



## Developing analytical rubric for performance-based courses in gastronomy and culinary education\*\*

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### Abstract

**Purpose:** The purpose of this study is to create and validate an analytical rubric for evaluating undergraduate students' performance in applied culinary courses in the department of gastronomy and culinary arts.

**Design/methodology/approach:** The rubric was developed to measure complex and multifaceted competencies such as hygiene, knife skills, time management, cooking techniques, and presentation. It was developed in performance-based assessment principles and strengthened through expert feedback. Both qualitative and quantitative methods were employed to ensure the validity and reliability of the instrument. Content validity was established through expert reviews, internal consistency was tested using Cronbach's Alpha, and inter-rater reliability was assessed using the Intraclass Correlation Coefficient (ICC).

**Results:** The results show that the developed rubric is a valid and dependable instrument for evaluating student performance in gastronomy and culinary arts applied courses.

**Discussion:** The rubric facilitates formative feedback and instructional improvement in addition to more objective and structured evaluation. Also, it provides more objective and structured evaluation process, the rubric supports formative feedback and instructional improvement. It is expected to contribute to vocational assessment practices, curriculum development, and the enhancement of applied gastronomy and culinary arts education quality.

**Keywords:** Analytical Rubric, Culinary Practices, Gastronomy and Culinary Arts Education, Performance Based Assessment

### Introduction

In recent years, gastronomy and culinary arts education, which integrate both theoretical and practical components, have become increasingly popular. Because it is a relatively new academic and vocational discipline, there are ongoing arguments about its pedagogical structure and teaching techniques.

Due to its inherently multidisciplinary nature, gastronomy education extends beyond the training of chefs. Today, it encompasses a broader vision that aims not only to teach culinary techniques but also to engage society and attract tourists to businesses and destinations through food culture. Students in these programs are expected to enter the industry as highly qualified professionals—not only experienced and skilled in cooking but also trained to meet the evolving needs and expectations of consumers and the market (Akyurt and Yolasiğmazoğlu, 2022).

One of the core objectives of this educational model is to train well-educated, professional, and adequate staff for the hospitality and food service sectors. Hegarty (2005) emphasizes that gastronomy education should not only be regarded as producing qualified workers. It should be seen as an investment in people, culture, and the future.

Among the fundamental goals of gastronomy and culinary arts programs is to develop students' practical skills in culinary applications, making sure that they can apply theoretical knowledge effectively in real-world culinary contexts. In the context of gastronomy and culinary arts education, academics have argued multiple critical issues. Especially, the insufficient curriculums, the level of having culinary experience among

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instructors, and the insufficient instructional resources. Moreover, as with other practice-based disciplines, assessment and evaluation emerge as particularly pressing concerns (Sezen, 2018).

Applied culinary training is a challenging area for educational assessment. The dynamic nature of culinary environments, combined with the simultaneous execution and observation of multiple skills—such as hygiene practices, knife techniques, heat control, and plating—makes accurate assessment highly complex. Despite the importance of this issue, a review of the relevant literature shows that there are not many studies that subjects frameworks and tools for effectively assessing performance in culinary education. Previous studies provide limited guidance on what to assess, how to assess it, and how to ensure fair grading and consistency in practical evaluations. Furthermore, the absence of validated assessment instruments can compromise both instructional quality and student learning outcomes, leading to inconsistency in grading and feedback across institutions. Instructors often rely on subjective impressions rather than standardized, criteria-based tools when evaluating student performance in the kitchen. Given these gaps, there is a clear need to develop an objective, reliable, and pedagogically grounded assessment tool designed for the specific competencies required in applied culinary education. Accordingly, the aim of this study is to design and validate an analytical rubric that can be used as a systematic and clear instrument for evaluating student performance in practical culinary tasks.

## **Conceptual Framework**

### **Gastronomy and Culinary Arts Education**

Gastronomy education has historically originated as a vocational training model grounded in the master-apprentice tradition. Within this system, individuals develop culinary skills through practical experience under the guidance of more experienced professionals. This approach was particularly influential in Europe, where pioneers such as Auguste Escoffier helped formalize culinary instruction and establishing the foundations for classical French cuisine (Brown, 2005). While this model effectively transmitted practical expertise, it often resulted in a lack of theoretical grounding among practitioners. By the late 19th and early 20th centuries, culinary training began to evolve from an entirely practice-oriented framework into an academic discipline. This transition was influenced by evolving industry requirements, the expansion of tourism and hospitality sectors, and a growing demand for structured educational programs to develop skilled, adaptable, and culturally competent professionals (Glass, 2005; VanLandingham, 1995).

