

Competencies of the Special Education Student Teachers: A Systematic Review

¹Sabereh Bazrafshan, ²Esmail Zaraii Zavaraki, ³Parviz Sharifi Daramadi, ⁴Ali Delavar

Abstract

Special education of student teachers require highly specialized competencies to get prepared to teach the students with special needs and to predict and cope with problems that may occur during their work. This study explored the definition and domains of special education student teachers competencies. This study was a systematic review of special education of student teachers ' competencies in English databases (2000-2020). A comprehensive search through multiple known databases identified a dataset of 112 papers from which 23 papers were retrieved in the final step. Individual, social, ethical, methodological and professional domains were defined as belonging to special education student teachers' competence. Moreover, factors affecting the development of the competencies were identified. Although, the competencies and its domains vary by culture and across countries, this systematic review demonstrated the comprehensive ones in these scopes.

Keywords: Competency, Student, Teachers, Special, Education Needs, Training, Base Competency, Development Competency

I. Introduction

Teaching is a uniquely difficult job, one that comes with a set of huge responsibilities. Various disabilities of the students with whom special education teachers` work, multiplies the job`s difficulty. Special education teacher has a higher rate of burnout than is found in most other professions. While a special education teacher may start the career with the intention of helping disabled students become productive members of society, they face several challenges that make the task extremely difficult not only in teaching and managing their students, but also while handling the paperwork and making sure that accommodations and modifications are being met in the classroom.

Teaching special education does not stop at just teaching a resource class or helping out as an inclusion teacher. As part of the job, special education teachers are responsible for a caseload of students. While children in general, need plenty of love and attention from their parents and teachers, children with special needs are most

¹ Department of Educational Technology, Faculty of Psychology and Educational Sciences, University of Allameh Tabataba'i, Tehran, Iran

² Department of Educational Technology, Faculty of psychology and educational sciences, Allameh Tabataba'i, Tehran, Iran

³ Department of Psychology of Exceptional Children, Faculty of psychology and educational sciences, Allameh Tabataba'i, Tehran, Iran

⁴ Department of Deliberation and Measuring, Faculty of psychology and educational sciences, Allameh Tabataba'i, Tehran, Iran

benefited by people whose personality traits enhance the learning process. Both passion and concern for children with special needs are necessary to be a good special education teacher.

Another common challenge with teaching special education is dealing with the behaviors of students. Many students with disabilities get frustrated with school. Whether it is not understanding material or dealing with emotions they have trouble in controlling, these students can be a challenge for their teachers. Every student is different, and what works with one student may not work with another. It is imperative that teachers become knowledgeable about the unique and individualized needs of all students. Teacher preparation programs must present and assess knowledge, provide examples of differentiated instruction, and then promote necessary individual adaptation methods and practice opportunities in these skills. They should play an important role in developing new competencies in quality improvement programs for children with special educational needs (Christine M. Taylor, 2008).

Some of the most important challenges of the special education teacher include: Non-Instructional Responsibilities, the difficulty of discipline in a special needs classroom, shortages of essential resources and Organizational skills, lack of Support ,Special education teachers are largely unrecognized and unsupported by the public and Intuition(Nancy Maynes,2015).

Whether the child is dyslexic, physically or mentally handicapped or has some auditory learning disabilities or other injuries, students may be incapable of expressing their feelings or communicating their needs. The special education teacher will need to be intuitive and involved so that any students' needs can be foreseen and addressed even when students lack the ability to tell you about them themselves, any one of these challenges would make the work of a special education teacher incredibly difficult (Zhu, Chang; Wang,2013).

Teaching special education can sometime be felt like a thankless and tiresome job. However, overcoming the challenges of the job and helping students with disabilities may help them reach their full potential and accomplish their goals which will make the effort worthwhile; therefore, anyone seeking to go into this area of teaching should be aware of what they will face and have the mental and emotional fortitude to overcome the challenges in order to improve the prospects of their students. The urgency of adequate special education teaching competencies in changing and improving function is evident (Cevriye Ergul& etc. 2013).

On the other hand, today, the expectations of teachers have generally changed. The fundamental premise of teachers as the 'conduit of knowledge' is no longer valid. For example, focusing have been mostly on the role of the teacher as more of a facilitator, guide, mentor and coach. This is an important part of the current issue, but it needs to go deeper than that (Paul Vare& etc 2019. & Jonathan Chitiyoo, Wayne Brinda 2018 Mara H. Wasburn& etc 2010). Teachers are now expected to meet the social and emotional needs of a diverse learner population, rapidly implement ever-evolving pedagogical practices, deal with major structural changes in learning environments, and do all of this more collaboratively (Li Feng ,Tim R. Sass 2012, A.K. Kulshrestha, Kshama Pandey 2013, Paola Dusi,2017). Technology has changed the nature of human capabilities and capacities. Added advances in technology mean that many of the instructional roles of teachers are being challenged. As aspects of the teaching role become more automated, teachers must have a stronger emphasis on building capabilities across the key

competencies such as collaboration, communication, critical thinking, and Problem solving abilities and making quick decisions. (Pauline Swee Choo Goh & etc.2017& Meryem Ucar Rasmussen 2018).

According to these cases, student teachers require highly specialized competencies to be prepared to teach the students with special needs and to predict and cope with problems that may occur during their work (Conley, Sharon; You, Sukkyung 2017).

