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A DESCRIPTIVE ANALYSIS OF THE ILLINOIS EDUCATOR PREPARATION PROFILES (IEPP): 2020 RELEASE

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External Review:

This report was reviewed by scholars, teacher educators, and Illinois State Board of Education (ISBE) staff to ensure that its contents are rigorous, accurate, and useful for decision-makers and teacher preparation programs. The reviewers of this report included: Jo Anderson (Consortium for Educational Change), Kathleen Briseno, Ed.D. (Concordia University Chicago), Carol Burbee, Ed.D. (Principia College), Bilge Cerezci, Ph.D. (National Louis University), Rasha Elhage, Ph.D. (Chicago State University), Kristin Mathews, M.A. (Olivet Nazarene University), Jim O'Connor (Advance Illinois), Hannah Putman (National Council on Teacher Quality), Brian Reid, Ph.D. (Eastern Illinois University), Michelle Stacy, Ph.D. (Blackburn College), Robin Steans (Advance Illinois), Rebecca Vonderlack-Navarro, Ph.D. (Latino Policy Forum), and Ann Whalen (Advance Illinois). ISBE staff also received presentations on the work prior to publication and gave feedback that improved this report.

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Last revised: 1/18/23. Revision history: The report was originally released on 11/28/22. On 11/30/22, Table 17 was updated. On 1/18/23, tables, figures, and text related to indicators 10 and 11 were updated, after discovery of a mismatch in data labeling between the public IEPP interface and the downloaded data set. These updates did not affect any high-level takeaways in the report, but the changes to I10 and I11 may be useful to institutions identifying specific strengths and weaknesses.

EXECUTIVE SUMMARY

The Illinois Educator Preparation Profiles (IEPP) system[1], housed at the Illinois State Board of Education (ISBE), provides public information on the performance of Illinois teacher preparation programs (TPPs) across the state. TPPs are scored on 11 indicators grouped into four domains—candidate selection and completion, knowledge and skills for teaching, performance as classroom teachers, and contribution to state needs. Based on these scores, TPPs are given a designation ranging from exemplary to needs improvement. ISBE will soon use these designations as part of an accountability system for the reauthorization of TPPs.

The goal of these analyses was to provide information that might help refine the IEPP for transparency and accountability use; to identify any relationships between features of postsecondary institutions/programs and IEPP outcomes; and to find areas of *productive difference* within postsecondary institutions/programs, which might lead to cross-program collaboration. In this report, we examine the first release of data from the IEPP, the 2020 cohort. We present results in three sections:

Section I: Indicator Analysis. This section provides an examination of the overall performance and variance on each IEPP indicator at the institution, program, and "subject matter" level.

Section II: Analysis of Institution-Outcome Relationships. This section examines relationships between institutional characteristics and IEPP indicator performance.

Section III: Technical Analysis. This section examines the quality of the IEPP data used to generate indicator scores.

Each section revealed unique findings that can be used to help ISBE refine the IEPP system for transparency and accountability; to identify potential features of TPPs that relate to candidate outcomes; and to find areas of potential peer learning for postsecondary institutions/TPPs.

Our key findings (and related implications) are as follows:

[1] The IEPP data can be found at https://apps.isbe.net/epp/public#/

Finding #1: With few exceptions, TPPs perform extremely high on the domains of *knowledge and skills for teaching* (i.e., the content area exam, the edTPA, and the completer survey) and *performance as classroom teachers* (i.e., classroom teaching evaluations). This uniformly high performance on these two domains assures that most TPPs will receive a commendable designation or higher on the IEPP.

- **Implications**: ISBE should consider whether more variation is needed in these measures, in order to distinguish TPPs from each other, or whether TPPs uniformly meeting these benchmarks is acceptable in terms of the IEPP's goals. If ISBE desires more variation, using first attempt pass rates, number of attempts, walk-away rates, and best-attempt rate data on candidate licensure exams—in addition to best attempt—could provide such variation. These additional data could potentially be used for transparency rather than accountability purposes.

Finding #2: Within the domain of *candidate selection and completion*, the state's TPPs are doing a solid job recruiting candidates with a GPA above 3.0, but they have vast room for growth in recruiting and completing non-white, low-income, and first-generation candidates. Similarly, within the domain of *contribution to state needs*, TPPs vary widely in their performance related to candidate placement and persistence in teaching, including in high needs schools.

- **Implications**: Specific institutions represent positive and negative outliers on each of these indicators and may benefit from collaboration with institutions doing better or worse on these outliers. ISBE might encourage TPPs to collaborate based on relative performance on different indicators within these two domains, making sure to match programs in institutions with broadly similar characteristics.

Finding #3: Institutional and program features did relate to performance on various indicators. We note several important examples. Math programs tend to recruit candidates with higher entry GPAs and have lower passing rates on the content area exam and edTPA. Larger, more selective, and more generally diverse institutions, as well as foreign language programs, tend to recruit more diverse candidates. Smaller programs and General/Elementary Education programs tend to perform better at completing diverse candidates. Public universities and special education programs are associated with higher placement and persistence rates, including in high needs schools, but public universities have smaller proportions of candidates meeting the entry GPA threshold.

- **Implications**: Institutions and programs may have different advantages (or disadvantages) for meeting IEPP expectations based on characteristics. As such, ISBE might consider pairing similar institutions and programs to learn from each other, particularly on the indicator related to program diversity (I2). As the IEPP matures, it may also be appropriate to set different benchmarks on specific indicators for different types of programs and institutions.

Finding #4: Comparison of IEPP data points with each other, as well as with similar data collected by the Illinois Board of Higher Education (IBHE), reveals some inconsistencies. These inconsistencies might be an indication that TPPs are making inadvertent errors in the data entry process or that indicator definitions require clarification and adjustment.

- **Implications**: ISBE may wish to clarify the requirements for data entry for indicators 1, 2, and 3. A first step for all three indicators would be to define when a student is officially a "candidate" in a program within their college trajectory. For indicator 1 ("entry GPA"), being clearer about when high school versus college GPA should be entered, or limiting use to one or the other, would make this indicator more interpretable. For indicators 2 ("candidate race/ethnicity") and 3 ("diverse completers"), unifying the definition of a "diverse" candidate—which is currently different for the two indicators—would allow better understanding of how well institutions move diverse candidates towards completion. ISBE may also want to validate data collected from TPPs with IBHE data. ISBE should consider adding additional internal technical capacity to ensure that these inconsistencies are addressed.

We hope that these points will be considered as part of the ongoing IEPP improvement and feedback process that is already underway at ISBE, with a variety of stakeholder groups.

INTRODUCTION

Teacher preparation programs (TPPs) play a critical role in developing high-quality, well-prepared teachers. Research has found links between teacher quality and student outcomes, both immediate (e.g., mathematics achievement; Aaronson et al., 2007) and long term (e.g., likelihood of attending college; Chetty et al., 2014). Research has also shown that specific teacher practices, including cultivating positive classroom environments and active learning pedagogies, are associated with higher student achievement (Allen et al., 2013).

Because TPPs provide teachers with foundational experiences that shape and guide their practice, efforts to reform education and improve student outcomes often focus on teacher education (e.g., U.S. Department of Education, 2011). However, approaches to TPP evaluation and accountability are complex and vary widely across the United States (Cochran-Smith, 2021; Fenwick, 2021; Feuer et al., 2013). According to Fenwick (2021), U.S. states evaluate TPPs along the following dimensions—though the measures used by each state vary: For program input, the dimensions include *candidate quality*; *faculty qualifications*; *content and pedagogical knowledge*; *cultural diversity, equity, and inclusion*; *assessment/data driven practice*; and *clinical practice*, among others. For program output, these include *licensure examination pass rates*; *candidate impact on PK-12 learning*; *graduates' perceptions*; and *quality assurance and continuous improvement*.

Many states have implemented accountability systems to enhance both teachers' educational experiences, by refining program curricula and clinical practice, and TPP outcomes, including teacher performance and persistence (Meyer et al., 2014). The state of Illinois, recognizing the importance of ensuring that all teachers are ready to teach and continuously supporting educator preparation programs, designed a transparency and accountability system for teacher preparation programs. This system was designed to provide "a holistic view of the program's ability to recruit and train effective educators aligned to state needs" (ISBE, 2020; p. 4). It was developed with guidance from the Partnership for Educator Preparation (PEP), which was a steering committee of stakeholders from colleges, K-12 schools, and advocacy organizations. According to ISBE, IEPP has "the goal [...] to ensure all new Illinois teachers are learner-ready on day

one in the classroom, and that data is used as a tool for continuous improvement to strengthen teacher preparation statewide in the long term."(ISBE, n.d.-a)

The initial wave of this system—called the Illinois Educator Preparation Profiles (IEPP)—began collecting data in 2016 and was released to the public in 2020. For this 2020 cohort, the IEPP reported scores on 11 indicators for specific teacher preparation programs (e.g., elementary ed, math ed) at higher education institutions across the state, with the exception of Early Childhood Education programs.[2] Collectively, the scores on these indicators were used to characterize each program with a performance designation (e.g., exemplary, needs improvement). The 2020 IEPP included data for 290 programs across 50 institutions.

In this report, we present findings from descriptive analyses of the 2020 IEPP data in three sections:

Section I: Indicator Analysis. This section provides an examination of the overall performance and variance on each IEPP indicator at the institution, program, and "subject matter" level.

Section II: Analysis of Institution-Outcome Relationships. This section examines relationships between institutional characteristics and IEPP indicator performance.

Section III: Technical Analysis. This section examines the quality of the IEPP data used to generate indicator scores.

Each section includes an overview of the measures used, the findings, and a summary with implications.

The goal of these analyses was threefold: (1) to provide information to ISBE that might help them in refining the IEPP for use as an accountability and transparency system, (2) to identify any relationships between postsecondary institutions/programs and IEPP outcomes, which might inspire follow-up studies about how postsecondary institutions/programs are supporting teacher candidates, and (3) to find areas of "productive difference" within postsecondary institutions/programs, wherein institutions/programs performing at different levels on specific indicators might have opportunity to learn from each other. Our goal is not to rank programs or institutions

[2] The 2021 IEPP release did include Early Childhood Education, and we will report on these 2021 cohort data in a subsequent report.

(indeed, given the nature of these data, such rankings are ill-advised) but to assist ISBE in continuously improving their system so that TPPs across the state are able to learn from one another. In the spirit of engaged research, we solicited input from ISBE, teacher education programs, and advocacy groups as we undertook this research, and we hope the findings will have immediate impact on these stakeholders. However, we note that the analyses and findings are our own, not representative of or swayed unduly by the beliefs of any of these external stakeholders.

In general, we found that further refinements to the IEPP could support the project's aims of systematically identifying the adequate preparation of teacher candidates; providing programs with information for consistent improvement and collaborative learning; and supporting the state in recruiting and retaining a diverse teacher workforce. This is particularly important since "educator preparation leaders have expressed a desire to know more about how well their graduates do in the classroom and about best practices among teacher preparation institutions, as a means of continuous improvement in their training programs" (ISBE, n.d.-b). We acknowledge that this research is happening in parallel to ISBE's ongoing efforts to improve the IEPP, and that some of the findings presented here align with tasks currently underway in those efforts. Forthcoming analyses of 2021 cohort data, as well as teacher candidate-level data, will result in further implications.

SECTION 1: INDICATOR ANALYSIS

In this section, we present findings on the descriptive characteristics of the IEPP indicators. We ask: **How do Illinois TPPs perform on each IEPP indicator, and what does that performance say about both the TPPs overall and the quality of the IEPP indicators for evaluating institutions?** We explored performance on the indicators at three levels: the *institution* level (e.g., "University of Illinois"), the *program* level (i.e., the programs within institutions, such as "University of Illinois Elementary Education program"), and the *subject-matter* level (i.e., all Secondary Mathematics Education programs). To begin, we describe the measures used for these analyses. We then dig into the overall performance on all IEPP indicators and the specific performance on each indicator. Importantly, we note we were unable to

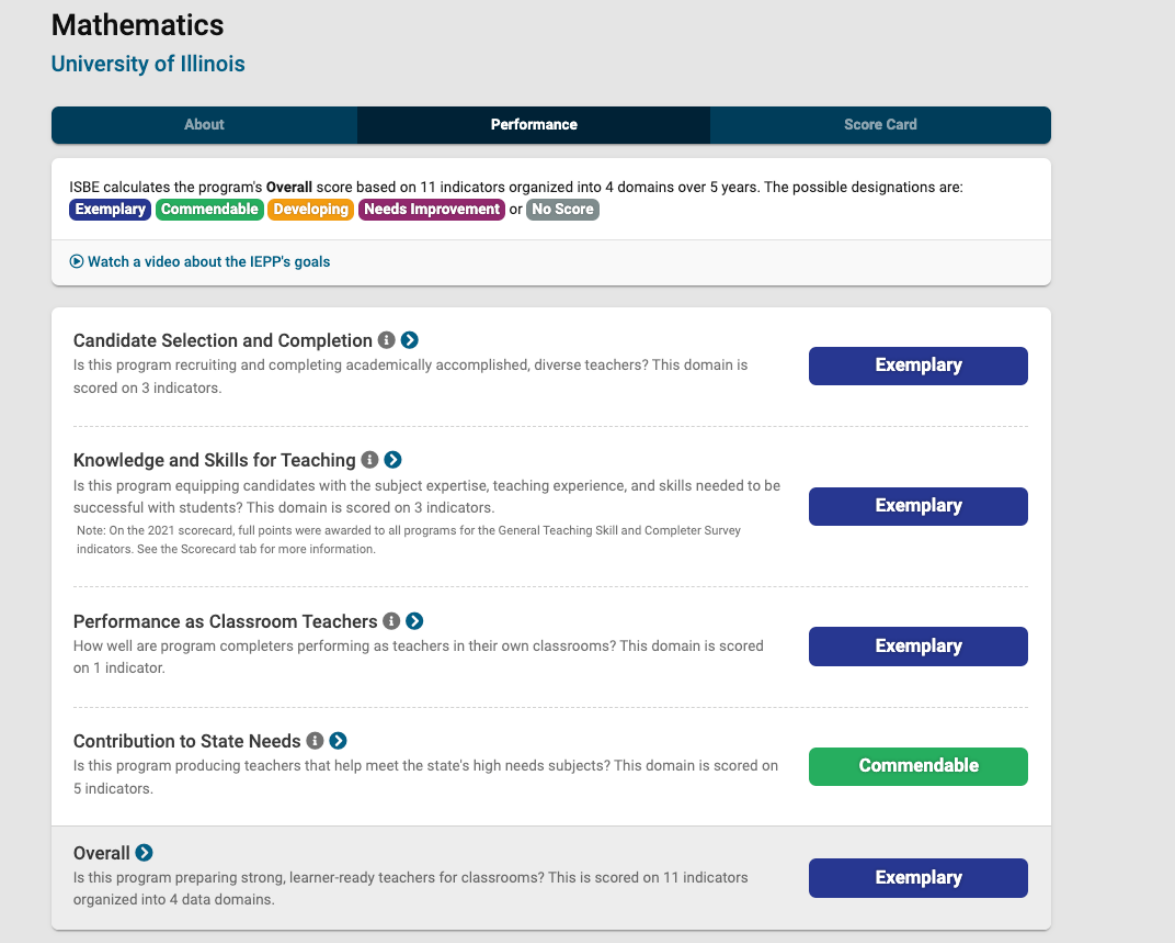
distinguish between types of programs (undergraduate or graduate and traditional or alternative, for example); we note implications of this at relevant points in the findings.