Gastronomy and culinary arts education, which is one of the vocational education systems, does not only aim to encourage practical proficiency but also to contribute to economic development by improving workforce quality, increasing productivity and service standards, and enhancing national competitiveness (Hacıoğlu et al., 2008). Thus, the field is increasingly recognized for its role in training qualified professionals who can meet the expectations of a rapidly growing and competitive sector (Sezen, 2018). The rising popularity of dining out and increased consumer interest in food culture have intensified competition in the industry so, the demand for highly qualified culinary professionals has raised (Özdemir, 2010). In this context, the main objective of gastronomy and culinary arts education is to respond effectively to market needs by educating and teaching students with the skills, knowledge, and professionalism required by the sector.

During 21st century, gastronomy and culinary arts education have evolved into a multidisciplinary and comprehensive academic field. The curriculum of the culinary programmes now includes subjects such as nutrition, food safety, cultural awareness, business management, and sustainability, more than cooking techniques (Santich, 2004). Today culinary education seeks to integrate theoretical instruction with applied learning, aiming to strengthen both technical competence and students' capacity for creative and critical thinking (Amoah et al., 2024). So, the nature of gastronomy and culinary arts education shows that there are opportunities and challenges for curriculum design, instructional methodology, and particularly for the development of reliable assessment tools, especially in practice-based settings.

### **Performance-Based Assessment in Gastronomy and Culinary Education**

In the field of educational sciences, "performance" is defined as "the effort shown by students when making a new product using the knowledge and skills they have learned." Performance is when students get to show what they know and do things that let them use their knowledge, skills, and cognitive habits in different situations. Performance-based tests try to find out how well students can do things that need higher-order thinking, like making decisions, solving problems, and thinking critically. Researchers usually do these studies by observing students in settings where they can show off what they know and can do in a certain area, with the goal of figuring out how well they are doing (Marzano, Pickering, and McTighe, 1993; Kutlu, Doğan, and Karakaya, 2014).

In performance-based assessments, it is essential first to develop a suitable performance task. While these tasks vary depending on the discipline, they are directly related to the specific skills intended to be measured within the field of study. One of the important advantages of this method is that being able to evaluate complex learning outcomes that may not be measurable through traditional assessment approaches (Palm, 2008; Kutlu, Doğan, and Karakaya, 2014; Ernst et al., 2017).

Gastronomy and culinary education is also one of such fields that students are expected to apply both theoretical and practical knowledge in a classroom or laboratory setting. The behaviors and performances exhibited by students in kitchen laboratories or culinary classes must be assessed appropriately.

### **Analytical Rubrics in Performance Assessments**

Rubrics are scoring tools that specify the criteria by which students' work and performance are assessed. The use of analytical rubrics enables performance to be measured by dividing it into specific criteria and sub-dimensions, thus allowing for a comprehensive assessment of the performance in all its aspects (Jonsson and Svingby, 2007; Boye 2021). In analytic rubrics, each fundamental aspect of the performance to be measured is assessed separately according to its own set of criteria. According to Kutlu, Doğan, and Karakaya (2014) to ensure the effective development of such rubrics, the following steps should be followed:

1. The target performance is broken down into sub-dimensions based on the specific behaviors intended to be assessed.
2. Each sub-dimension is described in detail, and multiple performance levels are defined and quantified. In cases where certain behaviors or criteria are considered more important, weights or coefficients may be assigned to their scores.
3. The expected performance at each level within each sub-dimension is described clearly and precisely. The clarity of these definitions enhances the reliability and validity of the scoring process.

### **Methodology**

This study aimed to develop an analytical rubric for evaluating the performance of undergraduate students in applied culinary courses in gastronomy and culinary arts education. To ensure the validity of the research, expert opinions were gathered. Experts provided feedback on the content relevance and clarity of the performance criteria included in the rubric. On the other hand, intra-class correlation tests (ICC) were conducted to assess inter-rater reliability and statistical consistency among independent raters.

