EXPLICATING FILIPINO PRE-SERVICE TEACHERS' ASSESSMENT PREFERENCES: A CONJOINT ANALYSIS

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Abstract

The Philippine teacher education curricula subscribe to the outcome-based approach underscoring more authentic assessments; however, it remains unclear whether Filipino students' assessment preferences are also inclined toward new alternative types. While assessment preferences have been explored in other parts of the world that reveal students' predisposition toward more conventional types, research in the Philippines on this area is sparse. Hence, this study purported to ascertain the assessment preferences of Filipino students, particularly pre-service teachers, using conjoint analysis. A total of 302 pre-service teachers from a comprehensive Philippine university participated. Results showed Alternative Assessments as the most important attribute (28.743%) and Cognitive Processes (13.243%) as the least. Part-worth of the attributes revealed that pre-service teachers prefer self-assessments (0.651); selected-response tests (0.742); and electronic or online assessments (0.393). They prefer assessments accomplished individually (0.047) and those which target higher-order thinking (0.474). Implications to assessment policies and practices are discussed.

Keywords: *assessment; preferences; teacher education; Filipino pre-service teachers; conjoint analysis*

Introduction

Assessment is a vital element in curriculum design and development. It assumes a central role in curriculum design as good assessment strategies can ensure better student engagement with the learning content (Meyers & Nulty, 2009). Regarded as a tool for learning, assessment was mainly used to grade and evaluate learning objectives (Van de Watering et al., 2008), but it has evolved to include other roles other than for summative purposes. A focal shift from assessment *of* learning to assessment *for* learning has been observed over the past few decades, leaning to the use of assessments to inform instruction and support students' learning process through a feedback system (Wiliam, 2011; Morris et al., 2019). Additionally, assessments further developed from traditional tests to authentic tasks that allow learners to apply their knowledge academically and professionally in appropriate ways (Biggs & Tang, 2007; Dikli,

2003). New and alternative forms of assessment were recommended in light of outcome-based education. These occurred against the backdrop of the fourth industrial revolution that called for the development of twenty-first-century skills. For these reasons, schools strive to shift from propagating a test culture to an assessment culture (Van de Watering et al., 2008; Gulikers et al., 2009; Birenbaum, 2016). Assessment culture, which Birenbaum (2016) characterized as learning-oriented and student-centered, may be reflected in the assessment preferences of students – whether they favor authentic over traditional assessments.

With broader and better assessment options available, it is hypothesized that students would have certain preferences. Knowing such preferences can help teachers adapt the assessments to the students' characteristics and interests. If students are given assessment types and formats they prefer, they are motivated to perform their best (Birenbaum and Feldman, 1998). Allowing assessment choices reduces anxiety and increases satisfaction (Jopp & Cohen, 2020), bolsters feelings of autonomy which in turn drives motivation and performance outcomes (Ben-Chaim & Zoller, 1997; O'Neill, 2017), and leads to more inclusive assessment practices (Morris et al., 2019; O'Neill, 2017). Much of the literature on assessment preferences is quite dated. In higher education, students' assessment preferences showed learners' inclination toward traditional assessment forms (e.g., Van de Watering et al., 2008; Struyven et al., 2003, 2008). While conventional tests are regarded for their objectivity and validity, they cannot target higher levels of cognition (Dikli, 2000), such as critical and reflective thinking required of students, especially in teacher training institutions. Today's students belong to Generations Z and Alpha, described as digital natives exposed and immersed in the digital environment. In a study conducted among American graduate students enrolled in online courses (Bailey et al., 2015), students conveyed that technology-driven assessments like Twitter summaries, responses to videos, and screencasts were more engaging and enjoyable than quizzes and traditional papers.

Learners' assessment preferences can reveal much about the assessed curriculum. It may be used to understand their study approaches better. Knowing students' assessment preferences may reveal their learning approaches, as these were reportedly correlated (Sambell, 2016, as cited by Morris et al., 2019; Struyven et al., 2003; Heikkila & Lonka, 2006). Gijbels and Dochy (2006) pointed out that students who embrace higher-order thinking tasks in integrative and alternative assessments take a deeper approach to learning; however, students generally shift between surface and deep learning approaches as they adapt to the demands and needs of the course. Other research established that differences in assessment preferences are correlated to differences in learning strategies (Gijbels & Dochy, 2006; Birenbaum & Rosenau, 2006; Dogan et al., 2012) and personality traits (Furnham et al., 2011).

