

## **SPECIFIC COMPETENCIES OF STUDENT TEACHERS: IDENTIFICATION OF PROFESSIONAL EDUCATIONAL NEEDS**

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### **Abstract**

This study aimed to explore how student teachers assess the extent of their acquired specific competencies during their studies (acquired competencies) and their need for further acquisition of these competencies (necessary competencies) and to determine the relation between their achieved success in the chosen field of study and their real educational needs. Teachers' competencies are one of the determinants of orientation and readiness for professional learning and development, and self-assessment of competencies acquired during studies is an indicator of the quality of the study programme. The research focuses on identifying and analysing the educational needs of student teachers based on a self-assessment of their acquired and necessary specific competencies in the areas of learning and teaching, classroom management, assessment, inclusion and community action. The questionnaire was developed based on the theoretical construct of the Global Teachers' Key Competences Framework (TKCOM (2018)), which consists of 28 items. The study was conducted on a purposive sample of N=26 student teachers in their final year of teacher education at the Faculty of Teacher Education, University of Rijeka, Republic of Croatia. The results of the descriptive analysis made it possible to measure educational needs from two aspects: acquired and necessary specific competencies. On average, student teachers assessed their acquired competencies higher in the area of learning and lesson planning and lower in the areas of inclusion and community action. Student-teachers' self-assessed competencies indicate a pronounced need for further acquisition of specific competencies to a very high degree in all competence areas. The identified educational needs relate in particular to supporting students with difficulties and gifted students during the learning and teaching process, as well as to cooperation and collaboration with families, professionals, the school and the community. The results show that prospective teachers must acquire competencies to respect students' diversity and interculturality, provide them with equal educational opportunities and build effective relationships with families, colleagues and other community organisations. The results are valuable indicators of student-teachers' educational needs in the area of specific competencies as a first step in the methodological process of improving the teacher education programme. In addition, the results form the foundation for developing a curriculum for continuing professional development/learning based on the analysis of professional development needs, conditions and opportunities as critical factors for improving teachers' specific competencies.

**Keywords:** *Student teachers, educational needs, specific competencies, competence dimensions, professional development.*

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### **1. Introduction**

One of the fundamental questions that should be continuously asked and answered is: Why is it important to research educational needs in the area of teachers' professional competencies? The Republic of Croatia, like other countries, is undergoing significant changes in its educational landscape. Teachers are responsible for expanding the boundaries of professional knowledge and systematically engaging in continuing professional development (Čepić et al, 2019). Teachers' competencies are one of the determinants of orientation and readiness for professional learning and development, and self-assessment of competencies acquired during university studies is a kind of indicator of the quality of the study programme. There are different competence models, and according to the Global Teachers' Key Competencies Framework (TKCOM, 2018), key primary education teachers' competencies are organised into two main types: specific and cross-curricular. The specific competencies that are explored in this paper according to this theoretical model are classified as characteristic of the teaching profession, while cross-curricular competencies is understood as a competence that is necessary for the comprehensible development of the individual, that is, it provides learning that is necessary in all professional fields

(p. 7). In her analysis of the approaches to the research of educational needs, conditions, and opportunities and their relationship as the most critical factors for the planning of teachers' professional development, Čepić (2020) calls for their continuous research and curriculum planning for teachers' professional development based on the obtained findings. As Čepić and Pejić Papak (2021, p. 97) emphasised, "Raising the quality and efficiency of education depends on teachers' professional development – initial education and continuing professional development – and requires the highest level of professional competence that a teacher can achieve." The continuous development of teachers' competencies is necessary "because only a competent teacher can develop the competencies that the students will need to integrate themselves and successfully engage with their environment" (Blanuša Trošelj et al., 2021, p. 75).

With this in mind, this paper aims to explore how student teachers assess the extent of their acquired specific competencies during their studies (*acquired competencies*) and their need for further acquisition of these competencies (*necessary competencies*) and to determine the relation between their achieved success in the chosen field of study and their real educational needs. On average, student-teachers are expected to provide higher assessments for each examined statement when assessing the need for further acquisition of specific competencies than when assessing the level of acquired specific competencies during their studies. Also, there is expected to be a connection between the students' socio-demographic characteristics (success in studies) and the participants' educational needs, whereby students with lower success in studies will express more significant educational needs.

