

360-Degree Evaluation of Educational Skills of Senior Nursing Students: A Retrospective Study

Son Sınıf Hemşirelik Öğrencilerinin Eğitim Becerilerinin 360 Derece Değerlendirilmesi: Retrospektif Bir Çalışma

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ABSTRACT

Objective: To assess the educational skills of senior nursing students using the 360-degree evaluation method.

Methods: This study retrospectively analyzed the scores of senior nursing students (n = 205) in terms of their educational skill evaluation by the instructor, preceptor, self, and peers. Data were collected retrospectively from the archived student files of the course between August 2022 and October 2022. SPSS for Windows v. 22.0 was used for statistical analysis. $P < .05$ was accepted as the statistical significance level.

Results: Of the students, 90.7% (n=186) were female, and 9.3% (n=19) were male. The mean and standard deviation scores on the education skills evaluation form were found to be 92.88 ± 7.65 for instructor evaluation, 94.67 ± 7.56 for preceptor evaluation, 96.38 ± 10.23 for self-evaluation, and 97.57 ± 8.60 for peer-evaluation. There was a positive and weakly significant correlation between instructor and preceptor evaluations ($r = .352$; $P < .001$), but instructor evaluation did not have a significant correlation with self-evaluation or peer-evaluation ($P > .05$). A positive and moderately significant correlation was observed between self-evaluation and peer-evaluation ($r = .634$; $P < .001$).

Conclusion: The students tend to give higher scores in self-evaluation and peer-evaluation. Therefore, it is recommended that evaluators adhere to established rules and undergo proper training to prevent a lack of agreement in evaluation among raters and ensure a consistent assessment.

Keywords: Educational measurement, clinical competence, nursing education, nursing education research

ÖZ

Amaç: Bu araştırmada, son sınıf hemşirelik öğrencilerinin eğitim becerilerinin 360 derece değerlendirme yöntemi kullanılarak incelenmesi amaçlanmıştır.

Yöntemler: Bu çalışmada, hemşirelik son sınıf öğrencilerinin (n = 205) öğretim elemanı, klinik rehber, kendi ve akranları tarafından eğitim becerileri değerlendirme puanları retrospektif olarak analiz edilmiştir. Veriler, Ağustos 2022 ve Ekim 2022 tarihleri arasında dersin arşivlenmiş öğrenci dosyalarından retrospektif olarak toplanmıştır. İstatistiksel analiz için SPSS for Windows v. 22.0 kullanıldı. İstatistiksel anlamlılık düzeyi olarak $P < .05$ kabul edildi.

Bulgular: Öğrencilerin %90,7'si (n=186) kız, %9,3'ü (n=19) erkektir. Eğitim becerileri değerlendirme formundaki ortalama ve standart sapma puanları; öğretim elemanı değerlendirmesi için $92,88 \pm 7,65$, klinik rehber değerlendirmesi için $94,67 \pm 7,56$, öz değerlendirme için $96,38 \pm 10,23$ ve akran değerlendirmesi için $97,57 \pm 8,60$ olarak bulunmuştur. Öğretim elemanı ve klinik rehber değerlendirmeleri arasında pozitif ve zayıf düzeyde anlamlı bir korelasyon mevcuttu ($r = .352$; $P < .001$), ancak öğretim elemanı değerlendirmesinin öz değerlendirme veya akran değerlendirmesi ile anlamlı bir ilişkisi yoktu ($P > .05$). Öz değerlendirme ile akran değerlendirmesi arasında pozitif yönde orta düzeyde anlamlı bir ilişki olduğu görüldü ($r = .634$; $P < .001$).

Sonuç: Öğrenciler öz değerlendirme ve akran değerlendirmesinde daha yüksek puanlar verme eğilimindedir. Bu nedenle, değerlendiriciler arasında değerlendirme konusunda fikir birliği eksikliğini önlemek ve tutarlı bir değerlendirme sağlamak için değerlendiricilerin belirlenmiş kurallara uymaları ve uygun eğitimden geçmeleri önerilir.