The most effective way to be sure that students acquire competencies is to integrate the teaching of those skills into course curricula in a holistic approach and teach knowledge and essential skills together, also it is important to assess the competencies that are essential for the professional role of special education teachers to prepare them for future professional duties. However, extensive review of the literature showed that the definition of special education student teacher's competencies, its dimensions, and factors affecting competency development were obscure. The purpose of this systematic review was to explore the definitions, domains, and factors affecting competency development of special education student teachers; it was sought to answer the following questions:

1. What are the key competencies of special education student teachers?
2. What are the domains of special education student teachers' Competencies?
3. What are the factors affecting competency development of special education student teachers?

II. Methods

This systematic review was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations (Moher et al. 2009).

Search Strategy

To identify relevant studies, seven databases such as ERIC, Scopus, Pro Quest, Web of Science, Wiley online library, Science Direct and, Psyche INFO were searched. The search was conducted in September 2018 and it was further updated in November 2019. A manual search was conducted using Google Scholar to include grey literature such as Reports into the dataset.

The study was built using a combination of keywords in the domains of a) Competency Approach b) Competency Model c) Special education student teacher d) Special education teacher. e) Keywords included teacher training, professional competency of special education student teachers, pre-service teachers, peer coaching, teaching ability, pedagogical competence, special education, competency-based education, Competency Model of Teachers , Competency Model of student/student teachers, innovative teaching, Effective Professional Development, novice teacher competence, Special Education Programs, Field Competencies, Competency Approach, Competency Model, Teacher Competencies and Skills, Student Teacher Competencies and Skills, Student Competencies for Exceptional Children. In addition to the database query, a direct manual search was conducted in the following journals: Journal of Research in Educational Psychology, international Journal of School & Educational Psychology, Teacher Training

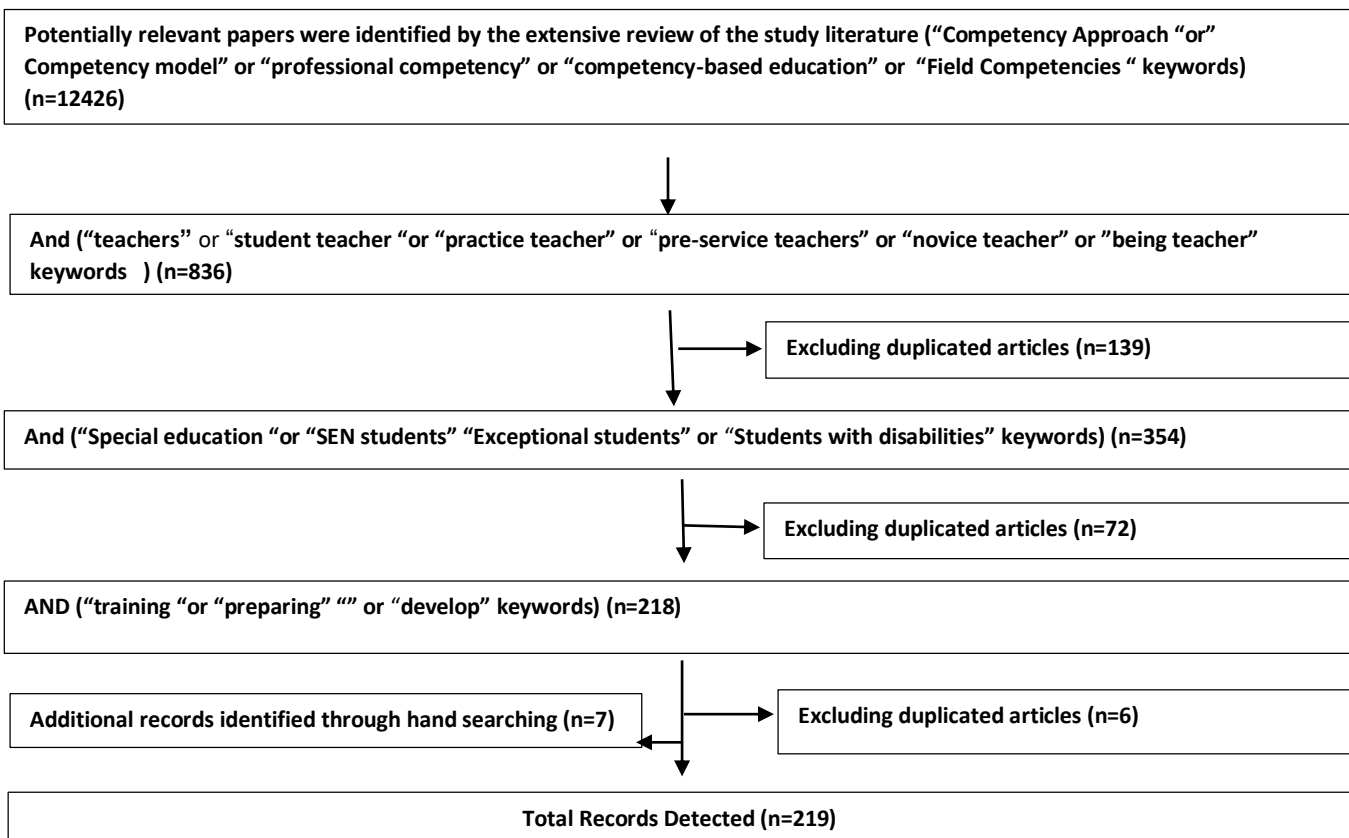
and Achievement of Students with Disabilities, Teacher Education and Special Education, Research in Special Educational needs, Social and Behavioral Sciences, Competency-Based Education. These journals were selected as their publications contained the highest number of results in our bibliography and digital library search. To identify additional studies, reference lists of full text reviews and Google Scholar were manually performed to address the educational aim of the study. Moreover, keyword stems of “inclusive education”, and “inclusive school” were added.