## 2. Methodology

### 2.1. Participants

This pilot study included (N=26) student-teachers (all female, age range 22 to 28 years, M=23.44, SD=1.15) who were enrolled in their final academic year of teacher education studies at the Faculty of Teacher Education, University of Rijeka, Republic of Croatia. In this convenient sample, 73% (N=19) of student-teachers graduated from grammar school, and 27% from secondary vocational school before enrolling in the studies. For 46% (N=12) of participants, Teacher Education studies were the first choice when enrolling in tertiary education, and for 54% (N=14), it was not the first choice. The achieved average of student-teachers' success in the studies was (M=4.27, SD=0.37), with (min=3.4, max=5.0).

### 2.2. Instrument for data collection

A questionnaire was developed based on the theoretical construct of the Global Teachers' Key Competences Framework (TKCOM, (2018, pp. 7-10). The competencies which have been classified as specific are characteristic of the teaching profession and include the following five areas: Planning (Teaching practice – innovative, varied and dynamic tasks/Knowledge of the pedagogical content), Classroom Management, Assessment, Inclusion (Inclusive attitude), and Community Action (Cooperation and collaboration with families). Based on each area's descriptive elements, a questionnaire consisted of two columns with 28 identical statements. For each item, student-teachers assessed on a 5-point Likert scale (from 1 – *not at all* to 5 – *very much*) to what extent they have acquired competencies in the mentioned areas during their studies (first column) and their need for further acquisition of competencies in the mentioned areas (second column). We relied on the functionalist approach to examining educational needs (Čepić, 2020; Čepić & Tatalović, 2021), according to which educational needs are considered as a measurable difference between the existing and the desired or necessary state. This covered the first dimension of the examination of educational needs at the empirical level, which consists of identifying the level of (inadequate) satisfaction of the participants' educational needs and the second dimension of the examination of educational needs at the empirical level, which is a self-assessed need for further acquisition of competencies with regard to each specified area (aspiration level). The two parallel columns were created to measure educational needs by calculating the difference between the participants' answers in the "I have acquired" column and the "I need" column. In this way, educational needs are operationally determined and represent the foundation for further consideration and analysis of the researched problem (third column in Table 1). Each specific competence assessment was calculated as the mean value of the corresponding statements. This paper presents part of the research results on descriptive and correlational analyses of self-assessed specific student-teacher competencies. The following research stage involved determining the basic metric characteristics of this instrument and whether this questionnaire, based on the theoretical construct TKCOM (2018), can be generalised to the Croatian educational context.

### 2.3. Procedure and Data Analysis

Before conducting the study, we explained the purpose of the study to the participants and asked them to participate, explaining that they could withdraw from the research at any time. Data were collected via an online questionnaire through the open-source tool LimeSurvey at the beginning of February 2024. The survey was group, voluntary, and anonymous, and it was conducted at the end of the first semester of the final year of Teacher Education studies in an IT classroom. Descriptive and correlational analyses were carried out with SPSS 24. In the statistical data processing, a descriptive statistical analysis was applied to assess student-teachers' acquired and necessary competencies and Spearman's correlation coefficients to examine the relationship between student-teachers' success in studies and their educational needs.

### 3. Results and discussion

Table 1 shows the descriptive data regarding the assessment of the specific competencies acquired during the study programme, the need for further acquisition of these competencies and the real educational needs.

*Table 1. Descriptive statistics for the assessment of student-teachers' acquired and necessary competencies and educational needs.*