Anahtar Kelimeler: Eğitimsel ölçüm, klinik yeterlilik, hemşirelik eğitimi, hemşirelik eğitimi araştırması



INTRODUCTION

Nursing is a knowledge-based and competency-oriented profession with a dynamic structure to meet the changing health needs of society. The presence of nurses with professional competence is crucial in the context of developing and evolving health service delivery.¹ Nursing education programs are designed and updated to enable students to acquire these competences. In this direction, there is a need for student-centered, standardized, and interdisciplinary evaluation methods.^{2–6} For this purpose, one of the current approaches used in the evaluation of clinical teaching is “360-degree evaluation”, which is also referred to as “360-degree feedback”, “multi-source survey”, and “multi-source rater feedback”.⁷

The 360-degree evaluation is a comprehensive evaluation approach that involves multiple stakeholders in the evaluation process of a student’s clinical teaching, including the students themselves, healthcare professionals, peers, and occasionally those who observe the student during clinical practice, such as patients and their relatives.⁷ This method pertains to the assessment of an individual’s performance by key personnel in the professional environment. In this process, feedback about the individual is collected and communicated to the individual, with the primary goals being the identification of strengths and areas for growth, ultimately leading to enhanced performance.⁸ This allows the learner or individual to gain insight into performance from various perspectives. The strategy of offering complete feedback is valued by students, and the inclusion of self-evaluation enhances students’ learning experience and personal growth.⁹ The involvement of other care team members in the evaluation process serves to promote and foster students’ active engagement in teamwork and shared leadership. Peer evaluation, on the other hand, empowers students to assume responsibility for actively participating in their own learning processes and engaging in collaborative learning. Patient involvement provides a focus on the patient-centered philosophy of care.¹⁰ The feedback from patients can significantly contribute to the improvement of health services.¹¹

The 360-degree evaluation method allows for comprehensive evaluation of students, providing a holistic view of their progress in knowledge, skills, behavior, and attitudes. It facilitates the development of students from a novice level to a state of competency.⁹ The utilization of this evaluation method has become a prevalent approach to assessing professional processes and clinical skills. This approach has the potential to be implemented in the

educational practices of future nurses and is recommended to be integrated into nursing education.^{9,10,12–14}

The 360-degree evaluation is an innovative, motivating, and comprehensive approach to the acquisition of excellence-oriented competencies.¹⁰ In a systematic review, Bayzat and Sarmasoğlu Kılıkçier⁷ determined that the communication skills of medical and nursing students were evaluated most frequently (65.2%) with the 360-degree evaluation.⁷ Other researchers conducted with different evaluator groups have investigated the use of the 360-degree evaluation method in various areas, including the assessment of the leadership skills of delivery room nurses¹⁴, the professionalism and clinical skills of nursing students¹⁵, the clinical judgment/ability of graduate advanced practice nursing students⁹, basic competencies of post-graduate residents¹¹, and clinical ethics in hospitals.¹⁶

The 360-degree evaluation method can be an extremely effective tool in nursing education, considering that students often differ in their communication in the presence of an educator and when communicating independently with their peers, healthcare professionals, and patients.¹⁷ In this context, evaluations from different perspectives have the potential to enhance the accuracy of scores and mitigate the frequency of student complaints, as opposed to relying solely on the subjective judgment of educators.¹⁵ Furthermore, the presence of different evaluators facilitates introspection on one’s own practices, hence fostering the learning process and the growth of the learner in this direction¹⁸, and positive changes can be observed in attitudes and behaviors through this process.¹⁹

The 360-degree evaluation method is widely recognized as a valuable formative assessment tool for facilitating assessment for learning²⁰; however, it is accompanied by many challenges.^{20–22} Several negative aspects can be observed, including a lack of agreement among evaluators^{15,23}, logistical challenges that hinder the model’s optimal functioning, and attitudinal barriers, such as the lack of an evaluation culture.²⁴ Therefore, the successful implementation of this method requires a planned approach with the comprehensive support of faculty members.²⁰

Although studies on the use of 360-degree evaluation in clinical teaching have increased in recent years, there is a scarcity of studies specifically investigating nursing students.^{7,14,15} This evaluation method has been utilized in the evaluation of patient presentation skills in pharmacy.²⁵ However, no study has been found that examined students’ education skills in nursing education from the perspective

of evaluation. Therefore, further research is required in this particular area.