Philippine studies on the topic remain scant. This study attempts to address that gap. Additionally, there was no attempt to apply conjoint analysis to explicate the assessment preferences of Filipino pre-service teachers (PSTs). Earlier quantitative studies either adopted or developed tools for the purpose.

For instance, Birenbaum and Rosenau's (2006) descriptive-correlational study of assessment preferences and learning orientations of Israeli PSTs used Pintrich et al.'s Motivated Learning Strategies Questionnaire (MSLQ) and Birenbaum's Assessment Preference Inventory (API).

This investigation aimed to examine the assessment attributes preferences of a select group of Filipino PSTs in one of the comprehensive universities in the Philippines. It intended to answer the question: What are the preferences of a select group of Filipino PSTs relative to the assessments they engage in? The results of this study can be used as a basis by teacher-educators and curriculum supervisors for considering assessment methods and strategies that PSTs are much interested in without sacrificing the role that assessments play in providing concrete pieces of evidence of student learning.

Theoretical Background

The study is grounded on the rational choice theory (RCT), which involves an individual's decision-making process concerning costs and benefits (Broda et al., 2018). First applied in economics to understand human behavior, it has been used in other disciplines such as sociology, anthropology, and politology. Rational choice deals with selecting the most preferred option among alternatives based on some consistent criteria. People weigh the costs and benefits, consider possible consequences of the alternatives, and choose the best option that satisfies their preferences (Kroneberg & Kalter, 2012). Boudon (2003) argued that RCT is a restricted version of the cognitivist theory of action, stating that people's informed actions are understandably moved by reasons. This study assumes that PSTs favor and act congruently to certain assessment methods and tools for particular reasons. These reasons may be about their engagement and enjoyment (Bailey et al., 2015); the way they approach their learning (Gijbels & Dochy, 2006; Birenbaum & Rosenau, 2006; Dogan et al., 2012); the impact of test anxiety; and learning-related characteristics (Birenbaum & Feldman, 1998).

Literature Review

Traditional vs. Alternative Assessments

The first two attributes were based on McMillan's (2007) assessment methods. On the one hand, traditional assessments are pen-and-paper tests that commonly contain selected-response or brief-constructed-response items. On the other hand, alternative assessments are non-tests aimed at "assessing student behaviors in situations similar to real-life settings" (Dogan et al., 2012, p.266). They include performance tasks, oral questioning, observation, portfolios, and self-assessment.

The few studies found on assessment preferences mostly reveal students' proclivity to choice-response tests and less stringent flexible assessment conditions. A study conducted in Denmark among first-year university students showed that students prefer pen-and-paper tests, including take-home examinations that permit them to refer to their notes and learning materials (Van

de Watering et al., 2008). Similar results were obtained among middle and secondary school students, showing students' preference for written, extended time, and open-book examinations among the test varieties (Nelson et al., 2000; Ben-Chaim and Zoller, 1997). Additionally, Struyven and associates' (2003) review of past articles on assessment perceptions showed that students prefer multiple-choice tests because they are less difficult and complicated, less anxiety-provoking with a higher success expectancy. Buyukkarci and Sahinkarakas (2021), for their part, developed an assessment preference scale to study the impact of formative assessments on first-year Turkish students' assessment preferences. In both experimental and control groups, they found that students prefer traditional assessments such as multiple-choice tests. It parallels Furnham and associates' (2011) study concerning British students. Students favored multiple-choice and continuous assessment and oral, and group work least.

In contrast, a study involving the United Kingdom and overseas students revealed that they prefer authentic coursework over examinations which they found unreliable and unnecessarily stressful (Bartram & Bailey, 2010). Physics PSTs in Turkey preferred performance assessments and portfolios and showed a constructivist attitude toward these assessments (Ogan-Bekiroglu, 2009). However, they also preferred examinations misjudging them as effective due to their objective and comprehensive features.

There are several factors as to why traditional assessments continue to persist. Glasner (1999) averred that the tendency of schools not to depart from the usual examinations may be due to the massification of higher education, economy and efficiency of traditional assessments, student assessment overload, and issues of student plagiarism.