Setting the Inclusion and Exclusion Criteria

The inclusion criteria for articles were publication from 2000 to 2019 written in English language; Peer-reviewed published journal articles, conference proceedings, and doctoral dissertations were included, but original researches such as editorials, article book reviews and book chapters were excluded. Electronic publication with a formal peer-review process; congruency between the topic of the article and the study questions and purpose; application of different aspects of Competencies of Special education student teachers/ competency of Special education teachers and Preparing Student Teachers based on Competence approach were included . That is, studies assessing the use of Competency Approach without a direct focus on the Competencies of Special Education Teachers/student teachers and without a direct focus on special education teachers based on the competency approach were excluded.

Combination of Information Derived from Retrieved Articles

Information derived from the retrieved articles regarding the study questions and purpose were combined in this step. Figure 1 demonstrates the flow diagram of the article selection.



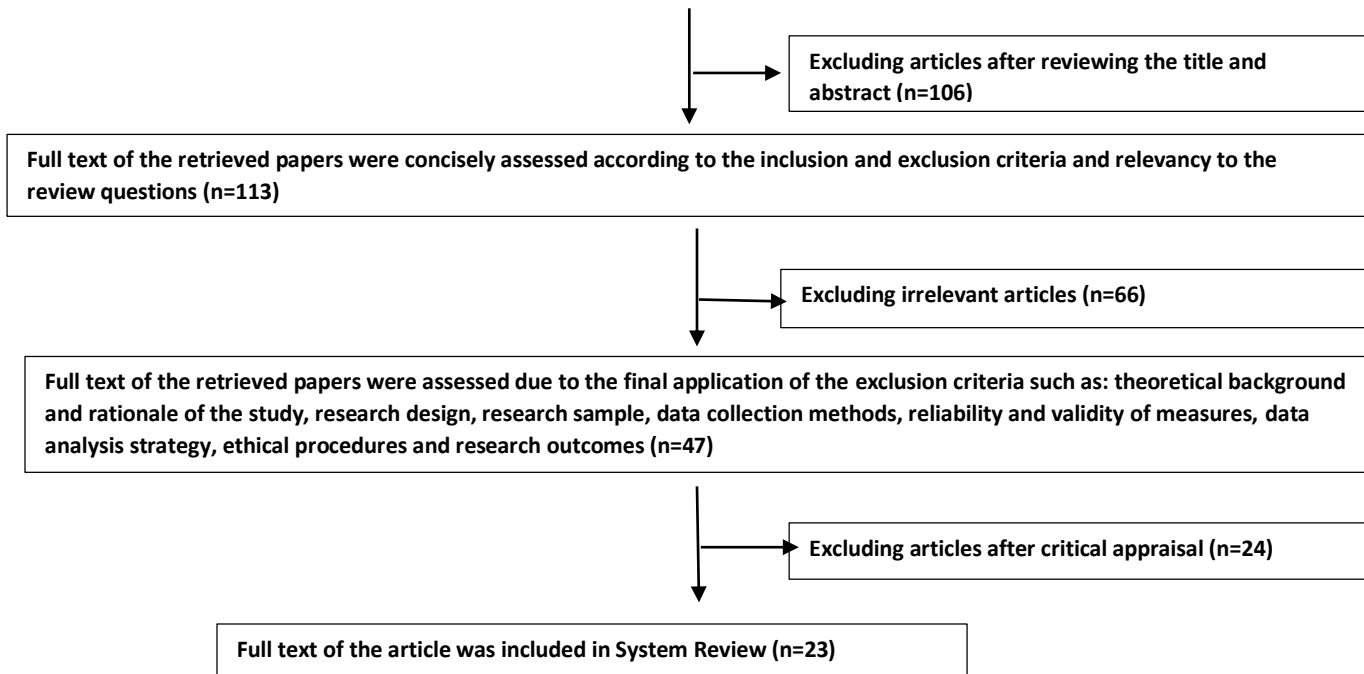


Figure 1. Flow diagram of articles` selection

III. Results

The selection process has been outlined in Table 1. A total of 113 articles were identified using the noted search strategies. Having screened the titles and abstracts, it was revealed that 28 articles had not focused on the competencies of special education student- teachers/ teachers.14 articles had not focused on preparing special education student- teachers based on the competency approach.18 articles were not original researches. Full-text of 4 articles was inaccessible and in 2 articles, the studies had discussed or mentioned competencies of teacher but something else had been evaluated. Therefore, these articles were excluded during the initial analysis.

Table 1. A total of 113 articles were identified

Row	Reason for exclusion	No.
1	Not focused on competencies of special education student- teachers/ teachers	28
2	Not focused on preparing special education student- teachers based on the competency approach	14

3	Studied articles discussed or mentioned competencies of teacher but evaluated something else. Therefore, these articles were excluded during the initial analysis.	2
4	Articles were not an original research.	18
5	Full-text of articles was inaccessible.	2
		Total=66

Although 47 articles were selected for full-text review, 24 articles were excluded by the first author and his research assistants due to the final application of the exclusion criteria such as: theoretical background and rationale of the study, research design, research sample, inclusion and exclusion criteria, data collection methods, reliability and validity of measures, data analysis strategy, ethical procedures and research outcomes. Finally, 23 eligible articles were selected for the synthesis.

Data Extraction

The full text of the articles was investigated after checking the quality of the articles. Information from the included articles in the systematic analysis was extracted using standardized forms and entered into Microsoft Excel. Only 23 articles were retrieved in the review process. Table 2 presents the final 23 studies that were selected for the review, following the critical appraisal.

