Standard 16: Instructional Design for Special Education

The program trains teacher candidates to design instruction for teaching students with special needs.

Why this standard?

In designing instruction, exceptional special education teachers modify and enhance the core curriculum in order to give their students full access to it. Explicit coursework provides the training and practice special education teacher candidates need to develop expertise in this area.

What is the focus of the standard?

This standard examines coursework offered by special education experts to ascertain if special education teacher candidates have sufficient practice designing instruction for students with the more common learning disabilities.

Standard applies to special education programs.

Standard and Indicators ..... **page 2**

Rationale ..... **page 3**
The rationale summarizes research about this standard. The rationale also describes practices in the United States and other countries related to this standard, as well as support for this standard from school leaders, superintendents and others education personnel.

Methodology ..... **page 4**
The methodology describes the process NCTQ uses to score institutions of higher education on this standard. It explains the data sources, analysis process, and how the standard and indicators are operationalized in scoring.

Research Inventory ..... **page 7**
The research inventory cites the relevant research studies on topics generally related to this standard. Not all studies in the inventory are directly relevant to the specific indicators of the standard, but rather they are related to the broader issues that the standard addresses. Each study is reviewed and categorized based on the strength of its methodology and whether it measures student outcomes. The strongest "green cell" studies are those that both have a strong design and measure student outcomes.

Standard and Indicators

Standard 16: Instructional Design for Special Education

The program trains candidates to design instruction for teaching students with special needs.
Standard applies to: Special Education programs.

Indicators that the program meets the standard:

16.1 The program requires several courses (or the equivalent) designed for special education candidates with a strong focus on instructional design in a particular content area (e.g., reading, mathematics, science, social studies) or in multiple content areas.

16.2 More than half of the grade for coursework described in 16.1 is based on assignments that require teacher candidates to design instruction.

16.3 Course assignments requiring design of instruction should explicitly address "specifically designed" instruction that can meet a range of students' needs by:

- Development of a curriculum feature, such as developing a new task or lesson that explicitly teaches a new concept or a prerequisite concept.

  OR

- Minor modification of the curriculum.

  OR

- Major adaptations.

  OR

- Major enhancements to the curriculum.

Rationale

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What is the focus of the standard?

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Rationale

Research base for this standard

While no "strong research"[1] on this topic exists, a recent additional study[2] found that teachers with more preservice coursework in special education (and those who received special education certification through preservice training) are more effective when teaching special education students reading. The study found a similar (although weaker) correlation between special education coursework and math instruction.[3]

Other support for this standard

The fundamental concept of special education as defined by federal law (the Individuals with Disabilities Education Act [IDEA]) is "specially designed instruction." Coursework that prepares teacher candidates to design instruction for students with learning disabilities and to meet their legal obligation to their students is therefore central to the public mission of special education programs.

Furthermore, school district superintendents support this standard.

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[1] NCTQ has created "research inventories" that describe research conducted within the last decade or so that has *general* relevance to aspects of teacher preparation also addressed by one or more of its standards (with the exceptions of the Outcomes and Evidence of Effectiveness standards). These inventories categorize research along two dimensions: design methodology and use of student performance data. Research that satisfies our standards on both is designated as "strong research" and will be identified as such. That research is cited here if it is *directly* relevant to the standard; strong research is distinguished from other research that is not included in the inventory or is not designated as "strong" in the inventory. Refer to the introduction to the research inventories for more discussion of our approach to categorizing research. If a research inventory has been developed to describe research that generally relates to the same aspect of teacher prep as addressed by a standard, the inventory can be found in the back of this standard book.

[2] "Additional research" is research that is not designated as "strong" because it is not as recent and/or does not meet the highest standards for design methodology and/or use of student performance data.

[3] Feng, L., & Sass, T. R. (2010). What makes special-education teachers special? *Teacher training and achievement of students with disabilities* (Working Paper 49). Washington, DC: National Center for Analysis of Longitudinal Data in Education Research (CALDER), American Institutes for Research.