Despite the shortcomings, traditional assessments still hold a place in the teacher education curriculum because of their objective nature, practicality and efficiency, and teachers' familiarity with the method. However, in assessing 21st-century skills, alternative options like real-world tasks, self-reports, and observational measures are more appropriate and should complement conventional assessments (Lai & Viering, 2012). Hence, both assessment methods were considered in this study.

Cognitive Processes

Among other things, the API tool measures students' preferences for cognitive processes. It uses those outlined in the Revised Bloom's Taxonomy (Krathwohl, 2002). Two options were considered in this study: lower-order and higher-order thinking processes. The first constitutes knowledge and simple understanding (remembering, understanding, and applying), while higher-order thinking is deep learning (analyzing, evaluating, and creating).

In light of the methods, traditional assessments are seen to be reproduction-oriented. In a study written by Van de Watering et al. (2008), many students carry this perception, associating multiple-choice tests with information recall and essays as more reproduction than application-based.

They favor assessments that call for the reproduction of information, comprehension, and problem-solving, while they do not prefer evaluations, scientific investigations, comparisons, and exemplification.

Cognitive process preference may, to some extent, explain students' assessment method preference. A predilection for alternative assessments may mean students welcome more challenging but meaningful tasks.

Forms of Assessment

In terms of assessment forms, they may be paper-based, electronic-based, or a mix of both. Paper-based assessments, as the name implies, refer to conventionally written assessments. In contrast, electronic-based assessments, also called e-assessments, pertain to those in which information and communications technology (ICT) is used to present and record responses and assessment activities (Astalini et al., 2019). E-assessments are characterized by digital technologies via computers, laptops, or mobile devices to create, deploy, assess, and provide immediate feedback on student performance (Reju & Adesina, 2009, as cited in Alruwais et al., 2018). Scholars recognized the advantages of e-assessments over traditional measures in terms of accuracy, effectiveness, and efficiency (Astalini et al., 2019; Buzzetto-More & Alade, 2006).

Form preference was included in this study in view of Education 4.0 or education in the fourth industrial revolution characterized by advanced technology. In the context of teacher education, Education 4.0 insinuates a transformation, not just in the learning environment and instruction but also in assessment strategies (Hussin, 2018). Preference for e-assessments may be interpreted in connection with the PSTs' choice of assessment methods and cognitive processes.

Modes of Administration

In terms of modality or configuration, assessments may be accomplished individually or in groups. Webb (1993) and Knight (2004) highlighted the advantages of group over individual assessments. Group assessments such as group projects, role-playing activities, and small group discussions promote collaboration and support students' academic achievement, coordination, communication, conflict resolution, decision making, problem-solving, and negotiation. However, McAlpine (2012) noted that learning in group work which is common in primary schools tends to taper off in secondary through tertiary education. Individual assessments have their share of advantages. They are practically easier to administer and are perceived to be objective by learners (Efu, 2019; *Knight*, 2004).

In a study involving undergraduate students, *Knight* (2004) noted that while students instinctively prefer individual tasks assuming that they benefit more from this mode, students perform better and gain essential skills in group tasks, especially less-abled students. This raises an issue of fairness when low-performing students in individual work are compensated for in group work.

However, this can be remedied through a structured and well-managed group task that would prevent conflicts and increase membership function (Livingstone & Lynch, 2002).

Research Hypotheses

Through conjoint analysis, the following hypotheses were tested.
H_1: Pre-service teachers prefer alternative assessments.
H_2: Pre-service teachers prefer selected-response among the test formats.
H_3: Pre-service teachers prefer self-assessment among the alternative types.
H_4: Pre-service teachers choose higher-order cognitive processes over lower-order.
H_5: Pre-service teachers prefer electronic-based assessments.
H_6: Pre-service teachers choose group over individual assessments.
H_7: There are no significant differences in the pre-service teachers' assessment preferences when grouped according to their year level.

Method

Research Design

Conjoint analysis is an analytical technique commonly used in marketing to determine the relative importance of various product features (Beall & Pertulla, 1991). It is a sophisticated procedure that educators can employ to get practical insights into the actual preference structure of the users of educational services (Shukla & Bruno, 1992). While its use has been established in market research to elicit consumer preferences, it has gained ground in the areas such as health, social sciences, and education (Factor & de Guzman, 2017).