### **Study Group**

The study group of this research consisted of 23 first-year undergraduate students enrolled in the Department of Gastronomy and Culinary Arts at the Faculty of Tourism, Balıkesir University, during the 2024–2025 fall semester. These students voluntarily participated in the implementation of the performance task designed to validate the analytical rubric. Since the analytical rubric used in this study was also part of a broader research project, the volunteer students were divided into experimental (n=12) and control (n=11) groups for the purposes of that study. In addition, the development and validation of the Analytical Rubric for Culinary Practice Courses involved 9 field experts, who provided content-related feedback, and 3 scorers responsible for assessing student performance. The scorers included the researcher and two assistant professors from the Department of Gastronomy and Culinary Arts, each with experience teaching similar applied culinary courses.

### **Research Process and Data Collection Tool**

As part of this study, a performance task was developed to evaluate the learning outcomes achieved through a five-week training program. In this task, students were required to prepare a soup and a main course dish as a means of assessing their practical application of the course content.

The process began with the identification of objectives and learning outcomes, followed by the design of a performance task aimed at measuring these outcomes. Specifically, students were asked to prepare “Minestrone Soup” and “Chicken Supreme with Mushrooms” within 120 minutes time, according to the relevant recipes. While the recipes were explained to the students, detailed instructions were intentionally limited to maintain the integrity of the pre- and post-test comparison of knowledge and skill levels.

Prior to the performance task, students were informed of the required kitchen attire. As first-year students did not yet have uniforms, they were instructed to wear dark-colored pants and black t-shirts during the assessments, and evaluations were adjusted accordingly. A couple of paring knife and chef's knife were

provided to each student. All ingredients were pre-measured and presented in a gastronom, with quantities approximately enough but not exactly matching the recipe requirements. The selected recipes were designed to include multiple knife and cooking skills suitable for the students' level and were prepared by the researcher.

To evaluate student performance during the culinary application task, analytical rubric was developed and utilized. The development process, as well as the validity and reliability analyses of the analytical rubric used in this study, are presented in detail in the following sections.

### **Development of Analytical Rubric**

A review of the literature in the field of gastronomy and culinary arts reveals a lack of comprehensive analytic rubrics designed to assess core kitchen competencies. While several rubrics and evaluation tools are referenced in various studies and institutional practices, only a few appear to fully meet the full criteria expected of detailed analytical scoring rubric. Therefore, the development of the Analytical Rubric for Culinary Practice Courses was deemed necessary.

In the rubric development process, the learning outcomes of the 5-week course were taken into consideration first. In line with these learning outcomes, the Turkish national culinary profession standards (Mesleki Yeterlik Kurumu, 2024), the certification guidelines of the American Culinary Federation (ACF, 2017), and the information contained in fundamental culinary textbooks deemed important in the fields of gastronomy and culinary arts (The Culinary Institute of America, 2011; Gisslen, 2015; Labensky, Hause, and Martel, 2015), and the rubric developed by Bart (2022) were reviewed, and the dimensions and criteria related to the recipes to be applied were developed by the researcher. The rubric was developed based on a structure that includes process management of culinary operations and quality criteria for the resulting products. In this context, key general skills and behaviors were categorized as product (recipe)-focused skills and behaviors.

In general skills and behaviors, the basic professional standards and behaviors that students should demonstrate while working in the kitchen were considered, and the following dimensions were created. The items under these dimensions are listed in table 3. (Personal Hygiene and Uniform, Cleaning and Food Safety, Mise En Place, Knife Skills, Time Management)

Product (recipe)-focused skills and behaviors. The following dimensions have been created to make sure the criteria that students should demonstrate when applying a given recipe and the student's ability to prepare the final product according to the standards specified in the standard recipe. The items under these dimensions are listed in table 3. (Proper Use of Equipment, Application of Cutting Techniques, Use and Cooking of Ingredients, Following and Applying the Recipe, Presentation, Taste, Smell, and Aroma)

The five dimensions under general skills and behaviors have been evaluated once for each student, while product (recipe)-focused skills and behaviors have been evaluated twice for each of the two recipes applied by each student. Some items under product (recipe)-focused skills and behaviors, such as cutting techniques, were modified to align with the recipe. The rubric consists of a total of 55 items across 17 dimensions. For each criterion, detailed descriptors were written according to established rubric design principles. A four-point scoring scale was adopted as 0 = Poor / Not Demonstrated, 1 = Needs Improvement / Partially Demonstrated, 2 = Good / Largely Demonstrated, 3 = Excellent / Fully Demonstrated

A multiplier of x2 has been determined for criteria identified as more important than others based on expert opinions and rater opinions.