AIM

The current study aimed to examine the educational skills of senior nursing students using the 360-degree evaluation method.

Research questions

The research questions were as follows:

- What is the mean educational skill evaluation score of senior nursing students from each evaluator group?
- Is there a statistically significant correlation between the mean educational skill evaluation scores of senior nursing students, as assessed by different groups of evaluators?

METHODS

This study retrospectively analyzed the scores of senior nursing students ($n = 205$) in terms of their educational skill evaluation by the instructor, preceptor, self, and peers.

Sample

The research population comprised senior nursing students ($n = 279$) enrolled in a Faculty of Nursing during the 2021-2022 academic year. The sample ($n = 205$) consisted of data from students whose forms were entirely completed by four evaluators. Four evaluation forms were used to conduct a comprehensive 360-degree evaluation for every student. In total, 820 (205×4) evaluation forms were analyzed.

Data collection

The Education Skills Evaluation Form (ESEF), which was prepared by the responsible teaching staff of the course in light of the literature²⁶⁻²⁸, received the opinions of seven experts and was content validated, was used to evaluate the training given by the students in the clinical setting. The ESEF a three-point rating scale (sufficient, 4 points; partially sufficient, 2 points; and unsatisfactory, 0 points) and consists of 25 items that assess presentation skills such as gaining attention at the beginning of the training, keeping the learner active during the training, giving feedback, evaluating at the end of the training and using effective presentation techniques. The lowest score that can be obtained from the scale is 0, and the highest score is 100. The clinical training of the senior nursing students was assessed at the same time by four evaluators through the utilization of the ESEF during a presentation, and the scores of students on this form were analyzed.

The course instructors introduced the ESEF to the nurse counsellors at the beginning of the academic year and to the students before they started clinical practice and

trained them on how to evaluate the form. The evaluator lecturers were experts in the field of teaching in nursing who were trained in this field. Data were collected retrospectively from the archived student files of the course between August 2022 and October 2022. The results of the ESEF, which was evaluated separately by the preceptor, the instructor, himself/herself and the peer evaluator during the clinical education of each student, were analysed.

Data analysis

SPSS version 22.0 (IBM Corp., Armonk, NY, USA) was used for data analysis. Descriptive statistics, including numbers, percentages, mean, and standard deviation values, were obtained. Since the data did not show a normal distribution according to the Kolmogorov-Smirnov test, Spearman correlation analysis was undertaken. $P < .05$ was accepted as the statistical significance level.

Ethical considerations

Ethical approval for this study was obtained from the Scientific Research and Publication Ethics Committee of Ege University (Protocol number: 1662, date: October 27, 2022). In order to use the data, permission was obtained from the institution (Date: 08.12.2022, Number: E.976708).

RESULTS

Of the students, 90.7% ($n = 186$) were female, and 9.3% ($n = 19$) were male. The mean and standard deviation values of the mean educational skills scores of the students were determined to be 92.88 ± 7.65 for instructor evaluation, 94.67 ± 7.56 for preceptor evaluation, 96.38 ± 10.23 for self-evaluation, and 97.57 ± 8.60 for peer evaluation. The mean educational skills scores of all evaluators were 95.37 ± 5.82 (Table 1). The highest mean score was obtained from peer evaluation, followed by self-evaluation and preceptor evaluation, and the lowest from instructor evaluation.