MEASURES

IEPP Indicators

The data used in this section come primarily from the IEPP data itself. The four domains of IEPP are Candidate Selection and Completion; Knowledge and Skills for Teaching; Performance as Classroom Teachers; and Contribution to State Needs. In turn, these four domains are composed of 11 indicators. Figure 1 illustrates how the data is reported for each program.

Figure 1.
Example of Reported Scores in the IEPP.



Raw data on candidates in programs (acquired from TPPs, candidate surveys, and state data) are used to calculate a percentage (or index score) for each indicator; scores are then assigned based on these values. Scores are assigned to programs based

on their performance relative to a state "minimum standard" and a "state target," and scores range from zero (if a program performs below the minimum standard) to the full points allowed for the indicator (if the program performs greater than or equal to the state target). Notably, each indicator has different full or maximum points available. Table 1 details the indicators that make up each domain, as well as their maximum points.

Table 1.
Definitions of Indicators in the IEPP.

Domain	Indicator	Description	% Minimum Standard	% State Target	Indicator Points
Candidate Selection and Completion	I1. Candidate entry GPA	The percentage of candidates that had a GPA of 3.0 or higher prior to entering the institution.[3]	67	100	5
	I2. Candidate race/ethnicity	The percentage of candidates that identify as a person of color.	10	50	10
	I3. Diverse completers	The percentage of candidates that identify as a member of a diverse group (by racial/ethnic, socioeconomic, and/or first-generation status) and complete the program within the standard program length.	67	100	10
Knowledge and Skills for Teaching	*I4*. Mastery of Teaching Subjects	The percentage of candidates that passed the content area exam on any attempt.	80	100	10
	I5. General Teaching Skill	The percentage of candidates that passed the edTPA exam on any attempt.	80	100	10
	I6. Completer Survey	An index score that measures how well completers believe that their program has prepared them as educators.	80	100	5
Performance as Classroom Teachers	*I7*. Demonstrated Teaching Skill	The percentage of completers scoring "proficient" or "excellent" on their overall performance evaluations.	80	100	25
Contribution to State Needs	I9.Placement in Teaching	The percentage of completers who begin working as a full-time teacher in an Illinois public school within two years of completing the program	67	100	6.25
	I10. Placement in Teaching in High Needs Schools	The percentage of completers who begin working as a full-time teacher in a high needs Illinois public school within two years of completing the program.	33	67	6.25
	I11. Persistence in Teaching	The percentage of completers who continue working in an Illinois public school for 3 or more consecutive years.	33	67	6.25
	I12. Persistence in Teaching in High Needs Schools	The percentage of completers who continue working in a high needs Illinois public school for 3 or more consecutive years.	33	67	6.25

Source: Adapted from (ISBE, N.D.). Note: Indicator 8 (I8) is not part of the available public data, and to our knowledge, not part of the IEPP score.

[3] GPA is the most recent GPA prior to entering the institution, and thus can be from high school or college.

Depending on the nature of each indicator, IEPP data were collected (a) from teacher education programs, using the Annual Program Report (APR) system, (b) through a survey of candidates when they applied for their teaching license at ISBE, and (c) through pulling from state administrative records. Most indicators measure data for the past five years (SY15-19). Some teacher education programs were not included at all in the 2020 data if the program (a) had fewer than 10 candidates enrolled; (b) had fewer than 10 completers; (c) had been discontinued; (d) had fewer than three years of data; or (e) was based in early-childhood organizations.[4] In addition, some programs might have data for some indicators but not others. This is because a program might not have data *for a specific indicator* if they did not meet a minimum threshold for data collection; for instance, a program was not rated on "I3: diverse completers" if they had fewer than 10 candidates identifying as diverse, but that program could have had values on other indicators. Whether or not a program had data for an indicator was dependent on the minimum threshold for the indicator.

As noted above, we explore the patterns of data at three distinct levels: institutions, programs, and subject matter. We used the 2020 IEPP publicly available data to generate **program-level** values for each indicator. These values were essentially proportions. For instance, for indicator I1 (*Candidate Entry GPA*), we divided the number of candidates with a GPA over 3.0 by the total number of candidates in the program. For I2 (*Candidate Race/Ethnicity*), we divided the number of candidates identifying as diverse by the total candidates in a program. And so forth, for each indicator, based on the indicator's particular definition. This process mirrored ISBE's own process of finding a proportion for each program; ISBE then assigned "scores" to each program based on those proportions, which we do not. Instead, we use the term "value" to refer to these proportions. Both the underlying data and IEPP scores are publicly available (see https://apps.isbe.net/epp/public#/)

Having found a value for each program, we then aggregated program values to the **institutional** level[5]. To do this, we averaged program values for each indicator. So, for instance, if an institution (e.g., University of Illinois Urbana-Champaign) had multiple programs (e.g., Elementary Education, Mathematics Secondary Education), we

[4] In SY21, ECE teacher preparation programs were part of the IEPP. An analysis of this data cohort is forthcoming.
[5] A list of institutions in the IEPP can be found in Appendix A. Note that not all institutions in the IEPP had data for the 2020 cohort.

averaged program values to find an institution value. The reason behind this aggregation was to explore the extent to which institutional characteristics were correlated with IEPP indicators across institutions. Throughout, we report on both programs and institutions.

We also looked at programs across institutions with the same **subject matter** (or content area), such as Mathematics Secondary Education. Given that there were 49 different program subjects, we qualitatively grouped them into 10 categories (see Table 4). We note that—while we initially designed the study to include differences by level of program (undergraduate or graduate), type of program (alternative or traditional), and modality of instruction (face-to-face, online, or blended)—we were unable to identify indicator values for each program, as the program ID was the same regardless of these differences. This presents a limitation as we are using a single indicator value by program ID, especially since the number of required courses and the specific offered courses vary considerably across programs.

Complementary Measure

For our analysis of Indicator 4 (*Mastery of Teaching Subjects*), we also used data from the National Council on Teacher Quality (NCTQ) on test takers and passing attempts for each participating institution corresponding to scores in the *Licensure Testing System (ILTS) Language and Literacy* (13% of programs). Although these correspond to Elementary Education programs, we use this variable as a proxy to explore the variation in passing rates across institutions and programs.

FINDINGS

Descriptive Statistics for All IEPP Indicators

Institution-Level Descriptives. We first present the descriptive statistics summarized in Table 2 for each indicator across **institutions**. There were 50 institutions with values across indicators, with the exception of indicators I1, I3, I11 and I12, with 49, 46, 48 and 48 institutions with values, respectively. Table 2 describes the mean, standard deviation, and range for all indicators in the IEPP. The indicator with the lowest value was persistence in high needs schools (I12), with an average of 0.47, whereas the highest was mastery of teaching subjects (I4), otherwise known as the content area exam, with an average of 0.99. Importantly, mastery—along with general

teaching skills—had the least variation in value. Indicators related to placement and persistence, on the other hand, had the highest variation, with standard deviations higher than 0.13.

Table 2.
Summary Descriptive Statistics for Indicators Across Institutions.

Variable	Descriptor	N	Mean	Std. Dev.	Min	Max
I1	Candidate entry GPA	49	.82	.10	.50	.99
I2	Candidate race/ethnicity	50	.22	.14	.00	.80
I3	Diverse completers	46	.81	.17	.24	1.00
I4	Mastery of Teaching Subjects	50	.99	.02	.92	1.00
I5	General Teaching Skill	50	.98	.02	.90	1.00
I6	Completer Survey	50	.89	.03	.82	.94
I7	Demonstrated Teaching Skill	50	.96	.03	.83	1.00
I9	Placement in Teaching	50	.68	.13	.36	.95
I10	Placement in Teaching in High Needs Schools	50	.57	.15	.23	.93
I11	Persistence in Teaching	48	.58	.16	.22	.87
I12	Persistence in Teaching in High Needs Schools	48	.47	.15	.14	.74

Program-Level Descriptives. The average number of **programs** included for each institution was 17, with a standard deviation of 7—ranging from one (e.g., Erikson Institute[6] and the School of the Art Institute of Chicago) to 36 (e.g., Illinois State University). After keeping programs for which there was data for at least one indicator (N=292; see reasons a program might not have *any* data in the Measures section above), we found that the number of available values for each indicator varied more across programs than across institutions, ranging from 133 for I3 (Diverse completers) to 292 for indicators I9 and I10 (Placement Overall and Placement in High Needs Schools). These differences are due to whether programs met the minimum threshold for data collection for an indicator. At the same time, we observed slightly more variation across indicators' mean values at the program level, as compared to the institution level, as shown in Table 3. However, the variation in values for indicators that describe teaching skills at the program level remained low and similar to the variation found at the institution level.

[6] Erikson's program was ECE, so there was not data available; however, it was listed in the IEPP.

Table 3.
Summary Descriptive Statistics for Indicators Across All Programs in the IEPP.

Variable	Descriptor	N	Mean	Std. Dev.	Min	Max
I1	Candidate entry GPA	291	.83	.12	.25	1.00
I2	Candidate race/ethnicity	292	.21	.15	0.00	.91
I3	Diverse completers	133	.82	.20	.09	1.00
I4	Mastery of Teaching Subjects	290	.98	.03	.80	1.00
I5	General Teaching Skill	256	.98	.04	.67	1.00
I6	Completer Survey	184	.89	.04	.74	.98
I7	Demonstrated Teaching Skill	238	.96	.04	.73	1.00
I9	Placement in Teaching	292	.69	.18	.17	1.00
I10	Placement in Teaching in High Needs Schools	292	.56	.17	.08	1.00
I11	Persistence in Teaching	243	.58	.20	0.00	1.00
I12	Persistence in Teaching in High Needs Schools.	243	.47	.17	0.00	.90

Subject-Level Descriptives. While the previous section looked at programs, it did not differentiate by the **subject matter** of the program—that is, the specific licensure and endorsements pursued by teacher candidates. Table 4 shows the distribution of subject matter for the 292 programs, with data grouped by subject.

Table 4.
Number and Percentage of Programs and Teacher Candidates by Subject.

	Program codes	Programs	N	Proportion of programs	Number of candidates ^	Proportion of candidates
Arts	DA, DTA, US, TEED, VART	Dance, Drama, Industrial Arts, Art	33	11%	2018	7%
Computer Education	BMC, LIS, TESP	Business, Marketing and Computers, Information Systems, Technology Specialist	8	3%	591	2%
ELA	ELA, LA, SREA	English Language Arts, Language Arts, Reading	48	16%	4907	16%
Foreign Language	SPAN	Spanish	10	3%	343	1%
General/ Elementary Education	SCGE	General/ Elementary Education	46	16%	10889	36%
Math	MATH, MMATH	Mathematics	25	9%	1321	4%
Sciences	GESC, SCIB, SCIC, SCIP	Science, Biology, Chemistry, Physics	26	9%	855	3%
Social sciences	FACS, SOSC, SSGE, SSHI, SSPY	Family and Consumer Sciences, Social Sciences,	34	12%	2048	7%

		Geography, History, Psychology				
Special Education & Disabilities	BPS, DHH, LBIS, LBSI, LMDS, LTRS	Visually Impaired, Hard of Hearing, Behavioralist, Transition Specialist	38	13%	5636	19%
Other	AGED, HEED, LCAS, PE	Agricultural Education, Health, Curriculum Adaptation, Physical Education	24	8%	1338	4%
Total			292		29946	

Note: The number of candidates was derived from the possible counts number from Indicator 1.

Table 5 shows differences in indicator values by subject matter across all institutions. We describe differences for each indicator by subject matter in detail in the following sections.

Table 5.

Summary Descriptive Statistics for Indicators by Subject Matter of Programs in the IEPP.