### **Findings**

#### **Validity Findings**

The appropriateness and accuracy of the developed analytical rubric—Analytical Rubric for Culinary Practice Courses—are directly related to its validity and reliability. To ensure content validity and accuracy of the scoring levels, the rubric was submitted for expert review. The experts were carefully selected to ensure direct relevance to the subject area. Specifically, the panel included three assistant professors and two research assistants from the Department of Gastronomy and Culinary Arts, one instructor from the Culinary Program, and two professional chefs who graduated from the same field. In addition, one educational measurement and evaluation expert was consulted for an assessment from a psychometric perspective.

One of the main challenges encountered during the validation process concerned the level of detail required by the analytical rubric. From the perspective of educational sciences and assessment theory, including detailed descriptors for each criterion is considered essential. However, subject-matter experts in gastronomy expressed

concerns that assessing every micro-level detail may not be practical in a culinary environment and suggested that the rubric be more focused and manageable. Based on the feedback received from all experts, necessary revisions were made to the Analytical Rubric for Culinary Practice Courses, resulting in its finalized version.

### Reliability Findings

In analytic rubrics, reliability refers to the consistency of scoring among raters and the agreement between their evaluations (Kutlu, Doğan, and Karakaya, 2014). To ensure internal consistency, statistical analyses were conducted on the evaluations. The Intraclass Correlation Coefficient (ICC) was used at a 95% confidence interval, with a significance level set at  $p < 0.05$ . To assess scoring consistency, evaluations from three independent raters were analyzed. The following interpretation scale from Landis and Koch (1977) was applied to assess ICC results: 0.00–0.20 = Poor, 0.21–0.40 = Fair, 0.41–0.60 = Moderate, 0.61–0.80 = Good and 0.81–1.00 = Excellent. Based on this analysis, inter-rater agreement was determined, and the reliability of the Analytical Rubric for Culinary Practice Courses was established accordingly. Also, to test the internal consistency of the Analytical Rubric for Culinary Practice Courses, the Cronbach’s Alpha reliability coefficient was calculated. Cronbach’s Alpha, originally introduced by Cronbach (1951), is a widely used statistical method for estimating the internal consistency of a scale based on the inter-correlations among its items. It is defined as the weighted average of the standard deviations of the total variance of specific items within a scale (Ercan and Kan, 2004). The Cronbach’s Alpha coefficient ranges between 0 and 1, and the reliability of the scale is interpreted according to the following thresholds (İslamoğlu and Alnaçık, 2009: 291–292):  $0.01 \leq \alpha < 0.40$ : The scale is not reliable ;  $0.40 \leq \alpha < 0.60$ : The scale has low reliability;  $0.60 \leq \alpha < 0.80$ : The scale is moderately reliable and acceptable and  $0.80 \leq \alpha < 1.00$ : The scale demonstrates high reliability.

Based on these criteria, the internal consistency of the rubric was evaluated to determine the degree to which the rubric items consistently measure the intended competencies across various sub-dimensions.