Quality Assessment of Studies

The included studies were also evaluated in regard to their quality. The checklist developed by Batten and colleagues (2014) was used for undertaking a quality assessment. The adopted checklist consisted of 45 questions with the answers to each question being yes = 2, partial = 1, and no/don't know = 0. Some 29 questions on the checklist targeted quantitative-based methodologies; some forty questions addressed qualitative based methodologies; all of the questions could be applied to mixed designed research. Upon assigning numerical codes corresponding to yes/no/don't know categories for each item in the checklist, the sum of the points were converted to a percentage to enable cross-study comparisons. The included studies were also evaluated in regard to their quality. Studies listed in Table 2 fell within the quality range of 48.5% to 88.7%. Average quality of all the included studies was 66.73. The percentage of all included articles have been mentioned in (Table 2).

Table 2. The percentage of all included articles

Author and year of	Country	Study Desig	Participa nts	tool	Main Results	Conclusion	Theme	Quali ty
---------------------------	----------------	--------------------	----------------------	-------------	---------------------	-------------------	--------------	-----------------

publicatio n		n						
Meryem UçarRasm ussen 2018	Turkey	mixed	20 subject teachers in Special Education Schools	interview	Three respective ranking areas of lack in requirement s	The results showed that the subject teachers in this study did not possess adequate knowledge about the students' different disabilities and their characteristics. It prevented the subject teachers from teaching children with special needs efficiently.	1. Teacher knowledge, 2.Classroom materials, tools and equipment 3. Training, management and peer support.	88.7 %
Cevriye ERGÜLa ,Berrin BAYDIK b, Şeyda DEMİR,2 013	Denmark	mixed	107 special education teachers and 160 seniors in the undergrad uate special education	the Special Education Teacher Program Field Competenci es Scale were used	TGUSEP found themselves incompeten t in the 6 areas.	The results of the study suggested that special education teacher training programs must be improved by carefully evaluating the needs of the pre- and in- service teachers. more courses on autism should be included in special education teacher trainings.	TGUSEP found themselves incompetent in the areas of1. Teaching reading and writing, 2. Speech-language and3. Autism .4.speechlanguage, 5. problem behaviors 6.classroom management,	65.8 %
Biggs, Elizabeth E.;Gilson, Carly B.; Carter, Erik W2019	US	QL	total of 22 teachers and paraprofes sionals	conducted in-depth individual interviews	Three areas contributin g to balanced leadership identified 10 competenci	The authors' findings suggested the need to embed the development of these competencies within existing training and support programs for teachers. The authors offered	Three areas contributing to balanced leadership: 1.knowledge, 2.skills, 3.dispositions, for leadership	80.2 %

					es. Three broad pathways: university-based preparation, school/district support, and personal development	recommendations for future research and practice targeting teacher development in these areas.	development spanning three broad pathways: 1. University-based preparation, 2. School/district support, 3. Personal development.	
Zhu, Chang; Wang, Di; Cai, Yonghong; Engels, Nadineil. 2013	China	Mixed	200 teacher from six secondary school of Beijing In Chin	questionnaire	Four competencies are theorized as the core competencies for teachers' innovative teaching.	The findings supported our research model to a large extent, showing that three of the four core competencies identified in the theoretical model were significant predictors for teachers' innovative teaching performance. Especially educational competency and technological competency were strongly related to innovative teaching performance.	1. Teachers' educational competency, 2. social competency 3. Technological competency were positively related to their innovative teaching performance.	48.5 %

Conley, Sharon; You, Sukkyung 2017	US	QNT	Sample of 2,060 special education teachers	Using the 2007–2008 Schools and Staffing Survey data set,	Identifying factors that prevent special education teachers from leaving.	Structural equation modeling was used to assess the plausibility of a conceptual model, specifying linkages among special education teachers' perceptions of workplace factors, job satisfaction and commitment, and teachers' intentions to leave. Two models were tested to assess job satisfaction and commitment as mediators.	Administrative support, teacher team efficacy, Teacher job design, autonomy, poor socio-economic/human conditions, and student disengagement had strong, significant direct and indirect effects on special education teachers' intentions to leave.	72%
A.K. Kulshrestha, Kshama Pandey 2013	India	QL	Related scientific articles	Careful study & survey of scientific articles	Three main competencies were introduced.	Teachers who consider their job as a profession should not work with pecuniary motives, but with a sense of dedication for the cause of education. The development of the professional competency of a teacher is incomplete unless it follows certain professional ethics or code of conduct.	1. Instructional Competences, 2. Organisation Competences and 3. Evaluative Competences.	55.0 %

Paul Vare& etc., 2019	England	mixed	over 500 people	questionnair e	12 competenci es were introduced.	Through our involvement in the first phase of RSP, the thinking and practice of all partners has developed markedly. This is reflected in the project outputs and recommendations that can be summarized under four broad categories: the identification of competences; pedagogical approaches, assessment; accreditation models.	12 competences was introduced : system,futuers,Part icipation,Attentive ness,Empathy,Enga gement,Transdiscip linarity,Innovation, Action,Criticality, Responsibility,Deci siveness three levels of competence ,also Educator Preparation Programs was introduced.	85.5 %
Pauline Swee Choo Goh,Qism ullah Yusuf 2017	Malaysia	mixed	18 novice teachers	in-depths interviews	Five conceptions were identified.	Variation exists in the way novice teachers conceive their competency. Teacher educators should be cognizant of the diversity in practices of teachers and not limit that to say that there is just one acceptable conception of competency.	controls in the classroom ,behavior of students, methodical preparation, uses of sound in pedagogical knowledge and skills, understanding and empowering their students to take charge of their own learning, and an awareness of themselves as teachers	52.4 %

