

AMERICAN **BOARD**

Your Community. Your Teachers.

2018 Content Alignment Study

**American Board PTK Examination
with
InTASC National Standards**

Prepared by:

**Toni A. Sondergeld, Ph.D.
Associate Professor
Drexel University**



Overview

Professional Teaching Knowledge (PTK) standards were originally developed between 2002 and 2004 to create the initial PTK portion of the American Board's certification program. The process through which these standards were originally developed made extensive use of subject matter experts, curriculum review, and discussion. This extensive standard development process was essential because, at the time, nationally adopted standards had not yet been developed. Best practices in psychometrics recommends that standards be reviewed and updated at regular intervals. Through a similarly detailed process between 2017 and 2018 the American Board reconvened a standards panel who updated the PTK content standards according to the newest and accepted best practices.

The now nationally recognized InTASC standards, developed in 2011, emerged from an extensive, cooperative process led by the Council of Chief State School Officers, and inclusive of such richly diverse organizations as the National Education Association, the American Federation of Teachers, the Association of Teacher Educators, Teach for America, and the National School Boards Association. These professional teaching standards have been accepted as the integration of content considered most important and reasonable for the professional teacher to have learned in order to be called a master teacher on a national level. As stated in the collaborative InTASC (2011) report, "these Model Core Teaching Standards articulate what effective teaching and learning looks like in a transformed public education system - one that empowers every learner to take ownership of their learning, that emphasizes the learning of content and application of knowledge and skill to real world problems, that values the differences each learner brings to the learning experience, and that leverages rapidly changing learning environments by recognizing the possibilities they bring to maximize and engage learners." The InTASC standards have also undergone revisions, including the most recent iteration in 2013.

Triangulation between standards (or alignment of content) is a process that compares one set of standards to an organizationally different set of adopted standards, and is a recognized model for establishing the content validity of any set of standards. The purpose of this study is to support the content validity of the PTK standards through a detailed comparison (triangulation) with the now nationally accepted InTASC standards. This practice of continuous review and improvement ensures that American Board developed standards and nationally accepted standards remain well aligned, in their mutual goal of educating and training highly effective classroom teachers in a continually changing environment.

Standard Comparison

Comparisons conducted in this validity study link PTK Sub-standards to InTASC Performance Sub-standards. Each standard and substandard were reviewed by three content experts (two educators holding a Master's degree and one educator holding a Doctoral degree) to determine how well the PTK standards match the content presented in the InTASC standards.

Overall Comparison

The following relational expressions were used in the classification process:

- When PTK aligns with InTASC between 90-100%, alignment is considered **complete**.
- When PTK aligns with InTASC between 60-89%, alignment is considered **substantive**.
- When PTK aligns with InTASC less than 60%, alignment is considered **lacking**.

All PTK standards were determined to be substantively or completely aligned with InTASC standards. Areas of partial alignment are to be expected in any comparison of standards and generally reflect differences in emphasis rather than misalignment. Figure 1 presents a graphical representation of the alignment between the PTK and InTasc Standards.

PTK AND INTASC ALIGNMENT

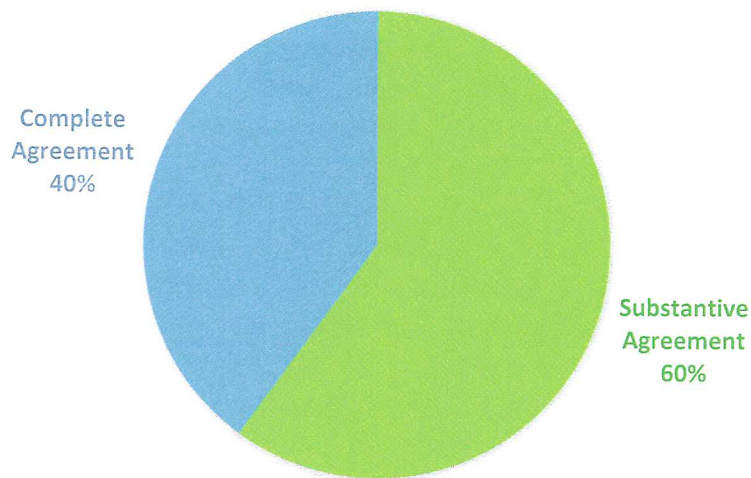


Figure 1. Degree of alignment for each of the ten InTASC standards represented visually.

Thematic Comparison of Standards

The following table presents an overall, thematic alignment between the PTK standards and the InTASC Standards. Complete alignment is suggested when the majority of ideas found in the PTK Domain and Topics (indicated below as D#-T#) reflect those found in one of the ten InTASC Standards.