**Table 1. Intraclass Correlation Coefficient (ICC) Results for Internal Consistency Among Raters**

	ICC	CI Low	CI Up	p		ICC	CI Low	CI Up	p		ICC	CI Low	CI Up	p			
Item1	G1	-0,77	0,84	0,03	0,40	Item11	G1	-0,78	0,84	0,01	0,39	Item21	G1	-0,36	0,87	0,05	0,54
	G2	0,70	0,97	0,00	0,90		G2	0,80	0,98	0,00	0,93		G2	0,12	0,92	0,01	0,70
Item2	G1	0,32	0,94	0,00	0,77	Item12	G1	0,62	0,97	0,00	0,87	Item22	G1	0,27	0,93	0,01	0,75
	G2	0,16	0,92	0,01	0,71		G2	0,23	0,93	0,00	0,75		G2	0,25	0,93	0,01	0,75
Item3	G1	-0,02	0,91	0,03	0,65	Item13	G1	0,52	0,96	0,00	0,84	Item23	G1	-0,62	0,85	0,01	0,45
	G2	-0,34	0,88	0,05	0,54		G2	0,32	0,73	0,05	0,82		G2	0,31	0,94	0,00	0,77
Item4	G1	-0,06	0,90	0,03	0,64	Item14	G1	0,41	0,78	0,00	0,38	Item24	G1	-0,62	0,85	0,01	0,45
	G2	-0,46	0,86	0,10	0,50		G2	-0,56	0,86	0,01	0,67		G2	0,49	0,95	0,00	0,83
Item5	G1	0,63	0,97	0,00	0,88	Item15	G1	0,52	0,96	0,00	0,84	Item25	G1	0,82	0,98	0,00	0,94
	G2	0,45	0,95	0,00	0,81		G2	-0,19	0,89	0,05	0,60		G2	0,59	0,96	0,00	0,86
Item6	G1	0,23	0,93	0,00	0,75	Item16	G1	0,78	0,98	0,00	0,93	Item26	G1	0,39	0,94	0,00	0,79
	G2	-0,27	0,93	0,01	0,73		G2	0,71	0,97	0,00	0,90		G2	0,95	1,00	0,00	0,98
Item7	G1	0,87	0,99	0,00	0,96	Item17	G1	0,23	0,93	0,01	0,74	Item27	G1	0,03	0,91	0,02	0,67
	G2	0,82	0,98	0,00	0,94		G2	0,67	0,97	0,00	0,89		G2	0,71	0,97	0,00	0,90
Item8	G1	0,50	0,95	0,00	0,83	Item18	G1	0,54	0,96	0,00	0,84	Item28	G1	0,19	0,93	0,01	0,72
	G2	0,51	0,95	0,00	0,83		G2	0,45	0,95	0,00	0,81		G2	-0,13	0,90	0,04	0,62
Item9	G1	0,60	0,96	0,00	0,86	Item19	G1	0,55	0,96	0,00	0,85	Item29	G1	0,76	0,30	0,94	0,00
	G2	0,27	0,93	0,01	0,75		G2	0,39	0,94	0,00	0,79		G2	0,79	0,39	0,94	0,05
Item10	G1	-0,21	0,89	0,05	0,59	Item20	G1	-0,59	0,85	0,01	0,46	Item30	G1	0,75	0,27	0,93	0,01
	G2	0,52	0,96	0,00	0,84		G2	0,52	0,96	0,00	0,84		G2	0,44	-0,63	0,85	0,14

	ICC	CI Low	CI Up	p		ICC	CI Low	CI Up	p		ICC	CI Low	CI Up	p			
Item31	G1	0,82	0,48	0,95	0,00	Item39	G1	0,94	0,83	0,98	0,00	Item47	G1	0,83	0,51	0,96	0,00
	G2	0,79	0,39	0,94	0,04		G2	0,83	0,49	0,95	0,00		G2	0,80	0,40	0,94	0,00
Item32	G1	0,69	0,08	0,92	0,02	Item40	G1	0,34	-0,94	0,82	0,02	Item48	G1	0,56	-0,28	0,88	0,05
	G2	0,63	-0,09	0,90	0,04		G2	0,85	0,55	0,96	0,00		G2	0,63	-0,10	0,90	0,04
Item33	G1	0,88	0,64	0,97	0,00	Item41	G1	0,79	0,39	0,94	0,00	Item49	G1	0,73	0,22	0,93	0,01
	G2	0,91	0,75	0,98	0,00		G2	0,81	0,43	0,95	0,00		G2	0,87	0,62	0,97	0,00
Item34	G1	0,70	0,12	0,92	0,01	Item42	G1	0,54	-0,35	0,88	0,05	Item50	G1	0,84	0,54	0,96	0,00
	G2	0,89	0,67	0,97	0,00		G2	0,87	0,62	0,97	0,00		G2	0,81	0,43	0,95	0,00
Item35	G1	0,71	0,16	0,92	0,01	Item43	G1	0,34	-0,92	0,82	0,01	Item51	G1	0,80	0,42	0,95	0,00
	G2	0,94	0,82	0,98	0,00		G2	0,91	0,73	0,97	0,00		G2	0,91	0,74	0,98	0,00
Item36	G1	0,79	0,39	0,94	0,05	Item44	G1	0,21	-1,30	0,79	0,01	Item52	G1	0,55	-0,31	0,88	0,04
	G2	0,75	0,27	0,93	0,01		G2	0,87	0,60	0,96	0,00		G2	0,74	0,23	0,93	0,01
Item37	G1	0,25	-1,49	0,77	0,03	Item45	G1	0,76	0,31	0,94	0,00	Item53	G1	0,93	0,81	0,98	0,00
	G2	0,59	-0,21	0,89	0,05		G2	0,78	0,36	0,94	0,00		G2	0,83	0,49	0,95	0,00
Item38	G1	0,85	0,57	0,96	0,00	Item46	G1	0,79	0,39	0,94	0,00						
	G2	0,48	-0,53	0,86	0,04		G2	0,84	0,52	0,96	0,00						