In this study, conjoint analysis was used to ascertain the preferences of a group of PSTs in a large private university in the Philippines on pre-identified aspects of assessment. Five attributes were chosen from observations within the teacher education program and literature review on assessments: (1) traditional assessments [selected-response tests; brief-constructed-response; essay]; (2) alternative assessments [product oriented and process-oriented performance tasks; oral questioning; self-assessment]; (3) cognitive processes [lower-order; higher-order]; (4) form [paper-based; electronic; combined]; (5) mode [individual; group].

Study site and sample

To achieve the overall intent of the study, 302 of 714 PSTs were recruited from one of the top teacher education institutions – a Center of Excellence in Teacher Education located in the capital of the Philippines. Purposive sampling was employed with the following inclusion criteria: a) enrolled in the secondary or elementary education; b) a Filipino; and (c) at least 18 years of age. For conjoint analysis to proceed, a sample size of at least 150 is recommended to accurately estimate part-worth utilities and importance values (Rao, 2013).

Data measures

A two-part research instrument was used to collect data. In Part 1, the respondents were asked about their personal and academic profiles, such as age, gender, field of study, specialization, and senior high school track, among others.

Together with its corresponding levels, the attributes in this study have a total of 144 combinations. Using the Statistical Package for the Social Sciences (SPSS) 23, an orthogonal array with 16 choice bundles plus four holdouts were generated. A copy of the twenty choice bundles displayed as cards formed the second part of the instrument. The process of ranking the choice bundles using the Balanced Incomplete Block Design (BIBD) was explained to the respondents. They were instructed to sort each card and tag them as most liked, neutral, or least liked. In each pile, they were directed to sort the cards in order of preference until all 20 choice bundles were ranked from the most to the least preferred. They were provided a link to a Google form to indicate the rankings.

Data gathering procedure and ethical consideration

Data were gathered using the full-profile approach. There were five attributes at 14 different levels – three traditional assessment types, four alternative assessment methods, two options on cognitive processes, three on assessment forms, and two on the modes of assessment. An orthogonal array was produced using a fractional factorial design, with sixteen profiles plus four hold-out cases to determine the validity.

The process of ranking profiles was accomplished using the BIBD. The BIBD involves the segmentation of choice bundles into three levels: from the most acceptable to the least acceptable. Each card was ranked in order of preference. Utility values were computed using SPSS to determine how influential each attribute is. Other demographic data were obtained using a robotfoto.

Permission from school officials was sought. The respondents were furnished with an electronic consent form where they signified their intent and agreement to participate. The respondents were assured of the confidentiality of the data gathered and the voluntary nature of participation.

Results

Table 1 depicts the demographic profile of the respondents. Of the 302 respondents, 226 (74.8%) were female, 257 (85.1%) were within the age range of 18-21 years old, and a majority (266 or 88.1%) were Catholic. The Elementary Education (EEd) PSTs constituted a little more than half (53.3%), with about one-third of them (33.1%) majoring in Special Needs Education. The respondents came from diverse senior high school backgrounds. About 60% of them graduated from public schools, and 52% were from the Humanities and Social Sciences track. As prospective teachers, it would be valuable to know

their assessment preferences as these may influence how they select, develop, and deliver assessments in the future.

Table 1. Demographic Characteristics of Pre-service Teacher Respondents (n = 302)

	N	%		N	%
Gender			*Field of Study*		
Male	76	25.2	Elementary Education (EEd)	161	53.3
Female	226	74.8	Secondary Education (SEd)	141	46.7
Age			*Major/Specialization*		
18-19	81	26.8	Early Childhood Education	48	15.9
20-21	176	58.3	Elementary Education	13	4.3
22-23	43	14.3	English	40	13.2
24-25	2	0.6	Filipino	12	4.0
			Mathematics	25	8.3
Religion			Religious & Values Ed	12	4.0
Catholic	266	88.1	Science	18	6.0
Non-Catholic	36	11.9	Social Studies	34	11.3
			Special Needs Education	100	33.1
Year level					
Freshmen	58	19.2	*Senior HS Graduated From*		
Sophomore	86	28.5	Public	181	59.9
Junior	104	34.4	Private	121	40.1
Senior	54	17.9			

Table 2 shows the results of the conjoint measurement on assessment preferences of Filipino PSTs. The conjoint model performed for this study showed a strong positive correlation between the attribute levels within a factor as indicated in the Pearson's *R*-value of 0.843 ($p<0.01$). The attribute levels are internally consistent. The correlation measure between observed and estimated preferences of the rank-order variables is moderate, with Kendall's tau equal to 0.617 ($p<0.01$).