Scoring Methodology

How NCTQ scores the Instructional Design for Special Education Standard

Standard and indicators

Data used to score this standard

Evaluation of special education programs on Standard 16: Instructional Design for Special Education uses the following sources of data:

- Undergraduate and graduate catalogs
- Degree plans provided by institutions of higher education (IHEs)
- Syllabi for relevant courses

Who analyzes the data

Two special education subject specialists independently evaluate each program using a detailed scoring protocol from which this scoring methodology is abstracted. Any scoring discrepancy is resolved by a reconciliation process involving the two specialists who completed the original evaluation.

Analysis

For both **undergraduate** and **graduate** programs all coursework required for special education candidates is placed into one of three categories.[1] The first category contains courses that satisfy Indicator 16.1 because they:

- Are designed for an audience of special education teacher candidates
- Have a clear focus on instructional design in core subjects (including reading and the language arts, mathematics, science and social studies)
- Deal with access to the core curriculum by students with common disabilities
- Are non-clinical or are clinical, but closely aligned to a non-clinical course.[2]

The second category contains courses that have a clear focus on instructional design in core subjects, but are designed for elementary and/or secondary teacher candidates, not special education teacher candidates.

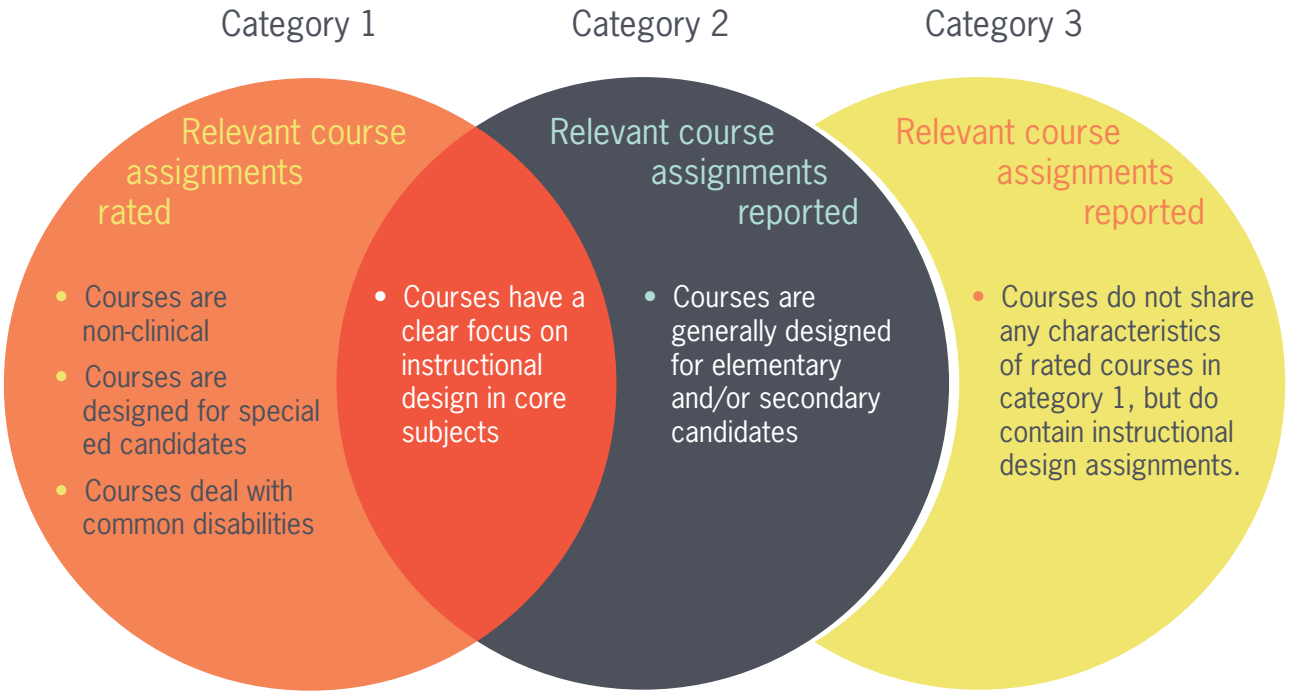
[1] For those programs for which syllabi for all such coursework was not provided by the IHE in which the program is housed, only coursework in the first category is evaluated for this standard.