Mara H. Wasburn &etc. 2010	England	mixed	66 randomly selected national board certified teachers in special education	questionnaire	Results indicated that formal mentoring involved more of the 19 identified mentor activities than informal mentoring ones.	Results indicated that formal mentoring involved more of the 19 identified mentor activities than informal mentoring ones. Implications include a need for mentor training for NBCTs and for further exploration of mentoring roles in the professional literature.	Mentor training literature. Evaluate your professional development, Knowledge of resources for special education, Subject knowledge	79.40 %
Mike Coldwell 2017	UK	mixed	25 teachers ,survey of 500 literatures	Interview	The findings enabled the development of the initial PD model.	Path model can provide a useful frame for examining the influence of PD on career, but the approach is limited given the complex and situated nature of teachers' career.	Self Confidence, Good appearance, Artistic rationality, Artistic rationality, energetic, futuristic, Cognitive and metacognitive intelligence, Knowledge and skill, Ethically based Competency	87.60 %
Paola Dusi,Monia Rodorigo, Pietro Andus Aristo 2017	Italy	QL	50 primary teachers	Interview	Studies and reflections grouped the limiting factors of intercultural competencies into four	Fewer resources are available and many teachers still do not possess adequate intercultural competencies.	1.structural factors 2. Social-political factors 3. Cultural factors 4. Professional factors.	51.00 %

					categories.			
Jonathan Chitiyoo, Wayne Brinda 2018	US	mixed	77 teachers	questionnaire	For pre-service teachers, as discussed earlier, there is an urgent need for teacher education programs to develop and offer mandatory courses that focus on teaching their students about co-teaching.	The results presented above revealed that the teachers surveyed in this study understood what co-teaching is, but most of them require additional training in the practice.	1.Understand that what is the co-teaching 2.Be knowledgeable about the use of co-teaching practices 3.Be confident with using co-teaching practices 4.Understand all the underlying principles of co-teaching 5.Understand all the importance of co-teaching in the daily work	70.8 %
Poulou, Maria S.2017	Greece	QNT	98 teachers	Self-Rated Emotional Intelligence Scale	Teaching efficacy was significantly related to teacher-student relationships.	It was demonstrated that teachers' perceptions of EI, SEL, and teaching efficacy were significantly related to teacher-student relationships, but they were not related to students' emotional and behavioral difficulties. Rather, teachers'	Emotional intelligence, social and emotional learning, teaching efficacy, teacher-student relationships, cognitive educational intercultural competencies	78.0 %

						perceptions of teacher-student relationships were significantly related to these difficulties.	,cultural self-awareness ,intercultural competencies ,structural factors ,social-political, cultural factors ,professional factors	
Koca, Fatih, 2018	US	mixed	78 teachers	Questionnaire	The relationship between teacher self-efficacy, social skills, and teacher-student relationship quality influences students' academic functioning.	The current study showed that teachers with higher self – efficacy beliefs are more likely to build closer and warmer relationships with their students because they have more confidence in their capacity and skills to employ affective classroom management skills and have the ability to enhance students' engagement.	academic competency, teacher self-efficacy, teacher student relationship, social skills	79.4 %
Helen Huntley 2002	Australia	QL	18 beginning teachers	Interviews	Principals and beginning teachers share similar conceptions of competence . But	Although principals have a strong belief that their appraisal methods are collaborative and inclusive, beginning teachers` experiences would suggest otherwise. It is therefore the recommendation of this paper that principals adjust their current	Privacy, straight, trusty, looking for the best, Avoid discrimination, Committed, Regulated, Evaluate your professional development, Knowledge of	66.7 %

					principals and beginning teachers share differing perspectives on the collaborative nature of the appraisal process.	appraisal process to include more collaboration with beginning teachers at the commencement of their period of provisional registration.	resources for special education, Subject knowledge, Knowledge of exceptional students	
Godfrey Poro2018	Uganda	mixed	217 respondents	Self-administered questionnaires	Significant differences in pedagogical competences.	The study, therefore, recommended that teachers be encouraged to develop their pedagogical skills for effective delivery in the classroom. Performance appraisals should take care of pedagogical skill development for improving teacher performance. Teachers should pay attention to issues like classroom organization, time management and receiving telephone calls during class time.	Behavior management, Continuous assessment, Classroom instructions, Questioning skill, Promotion of critical thinking, Sequence of lessons, Learning environment, Subject knowledge, Clarity of course outline ,Learning process, Teaching needs ,Group tasks, Time management ,Classroom organization	71.2 %

Sara B. Woolf2014	US	mixed	Sample was comprised of 127 special education teachers, 58 school administrators, and 53 special education teacher educators.	Questionnaire	Special Education Professional Standards are important in the Context of Teacher Performance Evaluation	Participants' overall patterns of importance ratings Were similar. School administrators rated five skill domains' importance as higher in magnitude Than the ratings of special education teachers and special education teacher educators.	Individual skill statements by domains: Foundation, Instructional design, Learning environment, Communication, Instructional planning, Assessment, Ethics, Collaboration, Learning environment Instructional planning Assessment Ethics collaboration	62.3 %
Hasan Tanang 2014	Indonesia	mixed	The sample is 331 from 2367 population for quantitative and For qualitative data, 12 teachers	Questionnaire	This study has provided a model of teacher professional development as an input for improving the quality practice	Teaching skill, knowledge and beliefs through diversity learning activities in effective professional development. Teacher professional development needs supporting on policy, moral, infrastructure, and financial matters.	,Active learning, Collective participation Supporting Factors for Teacher Professionalism and Professional Development , Stake Holder Policy, Moral Support ,Infrastructure Support , Financial Support	51.5 %