Table 2. Relative importance and part worth of attributes

Attributes	Levels	Utility Estimates	Importance
Traditional Assessments	Selected-response	**0.742**	22.794
	Brief-constructed-response	0.092	
	Essay	-0.834	
Alternative Assessments	Product-oriented task	0.476	28.743
	Process-oriented task	0.504	
	Oral questioning	-1.632	
	Self-assessment	**0.651**	
Cognitive Processes	Lower-order	-0.474	13.243
	Higher-order	**0.474**	
Form	Paper-based	-0.079	21.267
	Electronic/Online	**0.393**	
	Combined	-0.314	13.953
Mode	Individual	**0.047**	
	Group	-0.047	

Pearson's R = 0.843, $p<0.01$
Kendall's Tau = 0.617, $p<0.01$
Kendall's Tau for Holdouts = 0.913, $p<0.05$

Results showed that alternative methods constitute the most important assessment factor by PSTs (28.743 percent). This factor is followed by traditional assessments (22.794 percent), forms of assessment (21.267 percent), mode of administration (13.953 percent), and cognitive processes (13.243 percent).

For each attribute, the attribute level with the highest positive part-worth or utility score is the one most preferred by the respondents. Regarding alternative assessments, self-assessment has the highest utility (0.651). This is followed by process-oriented (0.504) and product-oriented performance tasks (0.476), while oral questioning (-1.632) is the least preferred. As for conventional assessments, they prefer selected-response tests (0.742) and dislike essays (-0.834). Additionally, they preferred electronic or online assessments (0.393) over paper-based assessments (-0.079). In other features, the respondents favor assessments that promote higher-order thinking (0.047) and are more inclined toward individual assessments (0.047).

Table 3. Comparison of means and ANOVA results by year level

	Importance				Utility				
Attributes	Freshmen (n=58)	Sophomores (n=86)	Juniors (n=104)	Seniors (n=54)	Freshmen (n=58)	Sophomores (n=86)	Juniors (n=104)	Seniors (n=54)	F-value
Traditional Assessments	34.568	21.667	23.119	24.787					
Selected-response					0.707	0.859	0.723	0.633	0.233
Brief-constructed-response					0.345	0.168	-0.028	-0.069	1.149
Essay					-1.052	-1.027	-0.694	-0.564	1.081
Alternative Assessments	27.160	26.943	29.593	25.441					
Product-oriented task					0.254	0.137	1.065	0.120	6.218**
Process-oriented task					0.685	0.843	0.022	0.699	4.993**
Oral questioning					-1.875	-1.549	-1.899	-0.986	2.444
Self-assessment					0.935	0.570	0.813	0.167	2.234
Cognitive Processes	9.877	14.116	13.996	14.362					
Lower-order					0.063	-0.413	-0.671	-0.769	4.593**
Higher-order					-0.063	0.413	0.671	0.769	4.593**
Form	16.049	20.415	20.683	23.084					
Paper-based					-0.247	-0.107	0.106	-0.210	1.024
Electronic/Online					0.322	0.587	0.399	0.147	0.897
Combined					-0.075	-0.480	-0.505	0.063	1.746
Mode	12.346	16.860	12.610	12.326					
Individual					0.017	-0.148	0.162	0.167	0.822
Group					-0.017	0.148	-0.162	-0.167	0.822

**Significant at 0.01 level

Average utility values were compared using Analysis of Variance, as exhibited in Table 3. Significant differences were found in the mean part-worth utilities of product-oriented and process-oriented tasks. Turkey's Honest Significant Difference post hoc tests revealed that junior PSTs have the most preference for product-oriented tasks among the year levels. They also differ significantly from the sophomores who opted for process-oriented tasks over other alternative assessment options. There were also marked differences in the cognitive processes. First-year PSTs tend to like assessments that target lower-order thinking. Post-hoc tests indicate that third and fourth-year students significantly differ from the first-year PSTs' preference in this aspect. In terms of importance among attributes, first-year PSTs prefer traditional assessments over alternative assessments, which were elected by higher year levels as the most important.