	Descriptor	Arts	Computer Education	ELA	Foreign Language	General/ Elementary Education	Math	Sciences	Social sciences	Special Education & Disabilities
I1	Entry GPA	0.85	0.82	0.85	0.89	0.81	0.87	0.84	0.80	0.81
I2	Candidate Race/Ethnicity	0.19	0.14	0.21	0.44	0.23	0.24	0.21	0.17	0.20
I3	Diverse completers	0.82	.	0.67	0.83	0.88	0.84	0.86	0.87	0.72
I4	Mastery of content area	0.99	0.99	0.98	0.97	1.00	0.97	0.99	0.97	0.99
I5	General teaching skill (edTPA)	0.98	0.98	0.99	0.96	0.99	0.94	0.97	0.98	0.99
I6	Completer survey	0.89	0.90	0.88	0.91	0.90	0.88	0.86	0.87	0.90
I7	Demonstrated teaching skill	0.97	0.98	0.96	0.98	0.96	0.96	0.95	0.94	0.97
I9	Placement	0.61	0.80	0.68	0.78	0.67	0.69	0.78	0.55	0.83
I10	Placement high needs	0.49	0.52	0.56	0.60	0.57	0.54	0.64	0.46	0.64
I11	Persistence	0.49	0.68	0.56	0.58	0.58	0.55	0.63	0.44	0.74
I12	Persistence high needs	0.40	0.47	0.45	0.43	0.48	0.46	0.52	0.37	0.56
Number of programs		33	8	48	10	46	25	26	34	38

Note: *Other* programs include Agricultural Education, Health Education, Curriculum Adaptation, and Physical Education

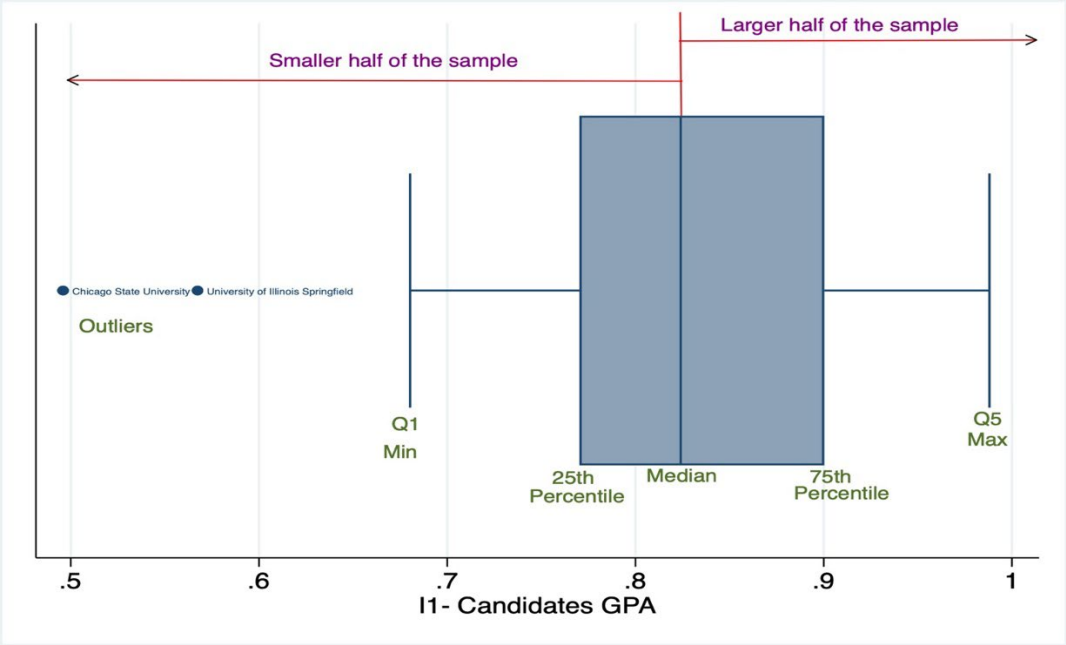
Unpacking Indicators in Domain 1: Candidate Selection & Completion

Moving from a general to a more specific picture, this section digs into descriptive statistics for the three indicators in Domain 1: Candidate Selection and Completion.

I1. Candidate Entry GPA. This indicator (I1) captures the percentage of teacher candidates with a GPA higher than or equal to 3.0 prior to entering an institution. Given that some programs are master's programs whereas others are undergraduate programs, and that students transfer into 4-year colleges from 2-year colleges or become teacher candidates at different times in their college career, the 3.0 GPA could refer to different contexts (i.e., high school GPA, baccalaureate GPA). Extant IEPP data does not allow us to make a distinction about this; as such, comparing or ranking programs by Indicator 1 is not advisable.

The average for this indicator at the institutional level was 82.4%, with a standard deviation of 10, indicating low variation in values across institutions. However, the minimum value was 50% and the maximum was 99%, as explained by two outlier institutions (Chicago State University and University of Illinois Springfield). Figure 2 provides a box plot summarizing the distribution of this indicator; to familiarize the reader with the information conveyed in box plots, we highlight the key components on this first box plot figure. Most observations and their values are located within the box. The median line divides the sample in two. In this case, most institutions are found to the right of the graph's center.

Figure 2.
Distribution of Indicator 1 (Proportion of Candidates Meeting Entry GPA Threshold) Across Institutions.



When we further examined variation in I1 across institutions, we noted no obvious relation between the number of programs and the percentage of candidates with a GPA at or higher than 3.0. The standard deviation of this percentage within institutions was, on average, small, with a few important exceptions such as Chicago State University (which ranges from 30% to 74% of candidates above the threshold), Aurora University (from 59% to 94%), and Dominican University (from 25% to 100%). These differences are summarized in Table 6. Note that only two institutions (in red) had a program average below the state's minimum standard of 67%. Again, we caution that institutional performance on this indicator is **not comparable**, as different types of GPAs may be entered for candidates within each institution.

Table 6.
Average and Range of Indicator 1 (Proportion of Candidates Meeting GPA Threshold) Within Institutions.

Institution	N	Mean	SD	Min	Max
Loyola University of Chicago	5	0.99	0.02	0.96	1
Relay Graduate School of Education	1	0.98	.	0.98	0.98
Augustana College	6	0.96	0.03	0.93	1
Northwestern University	5	0.96	0.04	0.89	1
North Central College	2	0.95	0.02	0.93	0.96
Lake Forest College	2	0.94	0.03	0.92	0.96
Concordia University	9	0.93	0.07	0.82	1
Olivet Nazarene University	9	0.93	0.06	0.84	1
University of Illinois Urbana-Champaign	15	0.92	0.05	0.82	1
Illinois Wesleyan University	2	0.91	0.11	0.83	0.98
St. Xavier University	8	0.91	0.05	0.85	0.98

Bradley University	5	0.90	0.06	0.85	1
Northeastern Illinois University	6	0.90	0.05	0.83	0.97
Elmhurst University	7	0.89	0.08	0.78	1
Illinois College	2	0.89	0.02	0.88	0.9
Blackburn College	1	0.88	.	0.88	0.88
McKendree University	3	0.87	0.06	0.81	0.93
Quincy University	1	0.87	.	0.87	0.87
University of. St. Francis	3	0.86	0.05	0.82	0.92
North Park University	6	0.85	0.07	0.74	0.92
Judson University	1	0.83	.	0.83	0.83
Northern Illinois University	14	0.83	0.06	0.74	0.93
Wheaton College	5	0.83	0.05	0.78	0.9
Dominican University	8	0.82	0.24	0.25	1
Greenville University	3	0.82	0.04	0.78	0.87
Illinois State University	29	0.82	0.08	0.57	0.96
National Louis University	13	0.82	0.08	0.67	0.94
Southern Illinois University – Edwardsville	9	0.82	0.09	0.71	1
Trinity International University	3	0.82	0.05	0.77	0.85
University of Chicago	5	0.82	0.04	0.78	0.88
Benedictine University	2	0.81	0.01	0.8	0.82
Monmouth College	2	0.81	0.02	0.8	0.82
University of Illinois – Chicago	13	0.81	0.12	0.59	1
Eastern Illinois University	10	0.79	0.08	0.65	0.9
Aurora University	6	0.78	0.13	0.59	0.94
Southern Illinois University- Carbondale	8	0.78	0.06	0.67	0.85
Vander Cook College of Music	1	0.77	.	0.77	0.77
DePaul University	6	0.76	0.03	0.7	0.78
Eureka College	3	0.75	0.03	0.72	0.77
Roosevelt University	8	0.75	0.11	0.61	0.88
Trinity Christian College	7	0.73	0.14	0.55	0.96
Rockford University	7	0.72	0.09	0.53	0.8
Western Illinois University	11	0.72	0.13	0.55	0.89
Knox College	1	0.71	.	0.71	0.71
Lewis University	4	0.71	0.05	0.65	0.78
Millikin University	4	0.71	0.15	0.52	0.84
Governors State University	4	0.68	0.07	0.59	0.74
University of Illinois Springfield	3	0.57	0.05	0.53	0.62
Chicago State University	3	0.5	0.22	0.3	0.74

We were further interested in exploring the extent to which subject matter was related to these differences. In Table 7, we present differences in the average percentage of candidates with GPA higher than 3.0 by subject. The highest observed value was in *Foreign Language* (Spanish)[7], with 89% of candidates exceeding the threshold; the lowest was for those programs grouped as Other (77%). The subject matter with the most variation was *Computer Education* (SD=.24). Testing for significant differences, we only observed a statistical difference between percentages in *Math* and programs in the *Other* group.

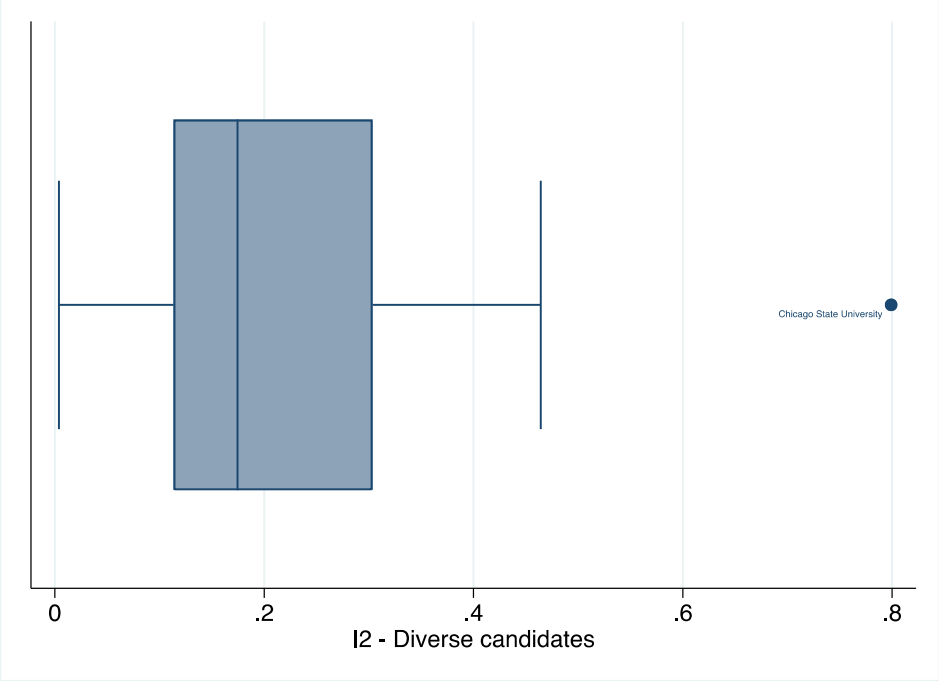
[7] The only Foreign Language teaching program represented within the IEPP is for teaching Spanish.

Table 7.
Average of Indicator 1 (Proportion of Candidates Meeting GPA Threshold) Across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	32	0.85	0.09	0.64	1
Computer Education	8	0.82	0.24	0.25	1
ELA	48	0.85	0.10	0.55	1
Foreign Language	10	0.89	0.07	0.80	1
General/Elementary	46	0.81	0.12	0.44	1
Math	25	0.87	0.10	0.61	1
Other	24	0.77	0.15	0.30	1
Sciences	26	0.84	0.10	0.59	1
Social Sciences	34	0.80	0.12	0.53	1
Special Ed & Disabilities	38	0.81	0.11	0.59	1

I2. Candidate race/ethnicity. This indicator describes the percentage of candidates who identify as non-white. The state target for this percentage is 50% to reflect the demographic characteristics of the population of Illinois, with the minimum standard at 10%. Figure 3 describes the distribution of this indicator across institutions. The average was 22% with a standard deviation of 14%. It is important to recognize that two factors could influence this distribution. First, we note that the lack of diversity in post-secondary education as a whole also directly impacts diversity in teacher preparation programs (TNTP Reimagine Teaching, 2020), and second, we acknowledge the role that geography plays into the recruitment of candidates (Akiba, 2011). Furthermore, we caution that treating non-whites as a monolithic group can be problematic given the diverse range of educational experiences that race/ethnicity bring to the table (see, for example, Read et al., 2021). Nevertheless, this is the terminology used in IEPP, and we use it throughout the report. Future rounds of data could perhaps disaggregate non-white candidates further into more specific race/ethnic groups.

Figure 3.
Distribution of Indicator 2 (Proportion of Non-White Candidates) Across Institutions.



As was the case with I1, we observed large variation in I2 within institutions, as shown in Table 8. The institution with the highest within-institution average of non-white candidates was Chicago State University (80%), the only one above the state target of 50%. Close to the state target, however, was the University of Chicago (46%). In contrast, the smallest program averages for diverse candidates were at Eureka College (0%) and Quincy University (2%). Six institutions (in red) were, on average, below the minimum standard of 10%. Again, we caution that Table 8 should not be used to rank or compare programs, given the different geographic and demographic characteristics of each institution.

Table 8.
Average and Range of Indicator 2 (Proportion of Non-White Candidates) Within Institutions.