<p>Lee, Yeunjoo; Patterson, Philip P.; Vega, Luis A2011</p>	<p>California</p>	<p>QNT</p>	<p>154special education teachers</p>	<p>Questionnaire</p>	<p>Teachers' self-confidence in skills and knowledge as special education teachers seem to be highly related to their perceived teaching efficacy.</p>	<p>Instructors need to be resourceful by taking advantage of free websites and multimedia sources that are carefully developed to enhance universities' own curricula. Teacher preparation programs must ensure that university classes offer meaningful, realistic, and challenging experiences for intern teachers if they are to deliver effective and efficient instruction to students. In addition to content knowledge and teaching pedagogy, current research suggested that teachers' problem solving skills should be emphasized.</p>	<p>Self-efficacy, the quality of support, content knowledge, support from parents and school districts, and teacher preparation programs.</p>	<p>74.5 %</p>
<p>Li Feng, Tim R. Sass 2012</p>	<p>US</p>	<p>mixed</p>	<p>data for the universe of public school students and teachers in the state</p>	<p>Survey The related resource</p>	<p>Teachers with advanced degrees are more effective in achievement of students with disabilities</p>	<p>Pre-service preparation in special education has statistically significant and quantitatively substantial effects on the ability of teachers of special education courses to promote gains in achievement for students with disabilities, especially in reading.</p>	<p>Preparation of Special Education Teachers, Instruction, Social/Emotional Development, Classroom Management, Relationships With Families, Student Evaluation, Rights and Procedures,</p>	<p>66%. 8</p>

							Definitions and Characteristics	
Eman Al-Zboon, 2013	Jordan	mixed	112 special education pre-service teachers	Questioning	Special education pre-service students reported a high degree of importance of all competencies included in the scale.	All competencies as a whole are considered to be main requirements for the work of teachers in special education programs.	learners characteristics, individual differences, teaching strategies, social and emotional learning environments, language, teaching planning, assessment, professional ethics and cooperation with relevant authorities involved in the child's educational programs	67.70 %
Nancy Maynes, Anna-Liisa Mottonen, Glynn Sharpe and	Canada,	mixed	A total of 212 respondents	Questioning	Pre-service teacher candidates feel knowledgeable and confident in the	Students who are studying education through a concurrent program feel that they have acquired significantly more professional background about teaching through	Manage a classroom, interact with administrators, manage difficult behaviors, deal with difficult situations, address	80.10 %

Tracey Curwen 2015					acquisition of skills they need to teach in their own classrooms at the completion of their respective teacher preparation programs.	practicum experiences than students acquiring a comparable degree through a consecutive route.	the learning needs of all children	
--------------------------	--	--	--	--	--	--	---------------------------------------	--

First Question: What are the key competencies of special education student teachers?

The movement of teachers’ preparation based on the competencies became the most prominent feature of contemporary educational developments. Moreover, it became common and popular in the educational community for teacher preparation, and interest in it expanded until it became a hallmark of most teachers’ pre-service programs in advanced countries. The study of competencies developed rapidly in the last three decades. Since its early beginning, it aimed to identify outstanding performance to facilitate training, set out goals and measure outcomes. The concept of competency has increased in the past decade. The definition of competence differs according to the purpose it is used for and the cultural context (Biggs, Elizabeth E& Gilson, 2019. Eman Al-Zboon, 2013).

The literature on competences in particular, reveals a degree of conceptual ambiguity as the term competence is associated with skills, abilities, capabilities, capacities, qualifications, and other concepts. Competences are seen as a complex of knowledge, skills, and attitudes that enable successful task performance and problem solving. Competences are the positive combination of an individual’s knowledge, ability and willingness to cope successfully and responsibly with changing situations. Competences are not therefore simply concerned with student teachers’ ability to meet visible goals but also extend to the characteristic that are not immediately obvious yet, which might be identified in student teachers’ behavior (Paul Vare & etc., 2019).

Regarding the role and function, special education student teachers will be responsible for the delivery of specialized pedagogies and student supports at minimum. Special educators routinely work with a wide array of school colleagues, often in multiple school and classroom settings, and as the members of varied team configurations. Additionally, they must manage large and diverse student caseloads which in turn requires them to design, implement, monitor, and manage many individualized education plans (Sara B. Woolf, 2014).

Traditionally, goals for students with severe disabilities have focused on functional, vocational, and social skills. However, legal mandates now require that all students, including those with severe disabilities, have access to the general education curriculum so expectations of the special education student teachers have changed (Godfrey Poro, 2018).

The range and complexity of competences required for teaching century is so great that any one individual is unlikely to have them all, nor to have developed them all to the same high degree. Attention must therefore be focused also on the competences or attributes of an education system as a teaching team. Based on the extensive literature review in this study, the most important competencies of special education student teachers are: Learn to think as teachers, learn to know as teachers, learn to feel as teachers, learn to act as teachers, be committed to students and their learning, have knowledge of students and have appropriate interactions with the environment, partners, parents and students (Koca, Fatih, 2018). The expected competencies of special education student teachers are shown in Figure 2.

Second Question: what are the domains of special education student teachers' competencies?

According to the review of the literature (Table1), competency in special education student teachers has 5 domains including individual competencies, social competences, professional competencies, methodological competences and professional ethics competencies that were defined as special education student teachers' competency domains (Figure 2).

Third Question: What are the Competency development of special education student teachers?