\*G1: group 1 (control), G2: group 2 (experimental).

When Table 1 is examined, it is seen that the vast majority of the 55 items in the scoring key have inter-rater reliability at the “good” (0.61–0.80) and “excellent” (0.81–1.00) levels in both the experimental and control groups. This finding demonstrates that the rubric is generally a reliable measurement tool and can consistently assess many observable skills. However, some items, such as Item 14 and Item 37, showed reliability values at the “weak” (0.21–0.40) or “moderate” (0.41–0.60) level in one of the groups. However, there are no items classified as “weak” or “poor” ( $\leq 0.20$ ) in both groups at the same time. Therefore, these items have not been removed from the measurement tool in order to preserve internal validity.

**Table 2. Internal Consistency of Test Scores Using Cronbach’s Alpha**

Cronbach’s Alpha	
Test Rating Scores	0.892

To assess the overall internal consistency of the rubric’s scoring process, Cronbach’s Alpha was calculated based on the pre-test ratings. The resulting alpha coefficient was 0.892, which is considered to indicate a high level of internal consistency ( $\alpha \geq 0.80$ ). This result demonstrates that the items within the rubric are cohesively measuring a common construction, such as overall culinary performance, and that the rubric performs reliably as a unified assessment tool.

### Conclusion and Recommendations

In this study, an analytical rubric titled Analytical Rubric for Culinary Practice Courses was developed to assess the practical performance of undergraduate students enrolled in culinary arts education. The rubric consists of six main dimensions and 55 sub-criteria, reflecting essential competencies such as hygiene, time management, knife skills, cooking techniques, presentation, and adherence to recipes. Evidence supporting the validity and reliability of the instrument was gathered through both qualitative and quantitative methods.

Expert evaluations provided strong evidence for content validity, indicating that the performance criteria and their descriptors were appropriate for measuring student competencies in applied culinary tasks. The panel of nine field experts, who possessed academic and industry experience in gastronomy, culinary instruction, and educational assessment, confirmed the relevance and clarity of the rubric components.

Statistical analysis also confirmed the rubric’s reliability. The Intraclass Correlation Coefficient (ICC) results showed high inter-rater consistency across most items, particularly within the experimental group where the

rubric was used actively during instruction. Moreover, the Cronbach's Alpha coefficient, calculated from pre-test ratings, was found to be 0.892, indicating a high level of internal consistency among the rubric items.

These findings demonstrate that the developed rubric serves as an objective, structured, and pedagogically sound tool for assessing culinary performance in higher education settings. It allows instructors to provide consistent feedback, identify skill development areas, and evaluate students based on transparent criteria. Considering the development process of the rubric, there are several points that future researchers and practitioners should take into account when applying Analytical Rubric for Culinary Practice Courses.

The rubric was implemented and evaluated by three raters, two of whom were assistant professors with extensive experience in teaching practical culinary courses. Their academic and instructional background contributed to the consistent application of performance criteria. Therefore, it is recommended that the rubric be used by instructors or raters who have a solid background in culinary education to maintain scoring reliability.

This study contributes to the literature by offering a validated and reliable analytical rubric specifically designed for culinary practice courses in gastronomy and culinary arts education, considering the lack of standardized assessment tools in this field. In conclusion, the Analytical Rubric for Culinary Practice Courses has been shown to be a reliable and valid assessment tool for measuring student performance in applied culinary education. It is expected to contribute to the enhancement of objective assessment practices and the overall quality of culinary instruction. Developed rubric can be seen as table 3.