Institution	N	Mean	SD	Min	Max
Chicago State University	3	0.80	0.16	0.62	0.91
University of Chicago	5	0.46	0.07	0.38	0.55
Relay Graduate School of Education	1	0.45	.	0.45	0.45
School of the Art Institute of Chicago	1	0.43	.	0.43	0.43
Northeastern Illinois University	6	0.41	0.07	0.32	0.51
Knox College	1	0.4	.	0.4	0.4
University of Illinois Chicago	13	0.4	0.18	0.13	0.69
Governors State University	4	0.37	0.18	0.15	0.53
St. Xavier University	8	0.35	0.17	0.22	0.76
Dominican University	8	0.34	0.11	0.23	0.53
Roosevelt University	8	0.31	0.09	0.13	0.44
Vander Cook College of Music	1	0.31	.	0.31	0.31
DePaul University	6	0.3	0.09	0.15	0.41
Aurora University	6	0.27	0.12	0.1	0.45
National Louis University	13	0.27	0.13	0.11	0.53
North Park University	6	0.27	0.04	0.24	0.33
Lake Forest College	2	0.26	0.03	0.25	0.28
North Central College	2	0.25	0.1	0.18	0.33
Concordia University	9	0.24	0.1	0.05	0.4
Northwestern University	5	0.24	0.05	0.18	0.31
University of Illinois Urbana-Champaign	15	0.22	0.09	0.03	0.34
Judson University	1	0.2	.	0.2	0.2
Lewis University	4	0.2	0.06	0.13	0.27
University of. St. Francis	3	0.19	0.04	0.16	0.23
Northern Illinois University	14	0.18	0.11	0.03	0.49
Elmhurst University	7	0.17	0.05	0.1	0.21
Wheaton College	5	0.17	0.08	0.05	0.24
Benedictine University	2	0.16	0.11	0.08	0.24
Millikin University	4	0.16	0.03	0.14	0.18
Monmouth College	2	0.16	0.02	0.14	0.17
Rockford University	7	0.16	0.1	0	0.29
University of Illinois Springfield	3	0.16	0.018	0.15	0.18
Loyola University of Chicago	5	0.15	0.04	0.1	0.21
Illinois State University	29	0.14	0.07	0	0.38
Illinois Wesleyan University	2	0.14	0.08	0.08	0.19
Bradley University	5	0.12	0.06	0.04	0.22
Trinity Christian College	7	0.12	0.11	0	0.28
Augustana College	6	0.11	0.05	0.07	0.18
Blackburn College	1	0.11	.	0.11	0.11
Eastern Illinois University	10	0.11	0.09	0.06	0.38
Southern Illinois University- Carbondale	8	0.11	0.05	0.04	0.19
Illinois College	2	0.1	0.03	0.08	0.13
Olivet Nazarene University	9	0.1	0.05	0.03	0.2
Southern Illinois University – Edwardsville	9	0.1	0.06	0	0.2
Trinity International University	3	0.09	0.06	0.05	0.16
Western Illinois University	11	0.09	0.08	0	0.26
McKendree University	3	0.07	0.05	0.01	0.11
Greenville University	3	0.04	0.04	0	0.09
Quincy University	1	0.02	.	0.02	0.02
Eureka College	3	0.003	0.01	0.00	0.01

Given that we observed some variation in these percentages within institutions, we explored differences by subject. Overall, we observed that, with the exception of *Foreign Language* (Spanish), all subjects were at around 20% of teacher candidates

who identify as non-white, below the state's target of 50% (but above its minimum standard of 10%), as shown in Table 9. The subject with the smallest number of diverse candidates was *Computer Education* (14%), whereas the highest—after Spanish—was *Math* (24%) followed by *General/Elementary Education* (23%). In terms of statistical significance, we found a difference between *Foreign Language* and all other subjects. However, we did not observe any statistical differences among the rest of the subjects.

Table 9.
Average and Range of Indicator 2 (Proportion of Non-White Candidates) Across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	33	0.19	0.10	0.04	0.43
Computer Education	8	0.14	0.07	0.03	0.25
ELA	48	0.21	0.12	0.00	0.55
Foreign Language	10	0.44	0.19	0.20	0.76
General/Elementary Education	46	0.23	0.17	0.01	0.91
Math	25	0.24	0.14	0.05	0.50
Other	24	0.18	0.14	0.00	0.62
Sciences	26	0.21	0.16	0.00	0.52
Social Sciences	34	0.17	0.11	0.00	0.43
Special Ed & Disabilities	38	0.20	0.17	0.00	0.86

I3. Diverse completers. The last indicator of this domain corresponds to the percentage of diverse candidates that completed the program within the standard program length.[8] For I3, the definition of a diverse candidate expands from a focus on race/ethnicity (in I2) to include race/ethnicity, socioeconomic conditions, and/or first-generation status. In other words, I3 measures the percentage of candidates who are non-white, first-generation college-goer, and/or from a low-income background who complete the program. The program average for this indicator is 81% (SD=17). The institution with the smallest program average of diverse completers was University of Illinois Springfield at 24%, with several institutions averaging below the state minimum of 67% (in red). These program averages are shown in Table 10.

In interpreting this table, however, we caution that the completion rates for each institution may be inflated or deflated by how each institution interprets who qualifies as a "teacher candidate." The IEPP technical guide (ISBE, 2020) defines a teacher candidate as "an individual who is enrolled in a preparation program to become a

[8] There is no set standard program length, and it varies across programs, especially considering that we cannot distinguish between undergraduate and graduate level programs.

teacher" (p. 3). The Annual Program Report System user guide (ISBE, 2022), within which programs are given technical information on how to enter information for ISBE, does not define a candidate. However, TPPs may differ in when they report a person majoring in an education-related field to be a teacher candidate. Formally, teacher candidacy begins after students complete criteria within their college that allow them to apply for teacher candidacy; criteria differ by institution, but generally include items such as completion of pre-requisite coursework, conducting fieldwork in education settings, passing of the state basic skills test, and/or maintaining an acceptable GPA.[9] Colloquially, however, students may be considered teacher candidates from the time they declare a major in education, which for many students is at the beginning of their college experience.[10]

Given the different criteria and impressions of "teacher candidacy," it is highly likely that institutions are counting the total number of teacher candidates slightly differently for Indicators 1, 2, and 3. For Indicator 3 (Diverse Completers), a clear implication is that completion rates for "teacher candidates" will be much higher than overall institutional completion rates, given that overall completion rates include all enrollees, not just later-stage students who have advanced to a specific candidacy. It is also quite possible that some institutions may include more or fewer students in their completion rate calculation, making it **inadvisable to compare institutions** on this measure. For instance, a college that considers all education majors in their completion rate calculation will have a much lower rate than one that only considers those students who have advanced to formal candidacy in their junior year (of an undergraduate program). The issue of defining candidacy will be discussed further in Section III: Technical Analysis.

Table 10.

Average and Range of Indicator 3 (Proportion of Diverse Completers) Within Institutions.

Institution	N	Mean	SD	Min	Max
Governors State University	2	1.00	0.00	1.00	1.00
Judson University	1	1.00	.	1.00	1.00
Knox College	1	1.00	.	1.00	1.00
Lake Forest College	1	1.00	.	1.00	1.00

[9] Teacher candidacy requirements can vary widely by institution. See, for instance, University of Illinois Chicago's Urban Education candidacy checklist, Millikin University's Policies and Procedures for Teacher Licensure programs, and Quincy University's Teacher Education Program Application.

[10] See, for instance, this article from Millikin University in which a student is referred to as a "freshman-level teacher candidate."

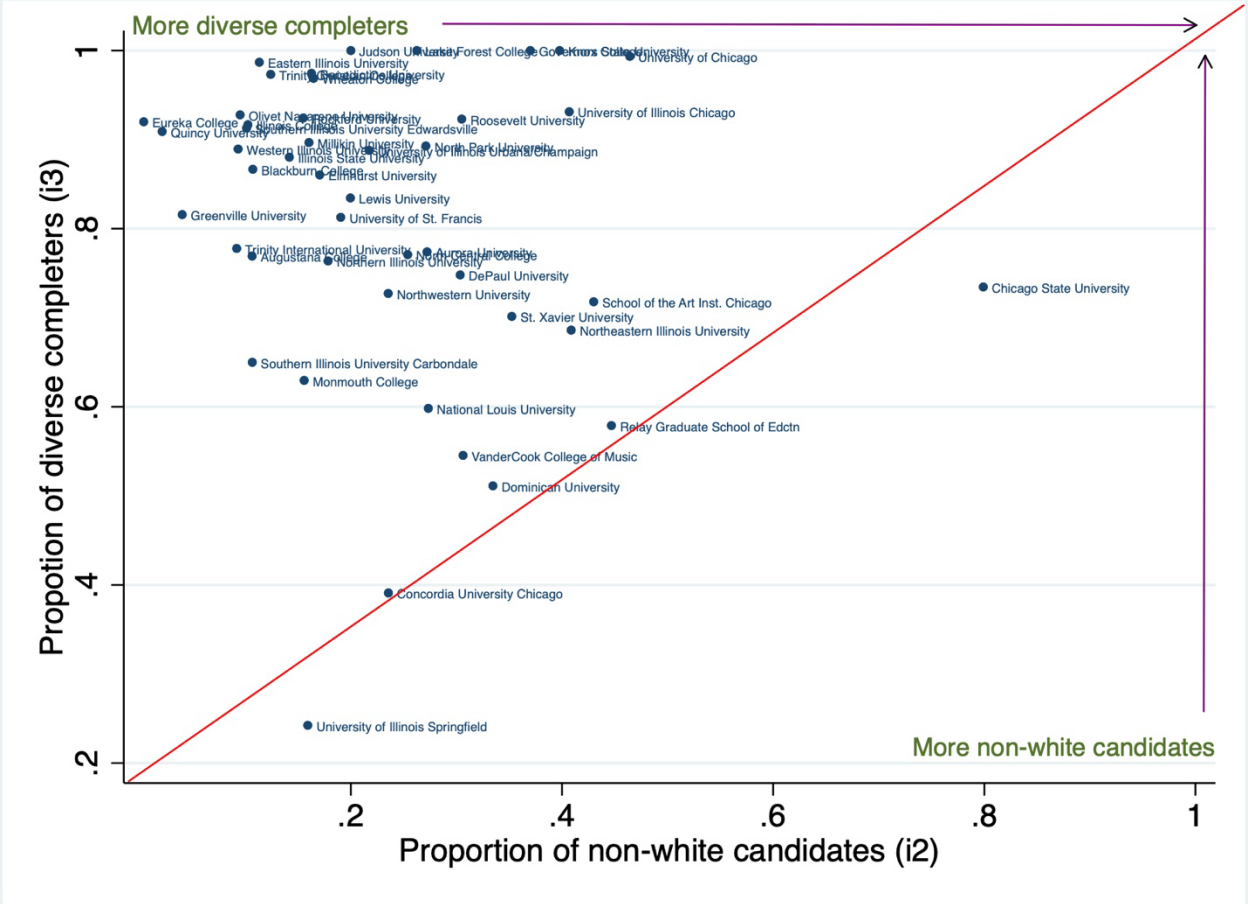
University of Chicago	3	0.99	0.01	0.98	1.00
Eastern Illinois University	4	0.99	0.03	0.95	1.00
Benedictine University	1	0.97	.	0.97	0.97
Trinity Christian College	2	0.97	0.04	0.95	1.00
Wheaton College	1	0.97	.	0.97	0.97
University of Illinois Chicago	8	0.93	0.05	0.84	1.00
Olivet Nazarene University	2	0.93	0.06	0.89	0.97
Rockford University	2	0.92	0.02	0.91	0.94
Roosevelt University	1	0.92	.	0.92	0.92
Eureka College	1	0.92	.	0.92	0.92
Illinois College	1	0.92	.	0.92	0.92
Southern Illinois Edwardsville	6	0.91	0.12	0.70	1.00
Quincy University	1	0.91	.	0.91	0.91
Millikin University	2	0.90	0.05	0.87	0.93
North Park University	1	0.89	.	0.89	0.89
Western Illinois University	3	0.89	0.05	0.83	0.92
University of Illinois Urbana-Champaign	10	0.89	0.13	0.55	1.00
Illinois State University	15	0.88	0.18	0.55	1.00
Blackburn College	1	0.87	.	0.87	0.87
Elmhurst University	3	0.86	0.09	0.80	0.96
Lewis University	2	0.83	0.11	0.76	0.91
Greenville University	1	0.82	.	0.82	0.82
University of St. Francis	3	0.81	0.13	0.68	0.94
Trinity International University	1	0.78	.	0.78	0.78
Aurora University	4	0.77	0.13	0.67	0.92
North Central College	2	0.77	0.15	0.67	0.88
Augustana College	1	0.77	.	0.77	0.77
Northern Illinois University	11	0.76	0.17	0.50	1.00
DePaul University	5	0.75	0.12	0.63	0.94
Chicago State University	2	0.74	0.25	0.56	0.91
Northwestern University	1	0.73	.	0.73	0.73
School of the Art Institute of Chicago	1	0.72	.	0.72	0.72
St. Xavier University	6	0.70	0.20	0.30	0.84
Northeastern Illinois University	6	0.69	0.22	0.38	1.00
Southern Illinois University Carbondale	1	0.65	.	0.65	0.65
Monmouth College	1	0.63	.	0.63	0.63
National Louis University	3	0.60	0.25	0.37	0.86
Relay Graduate School of Education	1	0.58	.	0.58	0.58
Vander Cook College of Music	1	0.55	.	0.55	0.55
Dominican University	2	0.51	0.27	0.32	0.70
Concordia University	3	0.39	0.36	0.17	0.81
University of Illinois Springfield	2	0.24	0.21	0.09	0.39
Bradley University	0	.	.	.	.
Illinois Wesleyan University	0	.	.	.	.
Loyola University	0	.	.	.	.
McKendree University	0	.	.	.	.

There are two important considerations: first, not all institutions reported having diverse completers and/or have a percentage for this indicator; and second, program size could also be related to these percentages of diverse candidates and completion. To disentangle these considerations, we analyzed the correlation between (a) diverse candidates in I2 (in terms of race/ethnicity) in Figure 4; and (b) program size in Figure 5.

Figure 4 shows that few institutions have large proportions of non-white candidates who are able to complete the program. Institutions in the upper left side of

the graph—most institutions in the graph—have more diverse completers but low proportions of non-white candidates. Chicago State University, on the other hand, has a large proportion of non-white candidates and almost 80% of their diverse candidates graduate. Institutions at, or close to, the line are proportionally enrolling and graduating diverse candidates, whereas institutions in the top left corner are enrolling at much lower rates but completing most of their diverse candidates.

Figure 4.
Relation between Indicator 2 and Indicator 3 Across Institutions.