InTASC Standards	PTK Standards Alignment
1. Learner Development	D3-T5: Involves Parents and Guardians in Supporting the Instructional Program D4-T3: Gives High-Needs Students Extra Time and Instruction They Need to Succeed
2. Learning Differences	D1-T1: Selects, Organizes, Plans, and Designs Content D2-T2: Provides Clear and Focused Instruction D4-T3: Gives High-Needs Students Extra Time and Instruction They Need to Succeed
3. Learning Environments	D3-T1: Establishes Smooth, Efficient Classroom Routines D3-T2: Sets Clear Standards for Classroom Conduct and Applies Them Fairly and Consistently D3-T4: Expects Students to Learn
4. Content Knowledge	D2-T1: Communicates Effectively D2-T2: Provides Clear and Focused Instruction
5. Application of Content	D2-T1: Communicates Effectively D2-T2: Provides Clear and Focused Instruction D2-T3: Uses Effective Questioning Techniques
6. Assessment	D3-T3: Routinely Provides Students Feedback and Reinforcement Regarding Their Learning Progress D4-T1: Monitors Student Progress Closely D4-T2: Understands Testing Concepts D4-T3: Gives High-Needs Students Extra Time and Instruction They Need to Succeed
7. Planning for Instruction	D1-T1: Selects, Organizes, Plans, and Designs Content
8. Instructional Strategies	D2-T2: Provides Clear and Focused Instruction D2-T3: Uses Effective Questioning Techniques D2-T4: Makes Efficient Use of Learning Time
9. Professional Learning and Ethical Practice	D5-T1: Professional Learning D5-T2: Leadership
10. Leadership and Collaboration	D5-T1: Professional Learning D5-T2: Leadership

While standard comparisons are frequently difficult, as word choice can in some instances lead to potentially questionable alignment even though alignment in fact may exist. Such comparisons are nonetheless essential to assisting in the validation process. PTK Standards demonstrate strong alignment with the InTASC Standards. A more detailed alignment of content is presented in the next section.

Comparison of PTK Sub-standards to InTASC Performance Sub-standards

InTASC Sub-standards are divided into three categories: performances, essential knowledge, and critical dispositions. *Performances* are the specific actions taken by the teacher to fulfill that standard. *Essential knowledge* is what the teacher needs to know in order to successfully fulfill the standard. *Critical dispositions* are what the teacher needs to believe/value in order to successfully fulfill the standard. PTK assessments contain specific direct teacher actions and do not specifically address knowledge, beliefs, or values of educators. Alignment is assessed by comparing PTK Standards to the InTASC Standards listed under the “Performance” category for each standard.

The degree of alignment is calculated by determining how many of the InTASC Performance Sub-standards are addressed within the PTK standards (see Appendix). A summary for each InTASC Standard is presented below:

InTASC Standards	Degree of PTK Standards Alignment
1. Learner Development	2/3 = 67%
2. Learning Differences	6/6 = 100%
3. Learning Environments	8/8 = 100%
4. Content Knowledge	7/9 = 78%
5. Application of Content	7/8 = 88%
6. Assessment	6/9 = 67%
7. Planning for Instruction	5/6 = 83%
8. Instructional Strategies	7/9 = 78%
9. Professional Learning & Ethical Practice	6/6 = 100%
10. Leadership & Collaboration	11/11 = 100%

As seen above, four of the InTASC Standards (Standards 2, 3, 9, and 10) are completely aligned as 100% of their sub-standards are addressed by the PTK assessment. Six of the InTasc Standards (Standards 1, 4, 5, 6, 7, and 8) are substantively aligned as 67-88% of their sub-standards are addressed by the PTK assessment. No areas of misalignment or missing content were discovered.

Any alignment study would be lacking if a reverse alignment were not also conducted. A reverse alignment reviews standards presented in the target set (that is, the PTK Standards) with control set (that is, the InTASC Standards). Are there important content areas presented in the PTK Standards that do not exist in the InTASC Standards? A careful reverse review suggested that there were no standards unique to the PTK. Alternatively stated, all standards presented in the PTK set exist also in the InTASC set.

Summary

PTK Standards are determined to be well-aligned to the InTASC Standards across the majority of content. The few listed differences represent differences in emphasis and focus rather than missing content.

Appendix A

Item Comparison of PTK Standards to InTASC Standards

Each of the 10 InTASC Standards contain several sub-standards. Below is an example from Standard 1:

Standard 1: Learner Development

- 1(a) The teacher regularly assesses individual and group performance in order to design and modify instruction to meet learners' needs in each area of development (cognitive, linguistic, social, emotional, and physical) and scaffolds the next level of development.
- 1(b) The teacher creates developmentally appropriate instruction that takes into account individual learners' strengths, interests, and needs and that enables each learner to advance and accelerate his/her learning.
- 1(c) The teacher collaborates with families, communities, colleagues, and other professionals to promote learner growth and development.