[2] For example, a practicum that is explicitly aligned to a course satisfying the three other criteria.

The third category contains courses that contain instructional design assignments but may be clinical, or deal with non-core content.

In all three categories of coursework, all assignments are examined to determine those that require practice in instructional design in content according to Indicator 16.3.[3] The weight of all such assignments, termed "relevant assignments," relative to the course grade is computed and tallied for all courses in the category.[4] The aggregate weight of relevant assignments in the first category of courses is used for scoring the program on the standard in accordance with Indicator 16.2; the aggregate weights of relevant assignments in the second and third categories are used for reporting purposes only.

Score reporting on relevant assignments in required coursework for special ed candidates



There were a number of cases in which a score could not be determined on this standard and the program was removed from the sample:

- The syllabus for one or more courses was not provided to us by the IHE in which the program is housed.
- All syllabi for required special education courses were provided to us for evaluation, but in one or more syllabi the weight of relevant assignments in courses grades is not specified.[5]

[3] More information on evaluation using syllabi can be found here.

[4] For all assignments for which there is only a general assignment description (such as "project"), the portion of the weight of the assignment that is attributed to practice on instructional design is set as the aggregate proportion in the course of all specified instructional design assignments. In other words, if 50 percent of the grade in a course is based on instructional design assignments described as such, and 30 percent of the grade is based on a "project," we assume that 50 percent of that 30 percent of the project's weight (15 percent) is also instructional design practice. Thus the weight of assignments in this course assigned to instructional design assignments is put at 50 percent + 15 percent = 65 percent.

[5] In some of these cases, the program is retained in the sample if the weight of relevant assignments in the coursework in the program that could be evaluated already earns the program a score of "meets standard."

Examples of what satisfies or does not satisfy the standard's indicators

Adequacy of appropriate coursework and relevant assignments (Indicators 16.1-16.3)

✔ · fully satisfies the indicators	✘ · does not satisfy the indicators
The program has two courses that: 1) have a clear focus on instructional design in core subjects, 2) are designed for special education candidates, 3) deal with instruction for students with common disabilities, and 4) are non-clinical. In the first course, the weight of three relevant instructional design assignments accounts for 65 percent of the course grade, while in the second course, the weight of two relevant instructional design assignments accounts for 45 percent of the course grade. In total, the equivalent of more than one course grade in the program (110 percent) is determined by the weight of relevant assignments. Examples of relevant instructional design assignments: ■ *Lesson adaptation project: Focusing on academics, students will complete a lesson accommodation and modification activity, for either the elementary- or the secondary-level. The content will include:* *a. An age-appropriate lesson, fully described* *b. Documented relationship with Colorado content standards (teacher licensure candidates)* *c. A well-developed and detailed differentiation process for enhancing the learning of all students* *d. Specific accommodations and modifications for a student with significant support needs, including special materials.* *e. Assessment processes that can be used to ascertain skill development, vocabulary acquisition, and/or content learning and comprehension* *f. A simple rubric that can be used with the student who has significant support needs to assign a grade for the lesson* ■ *Instructional Reading Station: Students will design an instructional learning station for use with students with a learning disability in reading. The activity should teach and assess reading skills in one or more of the following areas: phonemic awareness, phonics, fluency, vocabulary, or comprehension. The activity must also be connected to KY learner goals, program of studies, and KY Core Content 4.1 for assessment of reading. The activity must be age appropriate for your targeted students.*	The program has one course that: 1) has a clear focus on instructional design in core subjects, 2) is designed for special education candidates, 3) deals with instruction for students with common disabilities, and 4) is non-clinical. In this one course, the weight of the only relevant assignment on "curriculum analysis and modifications" is 20 percent of the course grade. In total, only 20 percent of one course grade is determined by the weight of relevant assignments.