Table 1. Mean educational skills scores of senior nursing students ($n = 205$), as assessed by the instructor, preceptor, self, and peers

Evaluator	Min	Max	X $\pm$ SD
Instructor	40	100	92.88 ± 7.65
Preceptor	60	100	94.67 ± 7.56
Self	50	100	96.38 ± 10.23
Peer	50	100	97.57 ± 8.60
Mean score	63	100	95.37 ± 5.82

Min: Minimum; Max: Maximum; X $\pm$ SD: Mean $\pm$ Standard deviation

Upon analyzing the correlation between the evaluators, it was determined that there was a positive and weak-level correlation between instructor evaluation and preceptor evaluation ($r=.352$; $P<.001$) and a positive and very weak-

level correlation between preceptor evaluation and peer evaluation ($r=.142$; $P=.043$). Instructor evaluation did not have a significant correlation with self-evaluation or peer evaluation ($P > .05$). A positive and moderately significant correlation was found between self-evaluation and peer evaluation ($r=.634$; $P<.001$). In addition, the mean educational skills scores of the students had a positive and high-level correlation with instructor evaluation ($r=.712$;

$P<.001$) and a positive and moderately significant correlation with preceptor evaluation ($r=.691$; $P<.001$), self-evaluation ($r=.449$; $P<.001$), and peer evaluation ($r=.465$; $P<.001$) ($P < .05$). Among the evaluators, the highest level of correlation was observed between the self and peers, followed by between the instructor and preceptor (Table 2).

Table 2. Correlation between the educational skills scores of senior nursing students (n = 205), as assessed by different evaluators

Evaluator	Instructor evaluation	Preceptor evaluation	Self-evaluation	Peer evaluation	Mean score of all evaluators
Instructor	$r = 1$	$r = .352$ $P<.001^*$	$r = .111$ $P = .115$	$r = .125$ $P = .073$	$r = .712$ $P<.001^*$
Preceptor		$r = 1$	$r = .053$ $P = .449$	$r = .142$ $P = .043^*$	$r = .691$ $P<.001^*$
Self			$r = 1$	$r = .634$ $P<.001^*$	$r = .449$ $P<.001^*$
Peer				$r = 1$	$r = .465$ $P<.001^*$
Mean score of all					$r = 1$

* $P < .05$; r : Spearman correlation coefficient

DISCUSSION

The 360-degree evaluation method involves the evaluation of skills or competences by more than one evaluator. This study aimed to assess the educational skills of senior nursing students through self-evaluation, peer evaluation, preceptor evaluation, and instructor evaluation. The systematic review conducted by Bayzat and Sarmasoğlu Kılıkçier⁷ revealed that nurses served as evaluators in 95.6% ($n = 22$) of the studies. Apart from these, there are studies in which standardized patients⁹, other healthcare team members¹⁴, and patient relatives¹⁵ performed this evaluation. It has been stated that this method provides faculty members with a comprehensive assessment of students and critical data.⁹ In a study by González-Gil et al.¹⁰, students stated that self-evaluation held the paramount importance among multi-source assessments since it facilitated critical reflection on one's own performance, enabling individuals to identify areas of improvement and strategize potential modifications. In addition, it has been suggested that receiving feedback from colleagues is highly motivating¹⁰ and that peer evaluation is a useful pedagogical strategy in providing formative feedback in teaching students the essential skills of patient presentation.²⁵ In this study, the fact that four different evaluators carried out evaluations at the same time is a strength of the study. In addition, the evaluators are similar to those found in the studies in the literature.

In this study, the students obtained the highest mean educational skills scores from peer evaluation, followed by self-evaluation and preceptor evaluation, and the lowest from instructor evaluation. Upon reviewing the existing literature, it has been ascertained that the students attained the highest scores from evaluations conducted by their peers^{21,29}, and while the nurses gave the students relatively high scores, the instructors provided the lowest scores.^{15,30} In another study, it was found that self-evaluation yielded the highest total mean scores in the assessment of clinical skills, and this was followed by peer evaluation and subsequently clinical instructor evaluation.²⁹ In this context, it is consistent with the literature that there were inter-rater differences in this study and that students tended to give more points to themselves and their peers. In addition, the instructors' scores had the lowest mean of the four evaluators, similar to the literature. The meticulous evaluation of the instructors may be due to the importance of training competent nurses.³¹