The literature review (Table1), indicated that the competences needed by teachers, how they develop over time, and how they are evidenced and recorded, are bound up with wider discussions about: the educational culture , Parental Expectations, Parental support, Community support, Community needs, Student's needs, Contextual, institutional, organizational aspects of educational Policies, Educational sciences foundations and Financial Resources(Hassan Tanang, 2014).

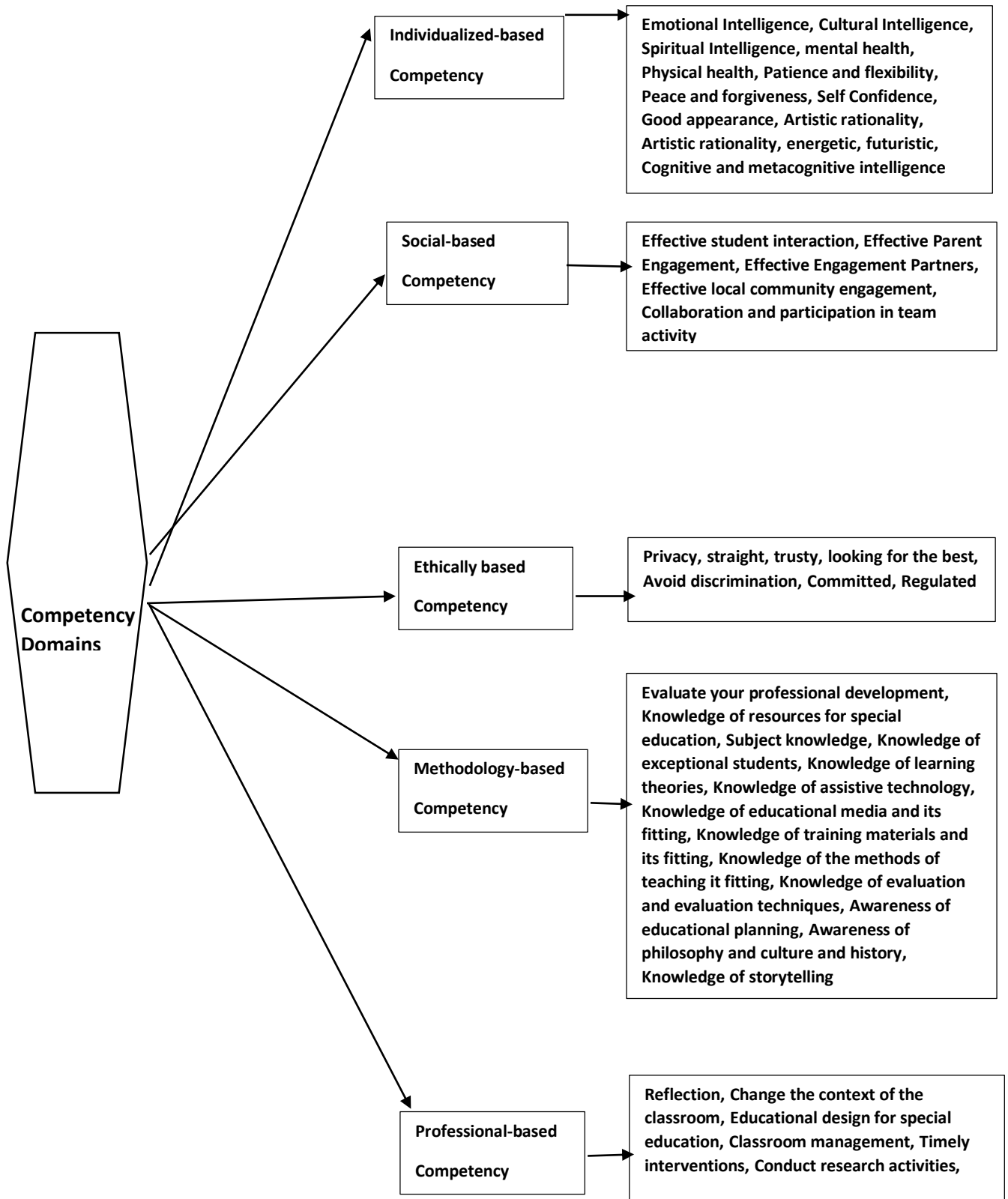


Figure 2. Key competencies of special education student teachers and their domains

IV. Discussion

In this study, the researchers sought to define and describe the definition, domains, and special education student teachers' competency in the light of previous studies using the systematic review approach. Definitions of competence vary by profession and country, and many of the reviewed studies offered no clear or coherent definition or description of the mentioned concepts (Table1). In the English language, the terms competence and competency are often used interchangeably. The term 'competency' should strictly be used for a "skill" itself, while competence is "the ability to perform that skill and the attribute of the performer". It is necessary to note that competency is difficult, perhaps impossible to be measured. It is also important to note that competency is "more than the sum of individual competencies" .This definition resists the breaking down of competency into more manageable and measurable pieces, and objective assessment of competence suffers as a result.

In this study, competencies of special education student teachers were identified with regard to the constructivism approach considering the three variables of people, purpose, and context (Rob L Martens& Jeroen J. G. Van Merriënboer 2002). In the latter sense, focus on the competencies as a teaching team (People) and conceptualizations of teacher competences are linked with the visions of professionalism, theories of teaching and learning, quality cultures and socio-cultural perspectives with tensions between diverse approaches (context). Whatever understanding is arrived in a given context, the ultimate purpose of systems of teacher education and professional development must be supporting teacher learning - and all learning has the development of the learner's potential as its aim.

Based on the extensive literature review in this study (Table 1), researchers believe that "Competencies of special education student teachers are a set of individual, social, ethical, methodological and professional competencies that are influenced by the context in different levels that continuously develop and promote special education student teachers, benefit students, benefit education systems, and benefit society".