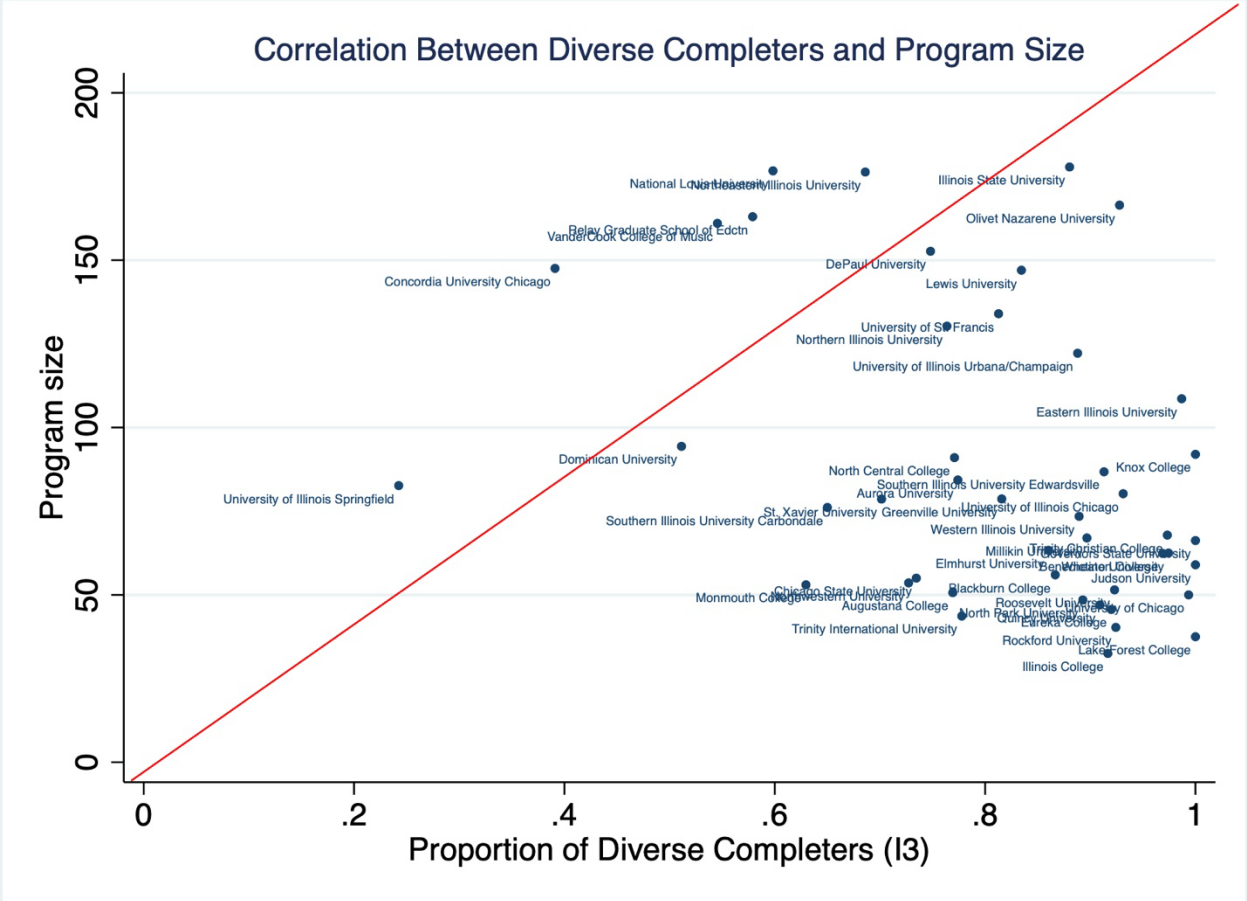
It is important to note that, while this indicator is related to I2 to some extent, the definitions for diversity were different in I2 and I3, which could have implications for the interpretation of these percentages. The correlation between these two indicators (I2 and I3) was r=-0.17, which is considered weak (Akoglu, 2018). As shown, Chicago State University appears to perform well across these two indicators, as it is high on both having diverse candidates and diverse candidate completion. Other institutions with promising outcomes for both number and completion of diverse candidates are the University of Chicago, Governors State University, Knox College, and University of

Illinois at Chicago. On the other hand, institutions with important areas for growth in terms of the enrollment and graduation of diverse candidates are University of Illinois Springfield as well as Concordia University Chicago.

In terms of the correlation with program size in Figure 5, we observed a slightly negative correlation (r=-0.38) between average program size and the percentage of diverse completers in each institution, which implies that smaller programs, on average, are more likely to graduate diverse candidates. In section 2 of this report, we explore in detail the program and institutional characteristics that can and cannot help explain the percentages across indicators, including the graduation of diverse candidates.

Figure 5.

Relation between Average Program Size and Indicator 3 Across Institutions.



Finally, we also explored differences across subjects for this indicator (I3). Table 11 shows that the smallest percentage of diverse completers was observed in *ELA* programs, whereas the highest was in the *Other* category, followed by *General/Elementary Education* programs. Most differences in I3 values between

subjects were not statistically significant, with two exceptions: *ELA* and *General/Elementary Education* (programs with the lowest and second-highest average diverse completers) and *Special Education and Disabilities* and *General/Elementary* Education (programs with the second-lowest and second-highest percentage of diverse completers).

Table 11.

Average and Range of Indicator 3 (Diverse Completers) Across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	15	.82	0.17	.55	1
Computer Education	0	.	.	.	.
ELA	18	.67	0.25	.09	1
Foreign Language	4	.83	0.20	.56	1
General/ Elementary Education	41	.88	0.13	.39	1
Math	10	.84	0.22	.30	1
Other	7	.90	0.07	.81	1
Sciences	7	.86	0.19	.55	1
Social Sciences	11	.87	0.13	.63	1
Special Education & Disabilities	20	.72	0.24	.20	1

Summary of Domain 1 (Indicators I1-I3): Candidate Selection and Completion. Our descriptive analysis of the Domain 1 indicators yields the following key takeaways:

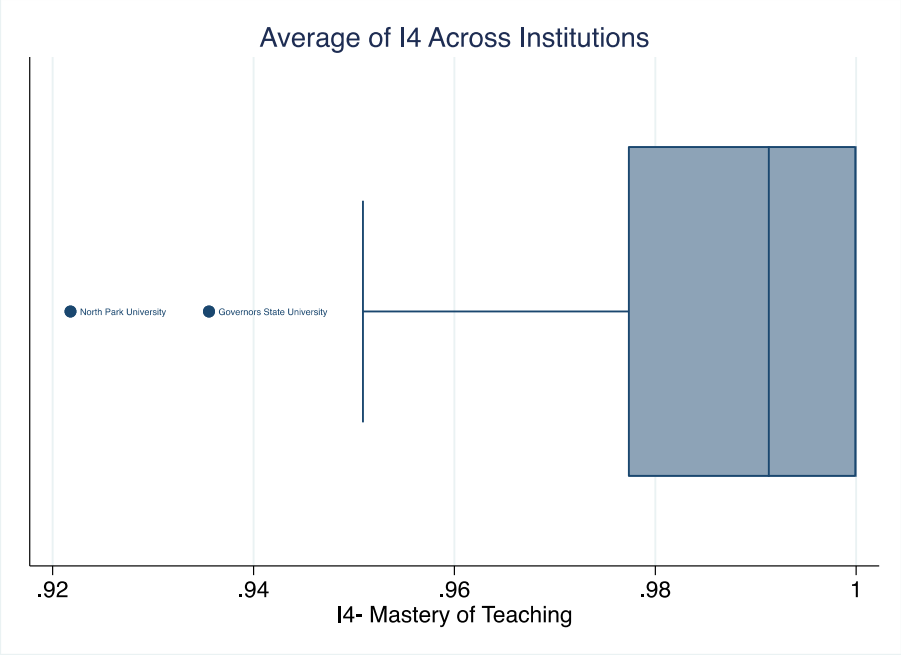
- As a whole, the state's TPPs are doing a solid job recruiting candidates with a GPA above 3.0 but have room for growth in recruiting and completing non-white, low-income, and first-generation candidates.
- Specific institutions represent positive and negative outliers on each of these indicators and may benefit from collaboration with institutions doing better or worse on these outliers. As institutions tend to have different strengths and weaknesses, programs who are positive outliers on one indicator may not excel at another indicator, thus providing potential to match programs accordingly.
- Math programs tend to recruit candidates with higher entry GPAs, while foreign language programs tend to recruit more diverse candidates.
- Smaller programs and General/Elementary Education programs tend to perform better at completing diverse candidates.

Unpacking Indicators in Domain 2: Teaching Skills & Knowledge

This section digs into descriptive statistics for the three indicators in Domain 2: Teaching Skills and Knowledge.

I4. Mastery of Teaching Subjects. I4 describes the percentage of candidates that passed the content area exam (the Illinois Licensure Testing System, ILTS), an exam required for licensure, *on any attempt*. The purpose of the ILTS program is to help ensure that all candidates seeking certification in Illinois have the knowledge and skills necessary to perform the job of an entry-level educator in Illinois public schools (Pearson, n.d.). As shown in Figure 6, the variation in values across institutions is very small. Program averages across institutions were 92%, with an institutional average of 99% and a standard deviation of only 0.02. All institutions averaged over the minimum standard of 80%. The lack of variation in indicator values is problematic as it is likely an indication of lack of validity of these measures (Cook & Beckman, 2006; Drost, 2022).

Figure 6.
Distribution of Indicator 4 (Proportion of Candidates Passing Content Area Exam) Across Institutions.



Measures are valid to the extent to which their value approximates the value of the construct of interest (Cook & Beckman, 2006; Dunbar et al., 1991). While it is desirable for all candidates to pass the ILTS to obtain the licensure, scholars have shown that classroom practices and teacher knowledge have large variation across and within

schools (Boyd et al., 2009; Darling-Hammond et al., 2002; Hiebert et al., 2005), so theoretically this indicator should have more variation.

Candidates only become completers once they pass the licensure exam according to Title II, so it makes sense that reported passing rates are high (NCTQ, 2021; U.S. Department of Education, 2009). However, in a practical sense, the lack of variation is problematic as it means that all teacher candidates had the same value regardless of program or institution. This indicator, thus, cannot currently be used to distinguish among programs or institutions. While this does not mean that the measure is not valid itself, it does not provide enough information to programs on their opportunity to grow, especially since most content areas are combined in a single test except for reading and math (Putman & Walsh, 2021). Similarly, as a transparency system, this measure does not provide sufficient information for interested students to make an informed program selection.

To explore the extent to which values could vary across programs, we show in Table 12 the distribution of values across institutions. The standard deviation was slightly larger than at the institution level but it remained small: below 5% in most cases (10% in Governors State University).

Table 12.

Average and Range of Indicator 4 (Proportion of Candidates Passing Content Area Exam) Within Institutions.

Institution	N	Mean	SD	Min	Max
Blackburn College	1	1.00		1.00	1.00
Bradley University	5	1.00	0.00	1.00	1.00
Eureka College	3	1.00	0.00	1.00	1.00
Illinois Wesleyan University	2	1.00	0.00	1.00	1.00
Judson University	1	1.00		1.00	1.00
Knox College	1	1.00		1.00	1.00
Lake Forest College	2	1.00	0.00	1.00	1.00
Millikin University	4	1.00	0.00	1.00	1.00
Monmouth College	2	1.00	0.00	1.00	1.00
North Central College	2	1.00	0.00	1.00	1.00
Northwestern University	5	1.00	0.00	1.00	1.00
Quincy University	1	1.00		1.00	1.00
Relay Graduate School of Education	1	1.00		1.00	1.00
Trinity International University	3	1.00	0.00	1.00	1.00
University of Chicago	5	1.00	0.00	1.00	1.00
Vander Cook College of Music	1	1.00		1.00	1.00
Lewis University	4	1.00	0.00	0.99	1.00
Loyola University Chicago	5	1.00	0.01	0.98	1.00
Southern Illinois Edwardsville	9	1.00	0.01	0.96	1.00
University of Illinois Urbana/Champaign	15	1.00	0.01	0.98	1.00
Eastern Illinois University	10	0.99	0.01	0.96	1.00
National Louis University	13	0.99	0.01	0.96	1.00

Trinity Christian College	7	0.99	0.02	0.96	1.00
Wheaton College	5	0.99	0.02	0.96	1.00
Dominican University	7	0.99	0.02	0.95	1.00
Northern Illinois University	14	0.99	0.01	0.97	1.00
Western Illinois University	11	0.99	0.02	0.96	1.00
Augustana College	6	0.99	0.03	0.92	1.00
University of Illinois Chicago	13	0.99	0.01	0.95	1.00
DePaul University	6	0.98	0.02	0.95	1.00
Elmhurst University	7	0.98	0.02	0.94	1.00
Illinois State University	28	0.98	0.02	0.92	1.00
Chicago State University	3	0.98	0.03	0.95	1.00
Greenville University	3	0.98	0.03	0.95	1.00
School of the Art Institute of Chicago	1	0.98		0.98	0.98
University of St. Francis	3	0.98	0.03	0.94	1.00
Benedictine University	2	0.98	0.03	0.96	1.00
Northeastern Illinois University	6	0.98	0.02	0.95	1.00
Olivet Nazarene University	9	0.98	0.04	0.88	1.00
Southern Illinois Carbondale	8	0.97	0.03	0.92	1.00
St. Xavier University	8	0.97	0.02	0.93	1.00
University of Illinois Springfield	3	0.97	0.04	0.93	1.00
McKendree University	3	0.97	0.05	0.91	1.00
Rockford University	7	0.97	0.04	0.92	1.00
Illinois College	2	0.96	0.05	0.93	1.00
Roosevelt University	8	0.96	0.05	0.87	1.00
Concordia University	9	0.96	0.03	0.90	1.00
Aurora University	6	0.95	0.05	0.87	0.99
Governors State University	4	0.94	0.10	0.80	1.00
North Park University	6	0.92	0.05	0.85	0.97

When we explored variation in passing rates in terms of subject matter (see Table 13), we found that most averages were between 97% and 99%, with standard deviations smaller than 5 points. The lowest individual program passing rate was 80% (*Math* at Governors State University). We did find, however, that differences in passing rates between *Math* and *ELA* with *General/Elementary Education* were statistically significant. Nevertheless, in terms of practical significance, differences were very small. As aforementioned, this could be explained by the fact that in Illinois, all candidates must pass the test to obtain their elementary teaching license (NCTQ, 2021) and are thus motivated to pass it, and each candidate's best (i.e., passing) attempt was the one most likely reported.

Table 13.
Average and Range of Indicator 4 (Proportion of Candidates Passing Content Area Exam) Across Subjects.