Discussion

This study aimed to elucidate the assessment preferences of Filipino PSTs (n=302). The conjoint analysis results showed that among the attributes, alternative assessments were shown to be the most important (28.743%) among Filipino PSTs. Hence, the hypothesis that PSTs prefer alternative assessments was supported. It appears that PSTs are aware of the importance of alternative assessments in developing their competencies. The result affirms what empirical studies impart that higher education students have favorable perceptions of alternative assessments and coursework due to their authenticity and reliability in terms of knowledge application and assessing a wider range of skills (Bartam & Bailey, 2010; Struyven et al., 2003). Further, alternative assessments are said to be more interesting, engaging, and feedback-laden (Ogan-Bekiroglu, 2009).

Among the alternative assessment attribute levels, self-assessments were the most preferred, supporting the third hypothesis. Such preference supports the learner-centered curricular approach of the Philippine teacher education programs. As an intervention process, self-assessment calls for students to reflect on their learning process and monitor their progress which struggling learners perceive useful and motivating (Kato, 2009).

In this study, oral questioning was the least preferred. Oral questioning, particularly the forum format type, is disliked by students due to the pressure they feel when examined in front of their peers (Ben-Chaim & Zoller, 1997). However, in the same study, familiarity and past experiences with oral questioning seemed to lessen pressure and anxiety. This implies that teachers may not have utilized oral questioning often; hence, it may have indirectly given the PSTs the impression that it is not essential. Moreover, preference for oral questioning may be linked to personality and learning approaches. It is preferred by open and extroverted students with high deep-learning scores (Furnham et al., 2011). In their study, Struyven et al. (2008) construed that the overt expressiveness of student-teachers may have been the reason why individual oral examinations ranked relatively high among their assessment preferences.

While given lesser importance, PSTs in this study still regarded traditional assessments as the second leading attribute. In this category, PSTs prefer selected-response items over brief-constructed-response and essays. The second hypothesis was supported, confirming results of assessment preference studies since 1990 that within conventional assessments, students prefer selected-response assessments (Buyukkarci and Sahinkarakas, 2021; Furnham et al., 2011; Struyven et al., 2003). It was reported that students with poor learning skills and higher anxiety prefer multiple-choice tests to essays (Furnham et al., 2011). Beliefs and prior experiences also influence predilections. For example, a recent investigation into assessment preferences of undergraduate students who reportedly performed shoddily in previous multiple-choice tests naturally favored essays believing that it is a better measure of knowledge and skills (Mingo et al., 2018). In this study, PSTs were accustomed to low and high-stakes multiple-choice tests, a staple assessment in Philippine basic and higher education levels. Further, the PSTs' liking for

selected-response tests somewhat mirrors the kind of learning environment they are in. A case in point is Struyven et al.'s (2008) study where student-teachers who favored multiple-choice examinations came from lecture-dominated classes. Presumably, PSTs' assessment preferences may change if placed in a more learner-centered environment or under a problem-centered curriculum.

Regarding cognitive processes, the preference for high-order cognition supported the fourth hypothesis. It implies that PSTs opt for tasks that call for analytical, critical, and creative thinking rather than assessments that encourage recall or recognition. It also suggests that they are mindful of the level of knowledge, skills, and affect that the teacher education program demands. Ben-Chaim and Zoller (1997) noted that college students prefer projects and homework that promote deep understanding rather than rote memorization. Such preference is indicative of their deep approach to learning (Gijbels & Dochy, 2006). In this study, the importance that PSTs place on higher-order thinking tasks supports their preference for alternative assessments.

The fifth hypothesis on electronic or online assessments being favored by PSTs was also supported. The result may be due to their technological competence, experiences, and views toward e-assessments. Khan and Khan (2019) asserted that students who prefer online assessments appreciate their functionality, flexibility, and efficiency advantages. They added that the quality of transition from traditional to online modality and the technological proficiency shape students' perceptions toward online assessments. It is important to note that the study site's educational technology infrastructure and student support services were already in place for some time, which facilitated the migration to online mode when the COVID-19 pandemic struck and disrupted the education system worldwide. The PSTs' preference for online assessments and multiple-choice tests echoes the results of an Indonesian study (Wijayati et al., 2022), and their preference for self-assessment reinforces the power of electronic portfolios in enabling meaningful and deep student reflection (Strudler & Wetzel, 2011). In their systematic review, Montenegro-Rueda et al. (2021) noted that online assessments enhance motivation and outcomes, but academic dishonesty and the digital divide present challenges.