V. Conclusion

In this study, comprehensively described definitions as well as domains of special education student teachers` competency have been highlighted. Moreover, the key special education student teachers` competencies have been explored. According to the main components that were identified, the author's proposed conceptual model could be used as a guideline for further related research studies. The results of this review indicated that further research in this area is necessary to scrutinize specifically special education student teachers` competencies in academic and educational settings.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

1. A.K. Kulshrestha, Kshama Pandey 2013, Teachers training and professional competence, Voice of Research, Vol. 1 Issue 4.
2. Biggs, Elizabeth E.; Gilson, Carly B.; Carter, Erik W 2019, "Developing That Balance": Preparing and Supporting Special Education Teachers to Work with Paraprofessionals, Article, Teacher Education and Special Education, Volume: 42 issue: 2, page(s): 117-131.
3. Cevriye Ergul & etc. 2013, Opinions of In-Service and Pre-Service Special Education Teachers on the Competencies of the Undergraduate Special Education Programs, Educational Sciences Theory and Practice, v13 n1 p518-522.
4. Christine M. Taylor 2008, Identifying training needs of paraprofessionals, Presented to the Department of Educational Leadership and the Graduate School of the University of Oregon in partial fulfillment of the requirements for the degree of Doctor of Education.
5. Conley, Sharon; You, Sukkyung 2017, Key Influences on Special Education Teachers' Intentions to Leave: The Effects of Administrative Support and Teacher Team Efficacy in a Mediation Model, Educational Management Administration & Leadership, Volume: 45 issue: 3, page(s): 521-540.
6. Eman Al-Zboon, Theeb, Raied Sheikh,, Muhaidat, Mohammad Ali; Zboon, 2013, Professional competencies among pre-service teachers in special education from their perspectives, Teacher Education and Special Education, Vol. 135, No. 1.
7. Hasan Tanang, Baharin Abu, Teacher Professionalism and Professional Development Practices in South Sulawesi, Indonesia, Journal of Curriculum and Teaching Vol. 3, No. 2; 2014.
8. Helen Huntly 2002, Beginning Teachers' Conceptions of Competence', Journal of College Teaching & Learning,
9. Jonathan Chitiyoo, Wayne Brinda 2018, Teacher Preparedness in the use of Co-teaching in Inclusive Classrooms, Support for Learning, Volume 33, Issue 1, Pages 38-51.
10. Koca, Fatih, 2018, Exploring the influence of professional development on teacher careers: developing a path model approach, Vol. 16, No. 45.
11. Lee, Yeunjoo; Patterson, Philip P.; Vega, Luis A 2011, Perils to Self-Efficacy Perceptions and Teacher-Preparation Quality among Special Education Intern Teachers, Teacher Education Quarterly, v38 n2 p61-76 .
12. Li Feng, Tim R. Sass 2012, What Makes Special Education Teachers Special? Teacher Training and Achievement of Students with Disabilities, Volume 36, Pages 122-134.
13. Mara H. Wasburn, Leah Wasburn-Moses, Darrel R. Davis 2010, Mentoring Special Educators: The Roles of National Board Certified Teachers, Journal of teacher Education and Special Education, Volume: 33 issue: 1, page(s): 59-66.
14. Meryem Uçar Rasmussen, Arzu Kış 2018, Qualifications of Subject Teachers in Special Education Schools, Article, Journal of Education and Training Studies. Vol. 6, No. 4.

15. Moher, D., *et al.*, 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement (Reprinted from *Annals of Internal Medicine*). *Physical Therapy*, 89(9), 873–880. doi:10.1371/journal.pmed.1000097.
16. Nancy Maynes, Anna-Liisa Mottonen, Glynn Sharpe and Tracey Curwen 2015, A Comparative Examination of Teacher Candidates' Professional Practicum Experiences in Two Program Models, *International Journal of Learning, Teaching and Educational Research*, pp.63–77.
17. Paola Dusi, ,Monia Rodorigo,Pietro Andus Aristo 2017, Teaching in our Society: Primary Teachers and Intercultural Competencies, *Social and Behavioral Sciences*, Volume 237 Pages96-102.
18. Paul Vare, Grete Arro, Andre de Hamer& etc.2019, Devising a Competence-Based Training Program for the Educators of Sustainable Development: Lessons Learned.
19. Pauline Swee Choo Goh, Qi mullah Yusuf 2017, Perceptions of Competency of Novice Teachers *International Journal of Instruction* Vol.10, No.1.
20. Pauline Swee Choo Goh, Qismullah Yusuf, Kung Teck Wong, Lived Experience: Perceptions of Competency of Novice Teachers, *Vol.10, No.1,2017*
21. Rob L Martens& Jeroen J. G. Van Merriënboer 2002, The Boundary Approach of Competence: A Constructivist Aid for Understanding and Using the Concept of Competence,
22. Sammy Godfrey Poro, Andrew Peter, Yiga Julius Caesar Enon, Fabian Mwosi, Teacher competence and performance in primary schools in Nwoya District, Northern Uganda, *International Journal of Advanced Research* 4(1):3-8 · 2019
23. Sara B. Wool 2014, How Important Are They in the Context of Teacher Performance Evaluation? *Special Education Professional Standards*, Queens College, City University of New York, Volume: 38 issue: 4, page(s): 276-290
24. Zhu, Chang; Wang, Di; Cai, Yonghong; Engels, Nadine 2013, “What Core Competencies Are Related to Teachers' Innovative Teaching?” *Journal Asia-Pacific Journal of Teacher Education* Volume 41, 2013 - Issue 1.