**Table 3. Analytical Rubric for Performance Based Courses in Gastronomy and Culinary Education**

Student's Name and Surname:	Application/Recipe:				Scorer:	
Personal Hygiene and Uniform	Evaluation Criteria				Coefficient	Total
	Poor (0) Never	Developing (1) Partially	Good (2) Largely	Excellent (3) Completely		
Uniform Compliance (Uniform: Chef Jacket, Kitchen Pants, Apron, Chef Hat/Bone, and Slippers)	Uniform not worn / completely inappropriate	Uniform missing (more than one element) – dirty. Partially appropriate	Entire uniform worn but dirty – untidy. Largely appropriate.	Uniform worn completely, ironed, clean. Completely appropriate.	1	
Personal Hygiene (Long – dirty – polished nails, bad – strong odor, long – inappropriate hair/beard, heavy makeup, excessive jewelry, open wounds)	Personal hygiene elements completely inappropriate.	Personal hygiene elements partially appropriate.	Personal hygiene elements largely appropriate.	Personal hygiene elements completely appropriate.	1	
Hand Washing	Never washed hands.	Washed hands at some necessary times, without soap – too quickly – without scrubbing.	Washed hands with soap at most necessary times but quickly – carelessly.	Washed hands with soap, scrubbing for at least 30 seconds at all necessary times.	1	
Cleanliness and Food Safety	Poor (0) Never	Developing (1) Partially	Good (2) Largely	Excellent (3) Completely	Coefficient	Total
Countertop and Surrounding Area Cleanliness During Work	Never cleaned.	Partially cleaned.	Largely cleaned.	Completely cleaned.	1	
Cross-Contamination	Paid no attention to cross-contamination.	Partially paid attention to cross-contamination.	Largely paid attention to cross-contamination.	Completely paid attention to cross-contamination.	1	
Mise en Place	Poor (0) Never	Developing (1) Partially	Good (2) Largely	Excellent (3) Completely	Coefficient	Total
Preparation of Necessary Equipment on the Countertop	Made no preparations.	Prepared some.	Prepared a large portion.	Prepared all.	1	
Preparation of Necessary Ingredients on the Countertop	Made no preparations.	Prepared some.	Prepared a large portion.	Prepared all.	1	
Knife Skills	Poor (0) Never	Developing (1) Partially	Good (2) Largely	Excellent (3) Completely	Coefficient	Total
Correct Knife Selection	Never used the correct knife.	Used the correct knife for some procedures.	Used the correct knife for the vast majority of procedures.	Used the correct knife for all procedures and products.	1	
Knife Holding Method	Never held the knife correctly.	Partially held the knife correctly.	Largely held the knife correctly.	Held the knife completely correctly.	2	
Claw Grip During Chopping	Never held products with a claw grip.	Held some products / sometimes with a claw grip.	Held most products / generally with a claw grip.	Always used the claw grip.	2	