CODE	STATEMENT	M <sub>1</sub> (SD <sub>1</sub> )	M <sub>2</sub> (SD <sub>2</sub> )	M <sub>3</sub> (SD <sub>3</sub> )
SC_23	Support students with learning, behavioural, emotional or socio-economic difficulties and gifted students in the learning and teaching process.	2.923 (1.164)	4.615 (0.804)	1.704 (1.589)
SC_27	Collaborate with other organisations in the community and the school environment and foster the relationship between the school and its environment.	3.077 (1.197)	4.423 (0.758)	1.407 (1.338)
SC_21	Plan teaching and assessment to meet students' needs, taking into account their different origins, abilities, interests, families and communities.	3.577 (0.987)	4.500 (0.762)	1.000 (1.414)
SC_26	Collaborate with colleagues to recognise the diverse needs of students and provide support that is aligned with the principles of inclusive education.	3.538 (1.174)	4.385 (1.098)	0.889 (1.695)
SC_20	Respect student diversity and interculturality by providing equal educational opportunities.	3.615 (1.134)	4.346 (0.977)	0.852 (1.725)
SC_19	Inform parents about assessment results and their children's progress and difficulties in the learning process.	3.538 (1.272)	4.269 (0.962)	0.815 (1.798)
SC_24	Involve the family in educational activities and decision-making for the progress and well-being of their children.	3.500 (1.334)	4.269 (0.874)	0.815 (1.688)
SC_11	Encourage the teaching practice in the classroom context, according to the learning situations, to create opportunities for accidental learning and intrinsic motivation.	3.654 (1.056)	4.385 (0.941)	0.741 (1.430)
SC_18	Adapt assessment strategies to the different characteristics of students.	3.808 (1.021)	4.385 (0.941)	0.556 (1.450)
SC_28	Participate in the school's planned educational activities.	3.885 (1.211)	4.269 (1.185)	0.407 (1.907)
SC_22	Encourage autonomous learning by overcoming barriers to achievement.	4.038 (0.916)	4.154 (1.255)	0.259 (1.873)
SC_10	Manage group dynamics in the classroom that fosters inclusiveness and overcoming conflicts in a constructive way.	4.000 (0.894)	4.192 (1.059)	0.185 (1.520)
SC_17	Provide effective verbal and written feedback to students on the achievement of learning outcomes.	4.038 (0.871)	4.192 (1.059)	0.148 (1.379)
SC_25	Develop a professional, collaborative relationship to work with colleagues.	3.885 (1.366)	3.962 (1.371)	0.111 (2.025)
SC_15	Use summative assessment that contributes to ensuring the quality of the learning and teaching process.	4.077 (0.796)	4.038 (1.148)	0.074 (1.615)
SC_16	Use of different assessment methods, strategies and tools.	4.231 (1.032)	4.308 (1.123)	0.074 (1.639)
SC_08	Facilitate students' experiential learning through the application of curriculum principles (understanding specific areas of teaching subjects, research, collaboration and communication).	4.038 (0.871)	4.000 (1.058)	0.000 (1.074)
SC_13	Evaluate applied organisational and didactic approaches that differ from traditional classroom approaches.	4.038 (0.871)	4.000 (1.265)	-0.037 (1.652)
SC_14	Use formative assessments to improve the learning and teaching process.	4.038 (0.916)	4.115 (1.143)	-0.037 (1.506)
SC_02	Encourage creative problem solving.	4.231 (0.514)	4.115 (1.243)	-0.111 (1.368)
SC_01	Identify student needs to select methods and strategies of learning and teaching that contribute to the achievement of educational outcomes.	4.192 (0.694)	4.038 (1.113)	-0.111 (1.396)
SC_07	Implement the basic didactic-methodical knowledge of the teaching profession at the appropriate teaching level and programme by linking and integrating teaching topics.	4.192 (0.801)	4.077 (1.017)	-0.111 (1.34)

SC_03	Use of resources and didactic materials that support profound learning/deep learning.	4.038 (1076)	3.885 (1.177)	-0.148 (1.725)
SC_09	Develop collaborative relationships based on trust (teacher-student and student-student).	4.269 (0.874)	4.038 (1.280)	-0.222 (1.601)
SC_06	Consider students' prior knowledge to plan learning and teaching strategies that support quality learning.	4.154 (0.732)	3.885 (1.366)	-0.259 (1.583)
SC_04	Introduce innovations into own teaching practice (e.g. new methods, multimedia, etc.).	4.269 (0.667)	3.962 (1.148)	-0.296 (1.564)
SC_12	Organise space, time and forms of work to promote student learning, interaction and communication	4.192 (0.939)	3.885 (1.336)	-0.296 (1.683)
SC_05	Encourage students to actively participate in the learning and teaching process.	4.500 (0.762)	3.923 (1.262)	-0.556 (1.553)

**Legend:** CODE: Specific Competence (SC1-28); DIMENSIONS: Planning (SC1-SC8); Classroom management (SC9-SC13); Assessment (SC14-SC19); Inclusion (SC20-SC23); and the Community Action (SC24-SC28).; M1 –acquired competencies; M2 – necessary competencies; M3 - real educational needs

Average assessments of existing specific competencies varied from 2.923 to 4.500, with the lowest average score for supporting students with disabilities and gifted students and the highest for encouraging active student participation in the learning and teaching process. In most cases, the average assessment results were above the value of 3.500, except for the areas of inclusion and cooperation with different organisations/associations/institutions from the community. Although the average assessments are somewhat lower for the mentioned statements, overall, the statements for the acquired competencies were high to very high for all areas. These findings provide insight into the perception of student-teachers about the competencies acquired during their studies and indicate a generally high degree of satisfaction with acquired competencies, except in the areas of inclusion and community action.