For the PTK Standards, there are numerous sub-standards listed for each topic. Below is an example from Domain 1, Topic 1:

Domain 1: Instructional Design

Topic 1: Selects, Organizes, Plans, and Designs Content

- 1.1.01: Writes measurable objectives for both individual or classroom performance based on student data and subject matter.
- 1.1.02: Guides curricular planning (e.g., content clusters, instructional methods, learning activities and assessment tools) based on goals of the instruction.
- 1.1.03: Organizes content across lessons around central concepts, propositions, theories, or models.

The sub-standards are not divided into by category but are simply listed under each topic.

Below is a detailed comparison of the content found in each PTK sub-standard that is reflected in the InTASC sub-standards. Each table is grouped by an InTASC Standard with all sub-standards listed. The corresponding PTK sub-standard is listed in the adjacent column. Notice, only the numeric-alpha (#.a) and numeric (##.##) indexing codes are used for simplicity.

InTASC Standard 1 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (##.##)
1(a)	None
1(b)	4.3.01
1(c)	3.5.01 3.5.02 3.5.03

InTASC Standard 2 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
2(a)	2.2.12
2(b)	4.3.01 4.3.02 4.3.03
2(c)	2.2.01 2.2.16
2(d)	2.2.15 2.1.01
2(e)	2.2.06
2(f)	4.3.03

InTASC Standard 3 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
3(a)	3.5.01
3(b)	2.2.15
3(c)	3.1.01 3.1.04 3.1.05 3.1.09 3.2.01 3.4.01 3.4.04 3.4.05
3(d)	2.2.02 2.2.19 2.2.20 2.2.21 2.4.03 2.4.04
3(e)	2.2.15 2.2.16 5.1.01
3(f)	5.1.01
3(g)	5.2.02
3(h)	5.1.01

InTASC Standard 4 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
4(a)	1.1.02 1.1.04 1.1.05 1.1.10 2.1.03 2.2.03 2.2.07 2.2.08 2.2.11 2.2.14
4(b)	1.1.09 2.2.07 2.2.13 2.2.15 2.2.16 2.3.02 2.3.03 2.3.05
4(c)	2.3.06
4(d)	1.1.09 2.1.01 2.1.02 2.1.03 2.2.15 2.2.16
4(e)	2.2.09
4(f)	3.3.03 3.3.04 3.3.08 4.1.04
4(g)	None
4(h)	2.2.06
4(i)	None

InTASC Standard 5 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (##.##)
5(a)	2.2.15 2.2.16
5(b)	2.2.15
5(c)	2.2.12
5(d)	2.3.01 2.3.02 2.3.03 2.3.04 2.3.05 2.3.06
5(e)	2.2.15 2.2.16
5(f)	2.2.07 2.2.12 2.2.15
5(g)	2.2.15 2.2.16 5.1.01
5(h)	None

InTASC Standard 6 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (##.##)
6(a)	4.1.02 4.1.04
6(b)	4.1.01
6(c)	4.2.05
6(d)	3.3.08 3.4.02
6(e)	4.1.03
6(f)	None
6(g)	1.1.01 2.2.01
6(h)	None
6(i)	None

InTASC Standard 7 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
7(a)	1.1.01 1.1.02 2.1.01
7(b)	1.1.01 3.4.03 4.1.04 4.3.01 4.3.02 4.3.03
7(c)	1.1.07 2.2.02 2.2.03 2.2.12 2.2.13 2.2.15
7(d)	1.1.07 2.2.01 2.2.08
7(e)	4.3.01 4.3.02 4.3.03
7(f)	None

InTASC Standard 8 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
8(a)	4.3.01 4.3.03
8(b)	4.1.04
8(c)	2.1.01
8(d)	2.2.18
8(e)	1.1.04 1.1.05 2.2.07 2.2.12 2.2.13 2.2.14
8(f)	None
8(g)	1.1.05 2.2.07 2.2.14 2.2.15 2.2.16
8(h)	None
8(i)	2.3.02 2.3.03 2.3.05 2.3.06

InTASC Standard 9 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
9(a)	5.1.01 5.1.02 5.1.06 5.2.03
9(b)	5.1.01 5.1.02 5.1.04 5.1.06
9(c)	5.1.03 5.1.05 5.1.06
9(d)	5.1.01 5.1.04
9(e)	5.1.07
9(f)	5.1.01 5.1.06 5.2.02

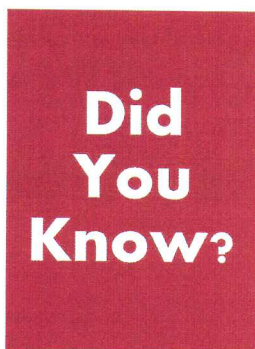
InTASC Standard 10 and Performance Sub-Standards (#.a)	PTK Sub-Standard Alignment (#.#.#)
10(a)	5.1.03 5.1.05 5.2.01
10(b)	5.1.02 5.1.04 5.1.06 5.2.01
10(c)	5.1.02 5.1.03 5.1.04 5.1.06 5.1.07
10(d)	5.1.02 5.2.01 5.2.03
10(e)	5.2.01 5.2.03
10(f)	5.1.01 5.1.02 5.1.04 5.2.03
10(g)	5.2.02
10(h)	5.1.03
10(i)	5.1.01 5.1.04 5.1.06 5.2.01 5.2.03
10(j)	5.2.01 5.2.03
10(k)	5.1.06 5.2.03

All American Board examinations undergo a thorough and multi-faceted process to establish and ensure continued validity of the assessments and outcomes.