<b>Time Management</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Time Management	Exceeded the given time by more than 15 minutes.	Exceeded the given time by more than 5 minutes.	Did not exceed the given time.	Completed before the given time.	1	
<b>Proper Use of Equipment</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Correct Cooking Equipment Selection	Never selected the correct cooking equipment.	Sometimes selected the correct cooking equipment.	Mostly selected the correct cooking equipment.	Always selected the correct cooking equipment.	1	
Use of Cooking Equipment	Never used cooking equipment correctly.	Partially used cooking equipment correctly.	Mostly used cooking equipment correctly.	Used cooking equipment completely correctly.	1	
<b>Application of Cutting Techniques</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Cutting Technique 1	Could not apply the cutting technique at all.	Applied the cutting technique partially correctly.	Applied the cutting technique largely correctly.	Applied the cutting technique completely correctly.	2	
Cutting Technique 2	Could not apply the cutting technique at all.	Applied the cutting technique partially correctly.	Applied the cutting technique largely correctly.	Applied the cutting technique completely correctly.	2	
Cutting Technique 3	Could not apply the cutting technique at all.	Applied the cutting technique partially correctly.	Applied the cutting technique largely correctly.	Applied the cutting technique completely correctly.	2	
<b>Use and Cooking of Ingredients</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Pre-processes (washing, peeling, etc.)	Did not perform pre-processes at all.	Partially performed pre-processes.	Largely performed pre-processes.	Completely performed pre-processes.	1	
Correct Cooking Technique Selection	Selected the wrong cooking technique.	Partially selected the correct cooking technique.	Largely selected the correct cooking technique.	Completely selected the correct cooking technique.	2	
Appropriate Heat for Cooking Technique	Never used appropriate heat for the cooking technique.	Partially used appropriate heat for the cooking technique.	Largely used appropriate heat for the cooking technique.	Completely used appropriate heat for the cooking technique.	1	
Cooking Ratio	Cooking ratio completely inappropriate.	Cooking ratio partially appropriate.	Cooking ratio largely appropriate.	Cooking ratio completely appropriate.	2	
Cooking Time	Cooking time completely inappropriate.	Cooking time partially appropriate.	Cooking time largely appropriate.	Cooking time completely appropriate.	1	
<b>Following and Applying the Recipe</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Sequential Application of Recipe Steps	Never followed recipe steps.	Partially followed recipe steps.	Largely followed recipe steps.	Completely followed recipe steps.	2	
Ingredient Quantities	Never used correct ingredient quantities.	Partially used correct ingredient quantities.	Largely used correct ingredient quantities.	Completely used correct ingredient quantities.	2	
<b>Presentation</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Presentation Plate/Equipment Selection	Presentation equipment completely inappropriate.	Presentation equipment partially appropriate.	Presentation equipment largely appropriate.	Presentation equipment completely appropriate.	1	
Presentation Plate/Equipment Temperature	Presentation equipment temperature completely inappropriate.	Presentation equipment temperature partially appropriate.	Presentation equipment temperature largely appropriate.	Presentation equipment temperature completely appropriate.	1	
Placement of Products on Plate	Placement of products on plate completely inappropriate.	Placement of products on plate partially appropriate.	Placement of products on plate largely appropriate.	Placement of products on plate completely appropriate.	1	
Appearance of Products	Appearance of products completely inappropriate.	Appearance of products partially appropriate.	Appearance of products largely appropriate.	Appearance of products completely appropriate.	1	
Overall Presentation Appearance	Presentation completely inappropriate.	Presentation partially appropriate.	Presentation largely appropriate.	Presentation completely appropriate.	1	
Temperature of Products	Temperature of products completely inappropriate.	Temperature of products partially appropriate.	Temperature of products largely appropriate.	Temperature of products completely appropriate.	1	
<b>Taste, Smell, Aroma</b>	<b>Poor (0) Never</b>	<b>Developing (1) Partially</b>	<b>Good (2) Largely</b>	<b>Excellent (3) Completely</b>	<b>Coefficient</b>	<b>Total</b>
Product Taste	Not tasty at all.	Partially tasty.	Good taste.	Excellent taste.	1	
Product Smell	Doesn't smell good at all.	Partially smells good.	Good smell.	Excellent smell.	1	
Product Aroma	No aroma.	Partially aromatic.	Good aroma.	Excellent aroma.	1	

## Limitations and Future Research

This study has several limitations that should be acknowledged. First, the research was conducted with a small sample size consisting of first-year undergraduate students who had no prior professional culinary background. As such, the findings may not be fully generalizable to more advanced students or individuals with industry experience. Second, the scope of the performance task was limited to the preparation of only two specific dishes—Minestrone Soup and Chicken Supreme with Mushrooms, which may not fully represent the breadth of skills required in professional culinary practice. Consequently, the rubric’s applicability to a wider range of culinary techniques and recipe types remains to be tested. Future research should include more diverse and experienced participants and a wider range of culinary tasks to improve the assessment tool’s generalizability and robustness. Performance tasks were designed within a structured instructional period and focused on informative, standardized recipe execution. Researchers intending to use the rubric for alternative dish types or instructional contexts should consider re-validating the rubric and adapting its criteria based on task-specific needs. Also in future research, this rubric should be applied to students from different academic levels to examine its adaptability.

**Ethical Statement:** Prior to this study, ethical permission was granted by the Balıkesir University Social Sciences Ethics Committee on August 27, 2024, with meeting number 2024/08. Should any such circumstance be identified, the Journal of Gastronomy, Hospitality and Travel (JOGHAT) shall bear no responsibility. Full responsibility shall lie solely with the author(s) of the manuscript.

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**Conflict of Interest:** The author declares that there is no conflict of interest

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