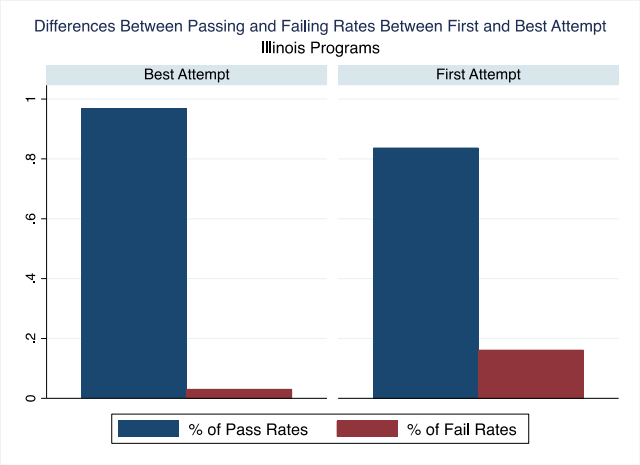
Subject	N	Mean	SD	Min	Max
Arts	33	.99	0.00	.95	1
Computer Education	8	.99	0.03	.92	1
ELA	48	.99	0.03	.87	1
Foreign Language	10	.97	0.04	.88	1
General/Elementary	46	.99	0.01	.96	1
Math	25	.97	0.05	.80	1
Other	24	.98	0.03	.92	1
Sciences	25	.99	0.02	.95	1
Social Sciences	34	.97	0.04	.87	1
Special Ed & Disabilities	37	.99	0.01	.96	1

To understand how reporting best attempt—rather than considering the full number of attempts—could influence this value, we used data from NCTQ on the Illinois Licensure Testing System (ILTS) for Elementary Education (grades 1-6).[11] Specifically, we explored the relation between passing rates *on first attempt* and I4 values (in Elementary Education). As shown in Figure 7A, the percentage of first-attempt passing rates is smaller (and, conversely, the percentage of first-attempt failing rates is larger) than the best-attempt rates reported in I4 values. In fact, when analyzing only first-attempt rates, as shown in Figure 7B, we uncovered that the distribution of passing rates is healthier (in terms of measurement) with larger variation. For example, about 84% of candidates passed the ILTS Language and Literacy test on the first attempt. This is important to acknowledge because the number of needed attempts could impose a barrier for lower-income candidates to obtain a certificate, as each attempt costs on average $100, in addition to the indirect cost in time spent preparing for the test.

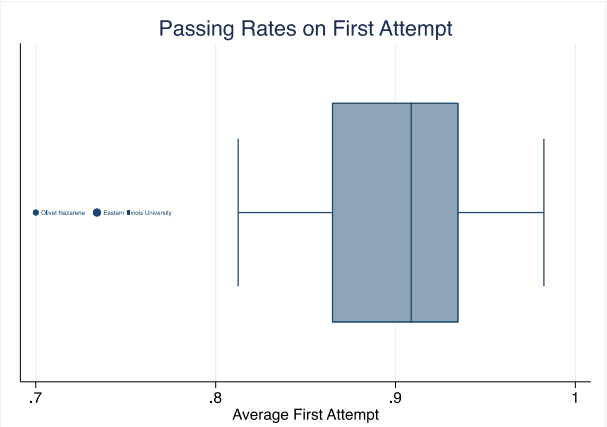
[11] We note that NCTQ includes all test takers from an institution regardless of whether they are enrolled in teacher preparation programs or not.

Figure 7.

A. Differences in Passing and Failing Rates by Best and First Attempt (Elementary Education).



B. Distribution of Passing Rates (First Attempt Only, Elementary Education).



We then disaggregated passing rates on first attempt by subject (within the Elementary Education licensure test), as shown in Table 14. The variation in passing rates on first attempt on ELA and Math range from slightly above 70% with a standard deviation of around 10. In the common subject test for all other subjects, however, passing rates on the first attempt appear to be much higher with a practically null standard deviation.[12] First attempt rates are relevant to consider because research has found that first-time passing candidates can be more effective than their counterparts who retook the test (Cowan & Goldhaber, 2016). In addition, IEPP as a transparency system might provide interested candidates with information on average number of attempts for their selection on where to enroll for preparing for teaching.

Table 14.

Average of Passing Rates on First Attempt by Subject (within the Elementary Education licensure test).

Subject	N of programs	Mean (%)	S.D. (%)
ELA	36	72.2	10.4
Math	36	75.0	12.4

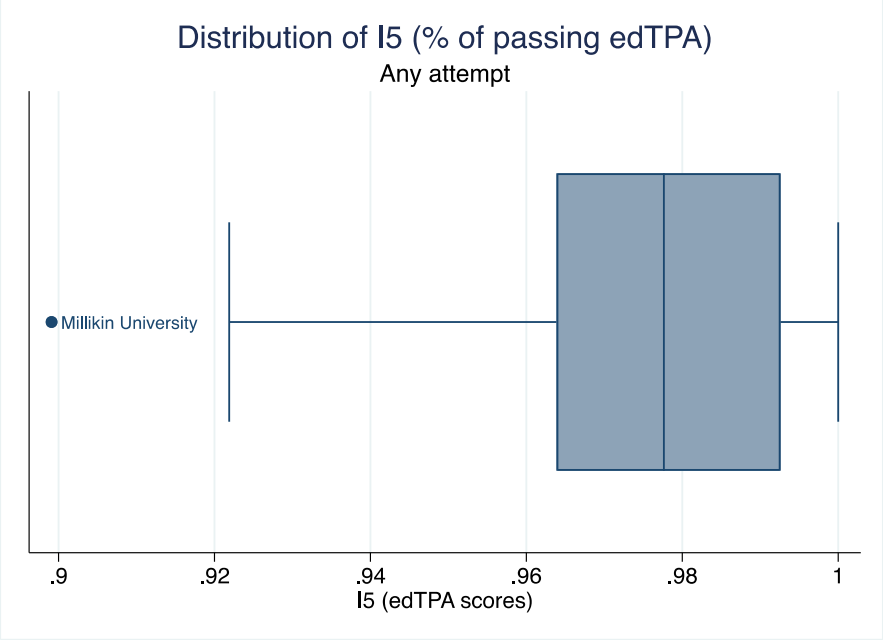
I5. General Teaching Skills. This indicator describes the percentage of candidates that passed the edTPA exam on any attempt. As was the case with I4, the

[12] As noted by NCTQ, the state's testing system is unable to discern teachers' content knowledge for science and social studies as these are combined under one score. Similarly, fine arts, physical development, and health are also tested under another subtest (NCTQ, 2021).

variation in values for this indicator was also very low, as shown in Figure 8. All institutions averaged over the minimum standard of 80%. In Illinois, passing thresholds for the edTPA were established in 2015 and increased slightly in 2018 (EdTPA, n.d.-a); Illinois passing scores for edTPA are about the same as in most states, especially in the Midwest: 39 out of 75 points (EdTPA, n.d.-b). Candidates are also able to re-take the licensure credential if necessary; however, information on number of attempts related to edTPA was not publicly available for our analysis. In addition to the limited variation in this value, scholars have shown that the technical properties for the edTPA are limited (Gitomer et al., 2021) and inconsistent across racial/ethnic groups, as Hispanic and Black teacher candidates have more likelihood of failing this test than their White counterparts (Gitomer et al., 2021; Goldhaber et al., 2017). Overall, edTPA's predictive validity has been shown to be limited (Carter & Lochte, 2017; De Voto et al., 2021; Gitomer et al., 2021; Koetje, 2022) and therefore, results should be interpreted with caution and as a source of information only, not to conclude the extent to which some teachers are better prepared than others.

Figure 8.

Distribution of I5 (Proportion of Candidates Passing edTPA) Across Institutions.



While the variation within institutions (i.e., across programs) improved slightly, it remained very low, as shown in Table 15. We did not observe any systematic difference between the number of programs at an institution and the average percentage

of candidates passing edTPA. However, this could also be constrained by the fact that passing the edTPA is a requirement in the state (EdTPA, n.d.-a).

Table 15.

Average of I5 (Proportion of Candidates Passing edTPA) on Any Attempt Within Institutions.

Institution	N	Mean	SD	Min	Max
Augustana College	5	1.00	0.00	1.00	1.00
Blackburn College	1	1.00	.	1.00	1.00
Illinois College	1	1.00	.	1.00	1.00
Illinois Wesleyan University	2	1.00	0.00	1.00	1.00
Lake Forest College	2	1.00	0.00	1.00	1.00
North Central College	2	1.00	0.00	1.00	1.00
Quincy University	1	1.00	.	1.00	1.00
Southern Illinois Carbondale	8	1.00	0.00	1.00	1.00
Trinity International University	2	1.00	0.00	1.00	1.00
University of St. Francis	2	1.00	0.00	1.00	1.00
University of Chicago	4	1.00	0.00	0.99	1.00
University of Illinois Springfield	3	0.99	0.01	0.98	1.00
Lewis University	4	0.99	0.01	0.99	1.00
National Louis University	11	0.99	0.02	0.96	1.00
Northwestern University	5	0.99	0.02	0.95	1.00
Wheaton College	5	0.99	0.02	0.96	1.00
School of the Art Institute of Chicago	1	0.99	.	0.99	0.99
Trinity Christian College	5	0.99	0.01	0.97	1.00
Illinois State University	27	0.98	0.03	0.91	1.00
Northern Illinois University	10	0.98	0.02	0.96	1.00
Elmhurst University	7	0.98	0.03	0.94	1.00
University of Illinois Chicago	14	0.98	0.03	0.90	1.00
Concordia University	7	0.98	0.03	0.92	1.00
Aurora University	5	0.98	0.05	0.90	1.00
University of Illinois at Urbana/ Champaign	9	0.98	0.03	0.91	1.00
Northeastern Illinois University	5	0.98	0.02	0.95	1.00
Judson University	1	0.98	.	0.98	0.98
McKendree University	3	0.98	0.02	0.96	1.00
Olivet Nazarene University	8	0.98	0.04	0.89	1.00
Benedictine University	2	0.97	0.04	0.95	1.00
Greenville University	3	0.97	0.03	0.94	1.00
Chicago State University	3	0.97	0.05	0.92	1.00
Roosevelt University	6	0.97	0.06	0.85	1.00
Dominican University	7	0.97	0.04	0.90	1.00
Loyola University	5	0.97	0.06	0.87	1.00
Rockford University	5	0.97	0.07	0.84	1.00
DePaul University	5	0.96	0.06	0.87	1.00
Vander Cook College of Music	1	0.96	.	0.96	0.96
Eureka College	3	0.96	0.03	0.93	1.00
Governors State University	4	0.96	0.07	0.85	1.00
Relay Graduate School of Education	1	0.96	.	0.96	0.96
Southern Illinois Edwardsville	8	0.96	0.05	0.86	1.00
Bradley University	5	0.96	0.06	0.86	1.00
North Park University	6	0.96	0.05	0.90	1.00
Eastern Illinois University	9	0.95	0.05	0.85	1.00
St. Xavier University	7	0.95	0.05	0.88	1.00
Western Illinois University	9	0.94	0.05	0.88	1.00
Monmouth College	2	0.93	0.10	0.86	1.00
Knox College	1	0.92	.	0.92	0.92
Millikin University	4	0.90	0.16	0.67	1.00

Finally, we analyzed the patterns across edTPA passing rates by subject. We noted that *Math* programs had a slightly lower passing rate than others (along with *Other*), as shown in Table 16. In fact, the difference in average passing rates between *Math* and *ELA*, *Special Education and Disabilities*, *Social Sciences*, and *General/Elementary* education were all statistically significant.

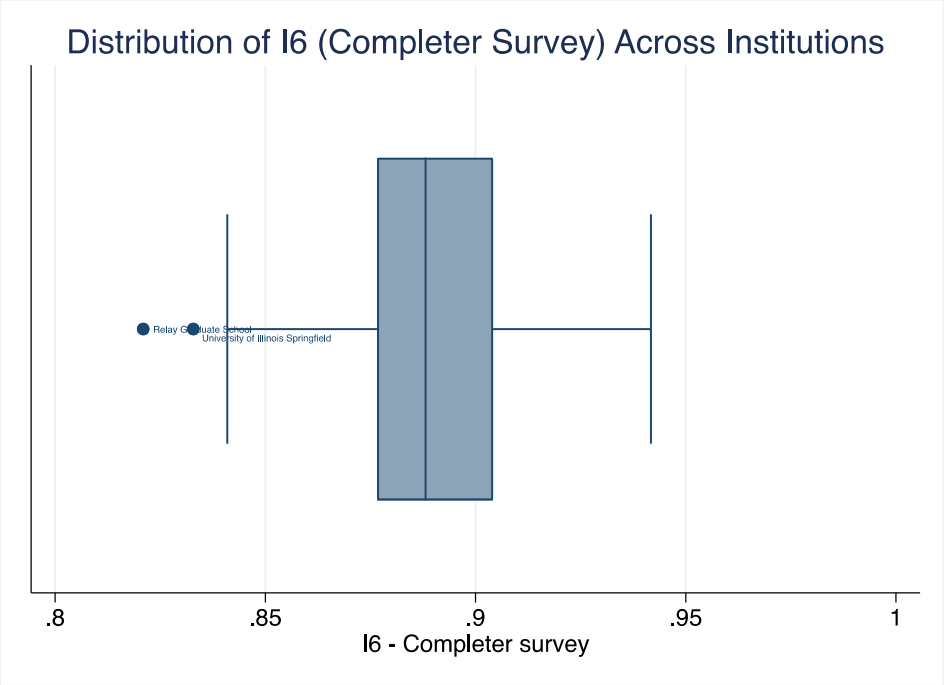
Table 16.

Average of I5 (Proportion of Candidates Passing edTPA) on Any Attempt by Subject.

Subject	N	Mean	SD	Min	Max
Arts	31	.98	0.04	.86	1
Computer Education	4	.98	0.03	.94	1
ELA	34	.99	0.01	.96	1
Foreign Language	8	.96	0.05	.88	1
General/Elementary	46	.99	0.02	.92	1
Math	24	.94	0.06	.85	1
Other	21	.94	0.08	.67	1
Sciences	23	.97	0.05	.85	1
Social Sciences	32	.98	0.04	.84	1
Special Ed & Disabilities	33	.99	0.01	.95	1

I6. Completer Survey. The last indicator of this domain was the completer survey, which is an index score that measures how well teachers who completed a program believe the program prepared them for the workforce. All program completers receive the survey as part of the requirement to obtain their license. Response rates vary at the program level. This indicator is assigned a value as completers respond about their agreement to a Likert-type scale between 1 (no agreement) and 5 (high agreement), and the index score is calculated by dividing the value of all responses by the maximum possible value (ISBE, 2020). As with the rest of indicators in this domain, the variation across institutions in I6 was low. Specifically, Figure 9 shows that values ranged between 82% and 94% with an average of 89% (S.D.=0.03), which can be interpreted as the extent to which teachers agree that the program they completed was able to prepare them for a teaching career. All institutions averaged over the minimum standard of 80%.