S T E P O N E	Establishing and Affirming Content Validity¹
	<p>The American Board (AB) routinely conducts content validity (linking) studies across all examinations. Linking studies explore each item on the assessments to understand how and whether they are effectively covering the content required. AB Content Blueprints begin with national content standards, and then go beyond, to ensure unique content within states is adequately represented. Content validity studies are carried out independently to ensure objectivity by psychometrician and Professor Toni A. Sondergeld of Drexel University. Studies are conducted every ten years (or as needed if content substantively changes).</p>

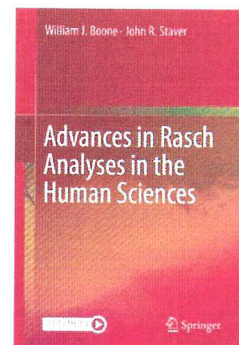
S T E P T W O	Establishing Criterion (Assessment) Process and Outcome Validity¹
	<p>Every three-years, the American Board (AB) conducts extensive psychometric analyses on the assessment using collected test-taker data. AB makes use of the advanced Rasch Measurement Model which works as a validation tool² to understand whether (a) the construct is being adequately measured, (b) the construct as presented is dimensionally correct, and (c) the fit of the assessment to content and test takers is appropriate. This cyclical exploration provides needed, substantive validity evidence. Routine cyclical studies are conducted each year (three to four disciplines explored each year).</p>

¹ Step one analyses conducted at Drexel University and step two analyses conducted by MetriKs Amérique follow established national protocols outlined in the Standards for Educational and Psychological Testing (APA/AERA/NCME, 2014).



² Rasch techniques can be used to address a wide range of validity issues; for example, content validity, construct validity, predictive validity, concurrent validity, statistical validity, fit validity, and face validity¹. AB makes use of the flexible and powerful Rasch Model ... the cutting edge of measurement science.

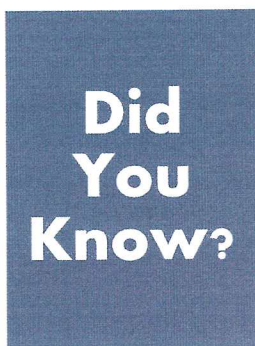
¹ Boone, W.J. and Staver, J.R. (2020). *Advances in Rasch Analyses in the Human Sciences*. Springer.



For more information and a schedule of validity evaluations, please see our Validity Roundup.

Step One		Establishing and Affirming Content Validity
<p>AB examinations undergo a ten-year rotational investigation for content validity (or as necessary) according to the following schedule:</p>		
Years Conducted	Exams	
Years '0 (e.g., 2020)	Professional Teaching Knowledge (PTK), Special Education, and the Sciences	
Years '1 (e.g., 2021)	Math, English & Reading, History (US & World), and English Language Learners	
<p>The Linking Reports are on file in the AB office once completed. Reports are written and studies conducted by Dr. Toni A. Sondergeld, Drexel University.</p>		

Step Two		Establishing Criterion (Assessment) Process and Outcome Validity
<p>AB examinations undergo a three-year cyclical Rasch Measurement investigation for construct, criterion, and other forms of validity according to the following schedule:</p>		
Completed	Next Due	Exams
2019	2022	Math, Multi-Subject Exam, Professional Teaching Knowledge (PTK)
2020	2023	English & Reading, History (US & World), Special Education (SPED)
2021	2021	Sciences (Biology, Chemistry, Physics, General), English Language Learner
<p>Psychometric Reports are on file in the AB office once completed. Reports are written and studies conducted by Dr. Gregory E. Stone, MetriKs Amérique LLC.</p>		



Dr. Gregory E. Stone, CEO of MetriKs Amérique, has spent his career in high-stakes testing across education, the health professions, and industry. Fairness, equity, and psychometric soundness have been hallmarks of his career and practice. A student of Dr. Benjamin D. Wright, Dr. Stone is an international expert in the **Rasch Measurement Model** and advanced assessments, including modern performance standard setting.

Smith, E.V. & Stone, G.E. (2009). *Criterion Referenced Testing: Practice Analysis to Score Reporting Using Rasch Measurement Models*. JAM Press.