Research Inventory

Researching Teacher Preparation: Studies investigating the preparation of special education teacher candidates' customization of instruction to address a range of student needs

These studies address issues most relevant to Standard 16: Instructional Design for Special Education

Total Number of Studies	Studies with Stronger Design		Studies with Weaker Design	
	Measures Student Outcomes	Does Not Measure Student Outcomes	Measures Student Outcomes	Does Not Measure Student Outcomes
15	0	1 Citation: 5	0	14 Citations: 1–4, 6–15

Note: Citation 7 is cross-listed with RI 9: Content for Special Education.

Citations for articles categorized in the table are listed below.

Databases: Education Research Complete and Education Resource Information Center (peer-reviewed listings of reports on research including United States populations).

Publication dates: Jan 2000 – June 2012

See *Research Inventories: Rationale and Methods* for more information on the development of this inventory of research.

1. Anderson, C. L., & Petch-Hogan, B. (2001). The impact of technology use in special education field experience on preservice teachers' perceived technology expertise. *Journal of Special Education Technology, 16*(3), 27–44.

2. Bishop, A. G., Brownell, M. T., Klingner, J. K., Leko, M. M., & Galman, S. C. (2010). Differences in beginning special education teachers: The influence of personal attributes, preparation, and school environment on classroom reading practices. *Learning Disability Quarterly, 33*(2), 75–92.

3. Blackbourn, J. M., Fillingim, J. G., McCelland, S., Elrod, G., Medley, M. B., Kritsonis, M., & Ray, J. (2008). The use of wireless technology to augment problem-based learning in special education preservice teacher training. *Journal of Instructional Psychology, 35*(2), 169–176.

4. Brownell, M.T., Ross, D.R., Colón, E.P., & McCallum, C.L. (2005). Critical features of special education teacher preparation: A comparison with exemplary practices in general teacher education. *The Journal of Special Education, 38*, 232–252.

5. Carlson, E., Lee, H., & Westat, K. (2004). Identifying attributes of high quality special education teachers. *Teacher Education and Special Education, 27*(4), 350–359.

6. Chiasson, K., Yearwood, J., & Olsen, G. (2006). The best of both worlds: Combining ECE and ECSE philosophies and best practices through a coteaching model. *Journal of Early Childhood Teacher Education, 27*(3), 303–312.

7. Fullerton, A., Ruben, B. J., McBride, S., & Bert, S. (2011). Development and design of a merged secondary and special education teacher preparation program. *Teacher Education Quarterly, 38*(2), 27–44.

8. Kurubacak, G., & Basal, M. (2003). Preservice teacher, faculty and online instructional designer partnerships through technology integration into special education curriculum. *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, 2003*(1), 1064–1067.

9. Leko, M. M., & Brownell, M. T. (2011). Special education preservice teachers' appropriation of pedagogical tools for teaching reading. *Exceptional Children, 77*(2), 229–251.

10. Lengyel, L., & Vernon-Dotson, L. (2010). Preparing special education teacher candidates: Extending case method to practice. *Teacher Education and Special Education, 33*(3), 248–256.

11. Ling, S., Bender, W. N., & Fore, C. (2003). Web-based certification courses: The future of teacher preparation in special education. *Teacher Education and Special Education, 26*(2), 87.

12. Mitchem, K., Koury, K., Fitzgerald, G., Hollingsead, C., Miller, K., Tsai, H., & Zha, S. (2009). The effects of instructional implementation on learning with interactive multimedia case-based instruction. *Teacher Education and Special Education, 32*(4), 297–318.

13. Otis-Wilborn, A., Winn, J., Griffin, C., & Kilgore, K. (2005). Beginning special educators' forays into general education. *Teacher Education and Special Education, 28*(3–4), 143–152.

14. Patterson, K. B., Syverud, S. M., & Seabrooks-Blackmore, J. (2008). A call for collaboration: Not jack of all trades. *Kappa Delta Pi Record, 45*(1), 16–21.

15. Whitaker, S. D. (2003). Needs of beginning special education teachers: Implications for teacher education. *Teacher Education and Special Education, 26*(2), 106.