4.42); sending announcements/email reminders (4.36) and using synchronous web-conferencing tools (e.g., Zoom, Google Meet, Skype) (4.00). The finding evidently revealed that teachers manifest good communication exchange to their students in flexible teaching and learning. This finding therefore reflects that the teachers employ efficient online communication enabling students to form social ties and therefore foster a sense of community within their online classes. This finding suggests that teachers use a variety of tools to encourage learner-instructor, learner-content, and learner-learner interaction as they can moderate, participate in, and advance discussions to foster engagement communicating rules and regulations, due dates, netiquette, course expectations, and policies for the course. Learners have a wealth of opportunities to learn through effective communication. Additionally, it aids in information clarification. It encourages learners' enthusiasm for learning and helps establish connections between students [25]. Significantly, the mean time management of 4.21 indicates that the faculty members are good time managers in the flexible set-up performing on their task and duties. This finding implies that teachers excellently manage their time to provide quality education. Teacher's time management has direct influence on their efficiency and effectiveness at work [26]. With time management, teachers increase their productivity coping with the enormous challenges of the instructional design.

The category means of 4.16 with the descriptive value of moderately high level suggest that the teachers are moderately average in technical aspects of flexible teaching and learning. While the teachers are still relatively high, looking at statements obtaining lower means, there is also need among teachers to strengthen their scaffolds in learning how to select, manage, use, and/or produce videos for course lectures, welcome videos, and demonstrations. This finding implicates that there is more to unfold on the competencies of teachers along technical matters. It is important to highlight that technology cannot be effective in the classroom without teachers who are knowledgeable about both the technology itself and the

implementation to meet educational goals. A significant positive relationship between technological competence and success in online learning [27]. This is because, with technical competence, teachers could create more interactive resources, bridge troubles and utilize tools for support system to students varying needs in flexible set-up.

As flexible instruction does not depend merely on the methods of teaching, materials used, available technology, or platform alone, but also on the teachers' skills, a holistic high integration of all these ability competencies will improve delivery of flexible instruction. It is important for the faculty to be prepared in all four areas of online teaching: course design, course communication, time management, and technical. After all, technological competency involves all the major components, such as knowledge (technological, pedagogical, and content), skills, and attitudes [28], [29].

3.3. Performance in flexible teaching and learning

Presented in Table 3 is the performance of the teachers in flexible teaching and learning as per students' assessment. The table reveals that of the 50 teacher, 44 or 88% of them performed with outstanding performance while only 6 or 12% are very satisfactory. The table indicates that reflective of the teachers' ability competency in flexible teaching and learning modality as revealed in previous tables, majority of the teachers are effective performers in synchronous and asynchronous online or flexible classes.

Table 3. Performance in flexible teaching and learning

Performance	Frequency (n=50)	Percentage (%)
Outstanding	44	88
Very satisfactory	6	12

3.4. Relationship between performance, competence, and profile variables

The study hypothesized that there is no significant relationship between the performance, competence, and profile variables of the teachers. Table 4 reveals that two profile variables significantly relate to performance which are below the set 0.05 level of significance. The null hypothesis therefore is rejected.

Age as reckoned by the r-value of -0.38 with a probability of 0.006 significantly relates to teaching performance. This finding means that younger teachers have higher teaching performance than older counterparts. Also, length of service as reckoned by the r-value of -0.319 and a probability of 0.02 also relate to teaching performance. This finding means that those who are still young in the service tend to have higher teaching performance. New teachers (often young ones) are generally more passionate, eager, and open-minded about methodology. Their embrace of technology and programming is somewhat the result of naïveté combined with a desire to be the very best. The finding of this study supports the result of [30] who found that age which comes along with educational stage was an influential variable and a predictor to the confidence and overall attitude towards ICT use among higher education teacher educators.

Table 4. Relationship between performance, competence, and profile variables

Profile variables	r-value	Probability	Statistical inference
Sex	0.160	0.266	Not significant
Age	-0.38	0.006	Significant
Highest educational attainment	0.025	0.863	Not significant
Length of service	-0.319	0.02	Significant
Faculty rank	-0.045	0.756	Not significant
Number of preparations	-0.155	0.282	Not significant
Competence:			
Course design	-0.104	0.474	Not significant
Course communication	-0.003	0.984	Not significant
Time management	-0.041	0.778	Not significant
Technical skills	0.071	0.625	Not significant
Perception	-0.022	0.879	Not significant

4. CONCLUSION

The teachers' have high knowledge perception of the nature and characteristics of flexible teaching and learning and are generally exhibiting very high level of competence. Out of the four dimensions of ability competency, the teachers are highly competent on course communication and time management and are moderately high on course design and technical competence. The faculty of instruction may get training and assistance through professional development initiatives. Special consideration should be given to

competences in which faculty members have a low view of their own ability. The study's findings have significance for instructional designers in terms of appropriate procedures for better course design triangulating objectives with activities and evaluation, as well as administrators who can aid faculty in their flexible teaching preparation.

The study offers the following inputs to instructional management plan. First, while digital technologies are important tools for extending and improving pedagogies in order to improve performance in flexible teaching and learning, there is still a need to improve faculty technical skills so that they can create more interactive course designs, which will lead to an increase in student motivation, interest, engagement, and achievement. Second, a one-on-one review of course design among instructional material experts and course designers is expected to check design and congruencies of objectives, lesson activities and assessment of lesson segments in courses designed to address the needs of teachers. The review may later on lead into the planning of the training office and the instructional material development office on related seminars/webinar or training for teachers. Third, an instruction plans where older teachers become content designers and younger teachers as LENS course managers may be executed in the campus. Fourth, a similar study utilizing mixed method specifically sequential explanatory method may be used to validate the dimensions of competencies and performance. Finally, this study does have some drawbacks. First off, just 50 of the 77 respondents in the sampling population frame completed the survey, which indicates a low response rate. Policy-makers and researchers seeking to use the findings from this study for future work are encouraged to focus on determining the support needed by the teachers in the four dimensions of flexible competencies focusing on flexibilities of time, content, and teacher contact while considering complete enumeration for generalizable results.

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AUTHOR CONTRIBUTIONS STATEMENT

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C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
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Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

CONFLICT OF INTEREST STATEMENT

Authors state no conflict of interest.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study prior to administration.

DATA AVAILABILITY

The authors confirm that the data supporting the findings of this study are available within the article.

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