Despite the emphasis on collaboration, which forms part of the essential 21st-century skills in the Philippine Teacher Education curriculum, the sixth hypothesis was not supported. The PSTs prefer individual over group assessments. The lack of appeal of group assessments may be due to students' apprehension that their grades are dependent on others. The same reason was cited by Struyven et al. (2008) when student-teachers in their study expressed dislike for peer assessment and oral group examination. Problems in organization, group dynamics, and workload distribution commonly arise (Knight, 2004).

When grouped by year level, third-year PSTs largely prefer product-oriented tasks, while second-year PSTs prefer process-oriented tasks. The difference may lie in the elements of the performance assessment they selected. While product and process-oriented tasks both allow for knowledge application,

preference for the former may be due to better opportunities to showcase their craftsmanship and creativity, while the latter is more cost-efficient. Nevertheless, both performance assessment types are central to teacher education. High-quality teacher preparation entails authentic activities and assessments of practice like field observations, teaching demonstrations, research and experimentation, lesson planning, and instructional materials preparation.

Notably, first-year students regard traditional assessments as the most important, which explains why significant differences were found in the cognitive processes when first-year PSTs mean utility scores were compared to those from higher years. Familiarity with conventional assessments may have induced such results. The first-year PSTs in this study may have an undervalued appreciation of alternative assessments as they were yet to study assessment principles and methods in subsequent years of their program. Struyven et al. (2008) found that students expressed negative reactions toward new methods and forms of assessment; however, changes in disposition over time were reported as students became more acquainted with them. In this study, the PSTs prefer assessments that target simple knowledge and understanding. This apparent result may be attributed to the introductory nature of the courses in their first curricular year. Evidently, a study revealed that students were assessed at lower cognitive levels in an undergraduate introductory course despite the range of thinking skills articulated in the course goals (Momsen et al., 2010).

Conclusion

Classroom assessments are pluralistic and multimodal. They vary in role and purpose, methods, targets, form, and mode of administration. Considering these dimensions, this study sought pre-service teachers' preferences and yielded some interesting results. PSTs regard alternative assessments as the most important attribute, with self-assessment having the highest utility, followed by traditional assessments with a stronger inclination for selected-response than constructed-response tests. They are more concerned with the method rather than the assessment targets. Nevertheless, between higher and lower-order tasks, they prefer the former, which is consistent with the aim of the Philippine Teacher Education curricula on building new literacies and enhancing 21st-century skills.

This study contributes theoretically to a better understanding of the assessment preferences of Filipino PSTs, addressing a gap identified in Philippine literature. It highlights the significance of alternative assessments in students' preferences, providing a basis for further exploration of the alignment between assessment preferences and the Outcome-Based Education (OBE) approach emphasized in Philippine higher education. Methodologically, the use of conjoint analysis adds rigor, affording a nuanced understanding of the relative utility of different assessment attributes. Additionally, the key attributes identified in this study can contribute to the ongoing discourse on assessment

theory, supporting new conceptualizations of assessment that challenge traditional paradigms.

This study also offers a number of practical implications. First, it provides baseline information on Filipino PSTs' assessment choices that reflect their learning approaches. Second, the results can guide schools in designing interventions that would promote an assessment rather than a testing culture. It may be vital for the lower undergraduate levels, especially when they were overly exposed to conventional assessments in basic education. Third, it can inform assessment policies and promote assessment practices in Philippine TEIs that would stimulate professional and pedagogical competencies. For instance, assessment guidelines on cooperative and collaborative learning can make students more accepting of group work. Teachers' oral questioning techniques may be observed and adjusted to make them less threatening but able to stimulate higher-order thinking that the PSTs prefer. Moreover, as students are becoming more acclimatized to online learning, expanding teachers' repertoire of technology-based assessments is crucial.

Data gathered from PSTs in a single study site limit the generalizability of the results. Considering that schools operate differently, the study can be extended to state universities and colleges for comparison. Moreover, the conjoint analysis results of Filipino PSTs' assessment preferences can be further examined relative to other variables such as students' assessment beliefs, motivation, learning approaches, and the classroom assessment environment, which remain blank spots in Philippine educational assessment studies. To enhance future studies, other assessment attributes and levels may be considered in the conjoint analyses, and a mixed approach to determine underlying reasons for their preferences can enrich the findings.

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