In this study, it is seen that the highest level of correlation among the students' educational skills scores was between self-evaluation and peer evaluation, followed by instructor and preceptor evaluations. However, no significant relationship was found between instructor evaluation and self-evaluation or peer evaluation. Hemalatha and Shakuntala¹⁷ also reported that different evaluators made

different evaluations, and there was no correlation between certain evaluators.¹⁷ In another study, a significant, positive correlation was found between patient relative evaluation and self-evaluation, and there was a non-significant correlation between nurse and instructor evaluations.¹⁵ Similar to the literature, in the current study, a lack of agreement was detected among the evaluators. While instructors have difficulties using this method, it also provides an approach that offers a fair, consistent, more realistic, and objective assessment of clinical competence for students.^{9,32} In the literature, it has been stated that the instructors' lower evaluation scores when compared to other evaluators can be attributed to their more careful and meticulous observations.¹⁵ Furthermore, one possible explanation for this discrepancy or difference in scores may be the tendency of students to exhibit generosity while assessing both themselves and their peers. A study by Rahimi et al.³⁰ highlighted the importance of combining different perspectives to achieve a more comprehensive and balanced assessment, as perspectives between students and instructors could affect assessment outcomes.

The use of the 360-degree assessment method can be used as a comprehensive, appropriate and effective method for clinical courses as it positively encourages students' clinical performance self-efficacy.³¹ Given the observed variations in ratings across evaluators, self-evaluation and peer evaluation can be used as complementary methods to the evaluation of instructors in measuring the clinical performance of students.²⁹ This method is recommended for use with nursing students as it can lead to improvements in the quality of patient care and contribute to better outcomes in both education and patient care.³⁰ Berk³³ also emphasized the need for clear, understandable, meaningful, and appropriate guidelines for the rating of instructors and administrators in order to interpret the results in an accurate, fair, and equitable manner and to provide sensitive and appropriate feedback. In the current study, all evaluators were informed about the evaluation, completed the evaluation at the same time using the same form and rated the training skills they observed. In this context, it is thought that this evaluation method can play an important role in ensuring equal and fair assessment.

Limitations

One of the limitations of this study concerns its retrospective design, which restricted the examination of data pertaining to the entire population under investigation. Nevertheless, the sample size was large, and a comprehensive review of existing literature has not yielded any prior research examining the evaluation of student nurses' educational competencies through the

360-degree evaluation method. Lastly, the data of the study being limited to one nursing faculty resulted in a limitation concerning the generalization of the findings obtained.

In this study, a multi-source evaluation of nursing students' educational skills was undertaken using the 360-degree evaluation method. It is important to afford students the opportunity to participate in the evaluation process, as doing so can enhance their engagement, motivation, performance, and academic achievement within the instructional setting. In this context, the 360-degree evaluation approach can be integrated into nursing education programs to allow for the evaluation of many competencies, including teamwork, communication, and problem-solving, by different evaluators, such as patients, other healthcare professionals, and standardized patients. However, since the students tend to give higher scores in self-evaluation and peer evaluation, it is recommended that evaluators adhere to established rules and undergo proper training to prevent a lack of agreement in evaluation among raters and ensure a consistent assessment. Furthermore, it is advisable to conduct empirical studies that employ the 360-degree evaluation approach as a formative assessment tool, followed by the observation of subsequent modifications in students' skills.

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Bilgilendirilmiş Onam: Çalışmanın retrospektif tasarımı nedeniyle veriler daha önceden kaydedilmiş olduğu için katılımcı onamı alınamamıştır. Tüm veriler gizlilik ve anonimlik ilkelerine uygun olarak analiz edilmiştir.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir- FO, NÖ, GÇ, CPA, YT; Tasarım- FO, NÖ, GÇ, CPA, YT; Denetleme- İD; Kaynaklar-; Veri Toplanması ve/veya İşlemesi- FO, NÖ, GÇ, CPA, YT; Analiz ve/veya Yorum- GÇ, CPA, YT; Literatür Taraması- GÇ, CPA; Yazıyı Yazan- FO, NÖ, GÇ, CPA; Eleştirel İnceleme FO, NÖ, YT

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