Figure 9.
Distribution of I6 (Completer Survey) Across Institutions.



We analyzed the variation in I6 within institutions in Table 17. We observed that there was indeed more variation within institutions, which implies that different programs convey different types of preparation and support to their candidates for their profession; in other words, teachers' perceptions do vary depending on specific program.

Table 17.
Distribution of I6 (Completer Survey) Within Institutions.

Institution	N	Mean	SD	Min	Max
Augustana College	2	0.93	0.03	0.90	0.95
Aurora University	4	0.90	0.02	0.88	0.92
Benedictine University	1	0.89	.	0.89	0.89
Blackburn College	1	0.89	.	0.89	0.89
Bradley University	3	0.92	0.02	0.90	0.94
Chicago State University	1	0.91	.	0.91	0.91
Concordia University	4	0.87	0.04	0.82	0.91
DePaul University	5	0.88	0.04	0.84	0.93
Dominican University	4	0.84	0.03	0.80	0.88
Eastern Illinois University	8	0.90	0.03	0.86	0.93
Elmhurst University	6	0.90	0.04	0.84	0.95
Erikson Institute	0	.	.	.	.
Eureka College	2	0.88	0.02	0.87	0.90
Governors State University	2	0.91	0.01	0.91	0.92
Greenville University	1	0.89	.	0.89	0.89
Illinois College	1	0.88	.	0.88	0.88
Illinois State University	18	0.88	0.05	0.74	0.94
Illinois Wesleyan University	2	0.90	0.05	0.87	0.94
Judson University	1	0.93	.	0.93	0.93
Knox College	1	0.90	.	0.90	0.90
Lake Forest College	1	0.92	.	0.92	0.92

Lewis University	4	0.90	0.01	0.90	0.91
Loyola University	5	0.92	0.02	0.89	0.94
McKendree University	1	0.92	.	0.92	0.92
Millikin University	3	0.90	0.05	0.86	0.95
Monmouth College	1	0.86	.	0.86	0.86
National Louis University	7	0.86	0.02	0.83	0.89
North Central College	2	0.89	0.04	0.87	0.92
North Park University	2	0.91	0.01	0.90	0.92
Northeastern Illinois University	5	0.88	0.02	0.85	0.91
Northern Illinois University	9	0.89	0.03	0.85	0.95
Northwestern University	5	0.87	0.04	0.80	0.89
Olivet Nazarene University	5	0.89	0.04	0.85	0.95
Quincy University	1	0.88	.	0.88	0.88
Relay Graduate School of Education	1	0.82	.	0.82	0.82
Rockford University	1	0.84	.	0.84	0.84
Roosevelt University	4	0.87	0.01	0.85	0.89
School of the Art Institute of Chicago	1	0.86	.	0.86	0.86
Southern Illinois Carbondale	5	0.84	0.04	0.77	0.88
Southern Illinois Edwardsville	8	0.84	0.03	0.81	0.90
St. Xavier University	6	0.92	0.05	0.85	0.98
Trinity Christian College	3	0.89	0.01	0.87	0.90
Trinity International University	1	0.91	.	0.91	0.91
University of Chicago	1	0.88	.	0.88	0.88
University of Illinois at Chicago	8	0.89	0.02	0.86	0.91
University of Illinois at Springfield	1	0.83	.	0.83	0.83
University of Illinois at Urbana/Champaign	10	0.89	0.03	0.83	0.93
University of St. Francis	2	0.94	0.02	0.93	0.96
Vander Cook College of Music	1	0.88	.	0.88	0.88
Western Illinois University	8	0.89	0.04	0.82	0.95
Wheaton College	5	0.89	0.03	0.84	0.92

In Table 18, we show that differences across subjects were not statistically significantly different. The subject with highest average completer survey value was *Foreign Language*, while the smallest was *Sciences*—the standard deviation for all subjects, however, was very small.

Table 18.

Differences in average values of I6 (completer survey) by subject.

Subject	N	Mean	SD	Min	Max
Arts	23	.89	0.04	.83	.95
Computer Education	2	.90	0.03	.88	.92
ELA	22	.88	0.04	.77	.98
Foreign Language	4	.91	0.04	.88	.95
General/Elementary	46	.90	0.03	.83	.96
Math	18	.88	0.03	.81	.92
Other	17	.88	0.05	.74	.95
Sciences	9	.86	0.03	.83	.91
Social Sciences	19	.87	0.04	.80	.94
Special Ed & Disabilities	24	.90	0.04	.82	.95

Summary of Domain 2 (Indicators I4-I6): Teaching Skills & Knowledge. Our descriptive analysis of the Domain 2 indicators yields the following key takeaways:

- All indicators in this domain showed very small variation; by program average, all institutions cleared the bar of the state's 80% minimum standard for each indicator. Given the low variation and high average performance, these indicators are not useful for distinguishing TPPs from one another, which clouds the transparency aspect of the system. Using scores on all attempts of the content area exam and the edTPA—rather than best attempt—might increase variance, allowing more distinction between programs. However, from an accountability perspective, the purpose of these measures may simply be to have programs pass an apparently low bar, rather than to evaluate programs differentially, in which case more variance is unnecessary. Depending on the purpose of the measures, the design or role of these measures within the IEPP system may need to be reconsidered.
- Math programs have the smallest passing rates on both the content area and edTPA exams.
- Programs within the same institution produce different levels of satisfaction by candidates, as shown by their responses to the completer survey. However, there is no systematic difference by the subject matter of the programs.

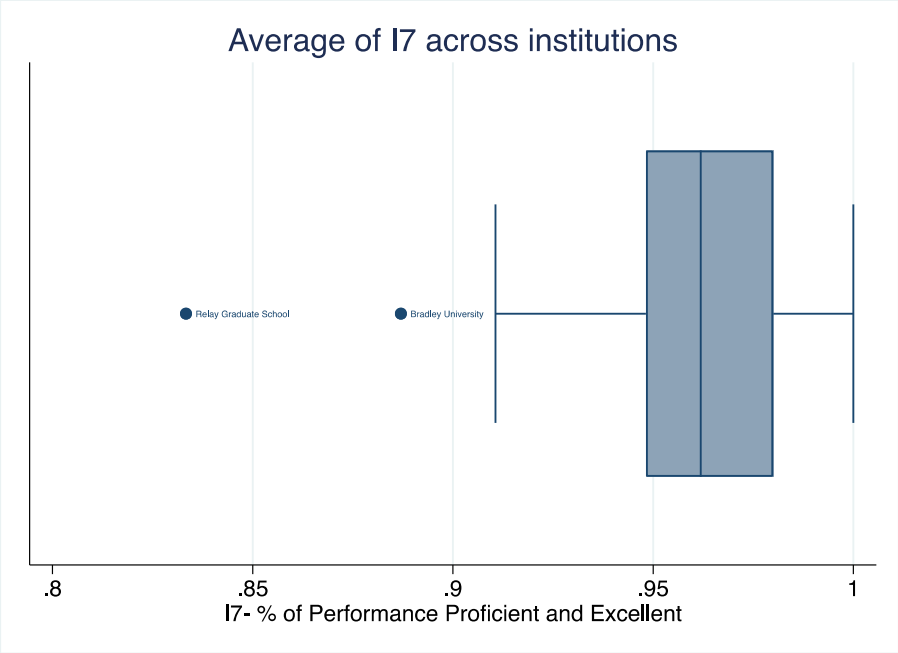
Unpacking the Indicator in Domain 3: Performance as Classroom Teachers

This section digs into descriptive statistics for the one indicator in Domain 3: Performance as Classroom Teachers.

I7. Demonstrated Teaching Skill. This indicator corresponds to the percentage of completers scoring "proficient" or "excellent" on their overall performance evaluations in the classroom on their most recent performance evaluation. In this evaluation, educators are evaluated on a 4-point scale based on 25% of student growth and 75% on professional practice (Milanowski et al., 2015). Like with indicators in Domain 2 (*Teaching Skills and Knowledge*), the variation was very small. Program average percentages ranged between 90% and 100%, with the exception of Relay Graduate School of Education (83%) and Bradley University (88%). All institutions had program averages over the state minimum standard of 80%. This is shown in Figure 10.

Given the complexity of the evaluation components, interpreting results from the evaluation is not straightforward, especially since these are only reported in the IEPP as a proportion of candidates with *good* performance. Separately, both measures (student growth and rubrics of classroom practices) have advantages and limitations (Barragan Torres, 2022; Kyriakides et al., 2009), so in aggregate these are even more prevalent. As a transparency system, we believe that reporting on scores or performance level overall and for each measure would be more informative. As an accountability system, separate scores would also allow TPPs to create trends and identify areas of improvement for their teacher candidates. However, we also recognize that teacher performance in evaluations is influenced by many factors, regardless of teacher preparation (Fenwick, 2001; Goldhaber et al., 2017).

Figure 10.
Distribution of Indicator 7 (Proportion of Candidates with Positive Classroom Teaching Evaluations) across Institutions.



Across programs, this indicator ranged from 73% (History at Bradley University) to 100%, with an average of 96% (S.D.=0.04). Table 19 shows that all institutions had a program average above 80%, with small standard deviations across programs, which translates to being above the state minimum standard of 80%. Eureka College and Bradley University had variation in performance percentages above 10 points. As was the case with indicators in Domain 2, we did not observe any systematic differences

regarding the number of programs by institution and the percentage of proficient/excellent teachers.

Table 19.

Differences in I7 (Proportion of Candidates with Positive Classroom Teaching Evaluations) within institutions.

Institution	N	Mean	SD	Min	Max
McKendree University	3	1.00	0.00	1.00	1.00
Monmouth College	1	1.00	.	1.00	1.00
Quincy University	1	1.00	.	1.00	1.00
Greenville University	2	0.99	0.01	0.99	1.00
University of Illinois at Springfield	3	0.99	0.02	0.97	1.00
University of St. Francis	3	0.99	0.01	0.98	1.00
Wheaton College	2	0.99	0.02	0.97	1.00
Illinois Wesleyan University	2	0.99	0.02	0.97	1.00
Rockford University	5	0.98	0.04	0.92	1.00
Concordia University	5	0.98	0.01	0.97	1.00
Southern Illinois Edwardsville	8	0.98	0.02	0.96	1.00
Governors State University	4	0.98	0.02	095	1.00
Vander Cook College of Music	1	0.98	.	0.98	0.98
Roosevelt University	6	0.97	0.05	0.89	1.00
North Central College	2	0.97	0.04	0.94	1.00
Augustana College	6	0.97	0.05	0.90	1.00
Illinois State University	28	0.97	0.04	0.83	1.00
Northern Illinois University	13	0.97	0.03	0.91	1.00
Trinity Christian College	4	0.97	0.02	0.95	1.00
Olivet Nazarene University	6	0.97	0.04	0.92	1.00
University of Illinois at Chicago	12	0.97	0.03	0.90	1.00
St. Xavier University	7	0.97	0.06	0.83	1.00
Judson University	1	0.96	.	0.96	0.96
University of Illinois at Urbana/Champaign	14	0.96	0.03	0.91	1.00
Illinois College	1	0.96	.	0.96	0.96
Northwestern University	5	0.96	0.04	0.91	1.00
Southern Illinois University	8	0.96	0.05	0.88	1.00
Elmhurst University	7	0.96	0.03	0.91	1.00
North Park University	1	0.96	.	0.96	0.96
Lewis University	4	0.96	0.04	0.91	1.00
Eastern Illinois University	9	0.96	0.04	0.88	1.00
Millikin University	3	0.96	0.03	0.93	0.98
Blackburn College	1	0.95	.	0.95	0.95
DePaul University	5	0.95	0.03	0.92	1.00
Lake Forest College	1	0.95	.	0.95	0.95
National Louis University	9	0.95	0.04	0.88	1.00
Benedictine University	2	0.95	0.05	0.92	0.98
Chicago State University	3	0.95	0.05	0.91	1.00
Northeastern Illinois University	4	0.95	0.01	0.93	0.96
Western Illinois University	10	0.95	0.05	0.85	1.00
Trinity International University	1	0.94	.	0.94	0.94
Eureka College	3	0.93	0.12	0.80	1.00
Aurora University	4	0.93	0.06	0.85	1.00
Dominican University	3	0.93	0.03	0.90	0.96
Knox College	1	0.92	.	0.92	0.92
Loyola University	4	0.92	0.04	0.87	0.96
School of the Art Institute of Chicago	1	0.91	.	0.91	0.91
University of Chicago	4	0.91	0.05	0.84	0.96
Bradley University	4	0.89	0.11	0.73	0.94
Relay Graduate School of Education	1	0.83	.	0.83	0.83

When we explored differences across subjects, we did not observe any statistically significant differences, although *Social Sciences* programs had a slightly lower average than the rest, as shown in Table 20. Interestingly, *Computer Education* and *Foreign Language* (Spanish) showed the highest averages.

Table 20.
Differences in I7 (Proportion of Candidates with Positive Classroom Teaching Evaluations) across subjects.

Subject	N	Mean	SD	Min	Max
Arts	23	.97	0.04	.88	1
Computer Education	4	.98	0.03	.94	1
ELA	37	.96	0.04	.84	1
Foreign Language	7	.98	0.04	.91	1
General/Elementary	46	.96	0.03	.87	1
Math	20	.96	0.05	.83	1
Other	20	.95	0.03	.88	1
Sciences	19	.95	0.05	.83	1
Social Sciences	25	.94	0.07	.73	1
Special Ed & Disabilities	37	.97	0.04	.83	1

Summary of Domain 3 (Indicator I7): Performance as Classroom Teachers. Our descriptive analysis of the Domain 3 indicator yields the following key takeaways:

- TPPs in the state perform well on demonstrated teaching skill, but there is little variation in performance (with all institutions, on average, performing above the state minimum standard), suggesting that the underlying measure of teaching skill may not be robust.
- We suggest that providing disaggregated information on both components of the evaluation would be more informative for transparency and accountability.