The results of the average assessment of the needs for further improvement of competencies varied between 3.885 and 4.615, with the highest assessed needs being related to support for students with difficulties and gifted students. Although it was expected that student-teachers would assess a higher level of the need for further improvement of competencies than the level of acquired competencies during their studies, the results showed the opposite. Specifically, in the areas of planning, classroom management, and assessment, students assessed that they have achieved a higher level of competence than what they think warrants further training. This discrepancy between the perceived level of acquired competencies and the assessed needs for further training provides an important insight into their perception of their own competencies and needs for professional development.

The results of the assessment of real educational needs indicate needs in the field of Inclusion (SC\_23, SC\_21, SC\_20) and Community Action (SC\_27 and SC\_26). Although it was expected that student-teachers would give a higher average assessment for each examined area when assessing the level of the need for further acquisition of specific competencies than when assessing the level of acquired specific competencies during studies, this was not confirmed with the overall area of Planning (SC 1-8), on statements SC\_13, SC\_09, SC\_12 from the area of Classroom Management, and on statement SC\_15 from the area of Assessment. Namely, student-teachers assessed the level of specific competencies acquired during their studies as higher than the expressed need for further acquisition of competencies. Interestingly, in the study conducted in Latvia (Āboltiņa et al., 2024), students self-assessed their competencies of learning process planning relatively high, based on which it could be concluded that future teachers have sufficiently developed the competencies mentioned above. However, as pointed out in the study, “focus group participants pointed to the fact that this evaluation could be misguided; many teachers start to work in school parallel to their studies, and therefore their views on lesson planning could be based on their experiences as students rather than the latest research findings” (pp. 3-4). In the Croatian educational context, teachers start working after obtaining a master's degree in primary education; hence, the results cannot be interpreted in the manner mentioned in the previous study, and the views on acquired competencies during studies could be based on their experiences during school and methodical practice. In order to help students in modern teaching to learn independently in the process of active learning, an environment must be provided in which “teaching is characterised by a stimulating classroom atmosphere, where the teacher has positive attitudes towards students’ success and adapts learning activities to fit student abilities and interests” (Pejić Papak et al., 2021, p. 503).

The correlation analysis (Spearman's correlation coefficients) has shown that success in studies is negatively related to most educational needs, which means that the higher the success in studies, the lower the educational needs in most cases. In short, students achieving greater academic success often demonstrate a greater need for active participation, experiential learning, collaborative relationships, and creative problem-solving in class. Considering the values of the correlation coefficient ( $\rho$ ), which are between -0.410 and -0.501, the correlation can be described as medium to strong. The results suggest a significant relationship between success in studies and educational needs, which means that students with higher success in studies are often less inclined to express specific educational needs.

#### 4. Conclusions

On average, student-teachers assessed their acquired competencies higher in the area of learning and lesson planning but lower in areas such as inclusion and community action. Their self-assessment highlights a significant requirement for further developing specific competencies across all areas. The identified educational needs primarily revolve around supporting students with diverse needs, including those who face challenges and those who are gifted, throughout the learning and teaching process. Additionally, there is a need for improved collaboration with families, professionals, the school, and the broader community. The findings underscore prospective teachers' need to acquire competencies in respecting student diversity, promoting intercultural understanding, ensuring equal educational opportunities, and fostering effective relationships with families, colleagues and community organisations. Correlation analyses indicate that students achieving higher academic success also exhibit fewer educational needs, particularly in the area of planning. These results serve as valuable pointers to the educational requirements of student teachers concerning specific competencies, marking the initial phase in enhancing the methodology of teacher education programmes. The limitation of this pilot study is its small sample. However, the results have revealed valuable findings for identifying and analysing educational needs as the first step in the methodological process of developing the curriculum of student-teachers' continuing professional education. These findings are essential for everyone who participates in the process of lifelong teacher training in order to create higher-quality curricula by introducing different forms of education (for example, micro-qualifications, lifelong learning programmes, etc.) that acquire new and improve existing specific competencies.

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