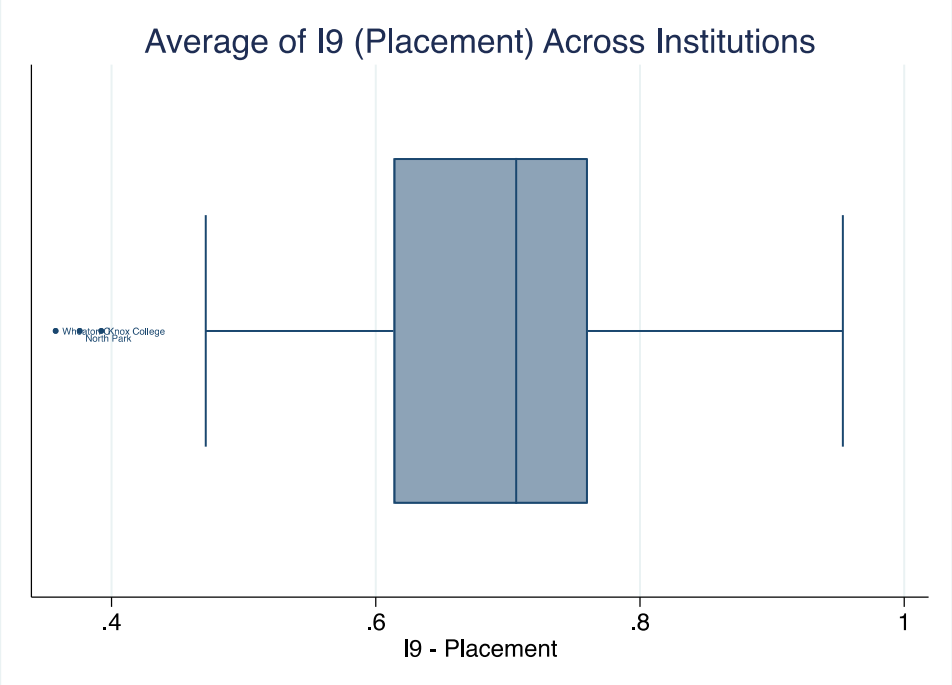
Unpacking the Indicators in Domain 4: Contribution to State Needs

This section digs into descriptive statistics for the four indicators in Domain 4: Contribution to State Needs. The state defined this domain to "identif[y] the extent to which program completers are employed in Illinois public schools and the persistence of these employees in their positions [...] to construct a picture of how the state's teacher production capacity aligns with the needs of Illinois public schools [...] and about how individual programs contribute to the state's public school employment need" (ISBE, 2020, p. 7). Research has shown that placement and persistence are important in the teacher labor market because they help foster teacher effectiveness and student development (Wheatley, 2002). However, most scholars have shown that factors that

affect placement and persistence are correlated with working and staffing conditions and rarely with teacher preparation programs (Borman & Dowling, 2008; Loeb & Darling-Hammond, 2006; Simon & Johnson, 2015). Therefore, this set of indicators should be interpreted with some caution. Similarly, it is important to note that TPPs do not directly place their graduates in a school for teaching. While institutions and programs may have various structures in place to support students, candidates themselves search and secure their teaching positions.

I9. Placement. This indicator describes the percentage of teachers who completed the program and began working as a full-time teacher in an Illinois public school within two years of completion. As shown in Figure 11, some—but not all—institutions are able to place their candidates within two years. Placement average within two years of completion was 68% with a relatively large standard deviation of 13 points. Across institutions, the minimum placement percentage was 36% and the maximum was 95%.

Figure 11.
Distribution of Indicator 9 (Proportion of Candidates Placed in Public Teaching Positions) across Institutions.



In Table 21 we present the range of placement percentages for each institution. The University of Chicago and Relay Graduate School of Education have program-average placement rates above 90%; and there were 19 institutions with program averages below the state minimum standard of 67% placement (in red). Institutions

below the minimum standard ranged in the number of teacher preparation programs they had as well as the size of the institution and their source of funding (i.e., public v. private).[13] We do note that, for this 2020 cohort, placement and persistence data did not include private-school teaching placement or teaching placements outside of the state, which may understate actual placement in the profession (but would accurately state placement in service of public state needs).

Table 21.
Differences in I9 (Proportion of Candidates Placed in Public Teaching Positions) across Institutions.

Institution	N	Mean	SD	Min	Max
University of Chicago	5	0.95	0.05	0.89	1.00
Relay Graduate School of Education	1	0.91	.	0.91	0.91
University of St Francis	3	0.88	0.07	0.81	0.93
Chicago State University	3	0.87	0.05	0.82	0.92
North Central College	2	0.85	0.07	0.80	0.90
Rockford University	7	0.84	0.11	0.64	1.00
Eureka College	3	0.82	0.08	0.75	0.91
Illinois College	2	0.82	0.03	0.80	0.84
Eastern Illinois University	10	0.81	0.09	0.71	1.00
University of Illinois at Chicago	13	0.80	0.13	0.55	0.96
Blackburn College	1	0.78	.	0.78	0.78
Northern Illinois University	14	0.77	0.14	0.54	0.99
University of Illinois at Urbana Champaign	15	0.76	0.12	0.56	0.96
Elmhurst University	7	0.76	0.06	0.69	0.88
McKendree University	3	0.75	0.15	0.64	0.91
Judson University	1	0.74	.	0.74	0.74
Governors State University	4	0.74	0.10	0.67	0.88
Western Illinois University	11	0.74	0.14	0.45	0.92
Illinois Wesleyan University	2	0.73	0.02	0.71	0.74
Illinois State University	29	0.73	0.15	0.44	1.00
Monmouth College	2	0.72	0.08	0.67	0.78
Augustana College	6	0.72	0.11	0.59	0.90
National Louis University	13	0.71	0.15	0.30	0.87
Southern Illinois Carbondale	8	0.71	0.14	0.48	0.85
St. Xavier University	8	0.71	0.14	0.47	0.89
Roosevelt University	8	0.70	0.15	0.42	0.93
Lewis University	4	0.70	0.09	0.58	0.79
Aurora University	6	0.69	0.26	0.33	0.99
Northeastern Illinois University	6	0.68	0.14	0.44	0.82
University of Illinois Springfield	3	0.67	0.05	0.63	0.73
Millikin University	4	0.67	0.08	0.59	0.74
Benedictine University	2	0.66	0.10	0.59	0.73
Bradley University	5	0.66	0.16	0.45	0.88
Southern Illinois Edwardsville	9	0.66	0.07	0.56	0.82
DePaul University	6	0.64	0.17	0.40	0.85
Dominican University	8	0.63	0.14	0.33	0.77
Loyola University	5	0.61	0.13	0.46	0.78
Vander Cook College of Music	1	0.61	.	0.61	0.61
School of the Art Institute of Chicago	1	0.60	.	0.60	0.60
Greenville University	3	0.59	0.21	0.36	0.79
Olivet Nazarene University	9	0.56	0.22	0.24	0.96

[13] See Appendix A for a list of IEPP institutions by public versus private designation.

Northwestern University	5	0.54	0.22	0.24	0.86
Lake Forest College	2	0.54	0.00	0.54	0.54
Concordia University	9	0.54	0.29	0.17	0.93
Trinity International University	3	0.53	0.01	0.52	0.55
Quincy University	1	0.53	.	0.53	0.53
Trinity Christian College	7	0.47	0.17	0.27	0.66
Knox College	1	0.39	.	0.39	0.39
North Park University	6	0.38	0.14	0.17	0.51
Wheaton College	5	0.36	0.09	0.22	0.44

Table 22 shows that there were some systematic differences in placement rates across subjects. *Special Education and Disabilities* as well as *Computer Education* have placement rates higher than 80%. In contrast, *Social Sciences* had a placement rate of 55%, closely followed by *Arts* with 61%. Importantly, the state's minimum standard for this indicator was 67%; thus, these two subject areas are below that standard (also in red). Moreover, most differences in indicator values were statistically significant. Differences across subject areas can be explained because job openings vary by subject in Illinois (Beilstein & Withee, 2022).

Table 22.

Differences in I9 (Proportion of Candidates Placed in Public Teaching Positions) across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	33	.61	0.20	.17	.90
Computer Education	8	.80	0.13	.56	.98
ELA	48	.68	0.21	.17	1.00
Foreign Language	10	.78	0.14	.50	1.00
General/Elementary	46	.67	0.14	.35	.89
Math	25	.69	0.13	.43	.86
Other	24	.71	0.15	.36	.94
Sciences	26	.78	0.12	.50	1.00
Social Sciences	34	.55	0.17	.25	.95
Special Ed & Disabilities	38	.83	0.10	.55	1.00

I10. Placement in High Need Schools. This indicator refers to the percentage of completers who began working as a full-time teacher in a *High Needs* Illinois public school within two years of completion. High needs schools are defined by ISBE as schools where 25% or more of students are eligible for free or reduced lunch (FRPL) (ISBE, 2020). According to report-card data, in 2019 there were 79% of schools with 25% or more students eligible for FRPL. Most high needs schools are located in Chicago and Cook County. The state's minimum standard for this indicator was 33%. The average of this indicator was 57%, with a standard deviation of 15 points. As shown, Wheaton College had the smallest percentage (23%), whereas Relay Graduate School of Education (91%) and the University of Chicago (93%) displayed the highest placement

in high-needs schools among completers. IEPP does not consider years of experience in classrooms before candidates enter a preparation program, which could have a relation with placement and persistence indicators (Taylor & Frankenberg, 2009).

Figure 12.
Distribution of Indicator 10 (Proportion of Candidates Placed in High Needs Schools) across Institutions.

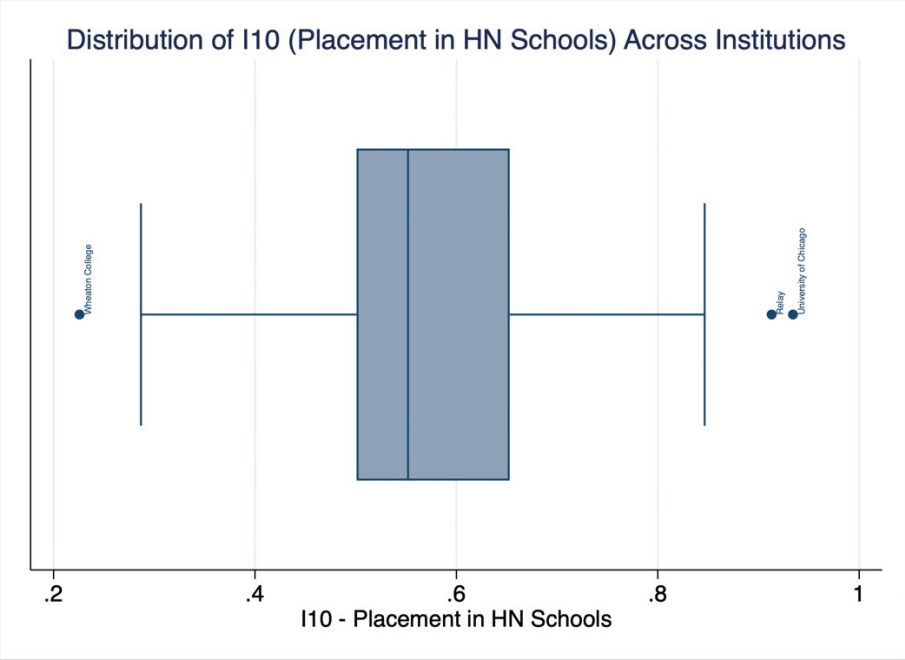


Table 23 shows that only three institutions were below the state's minimum standard of 33%. There was not a systematic relation between the number of programs at an institution and the average proportion placed in high-needs schools or the variation within an institution. See, for example, North Central College, with a standard deviation of 26 points (but only two programs), and, in contrast, Eastern Illinois University with 10 programs but 8 percentage points in variation.

Table 23.
Differences in I10 (Proportion of Candidates Placed in High Needs Schools) across Institutions.

Institution	N	Mean	SD	Min	Max
University of Chicago	5	0.93	0.07	0.85	1.00
Relay Graduate School of Education	1	0.91	.	0.91	0.91
Chicago State University	3	0.85	0.07	0.79	0.92
Blackburn College	1	0.78	.	0.78	0.78
Illinois College	2	0.78	0.03	0.76	0.80
Rockford University	7	0.73	0.16	0.50	0.91
Eastern Illinois University	10	0.73	0.08	0.60	0.90
North Central College	2	0.72	0.26	0.53	0.90
Eureka College	3	0.72	0.06	0.67	0.78

University of Illinois at Chicago	13	0.67	0.14	0.39	0.88
University of St. Francis	3	0.67	0.03	0.65	0.71
Western Illinois University	11	0.66	0.10	0.45	0.81
Southern Illinois. Carbondale	8	0.65	0.14	0.43	0.83
Monmouth College	2	0.65	0.09	0.58	0.71
Augustana College	6	0.63	0.15	0.49	0.90
Governors State University	4	0.63	0.07	0.56	0.72
St. Xavier University	8	0.63	0.11	0.41	0.75
Northeastern Illinois University	6	0.62	0.14	0.39	0.76
Vander Cook College of Music	1	0.59	.	0.59	0.59
School of the Art Institute of Chicago	1	0.59	.	0.59	0.59
University of Illinois Springfield	3	0.58	0.13	0.44	0.70
Millikin University	4	0.58	0.10	0.51	0.72
DePaul University	6	0.56	0.13	0.40	0.74
Dominican University	8	0.56	0.11	0.33	0.70
Illinois Wesleyan University	2	0.55	0.01	0.55	0.56
Roosevelt University	8	0.55	0.12	0.33	0.71
University of Illinois at Urbana/Champaign	15	0.55	0.11	0.38	0.71
Northern Illinois University	14	0.54	0.09	0.38	0.69
McKendree University	3	0.54	0.17	0.44	0.74
Illinois State University	29	0.54	0.11	0.32	0.78
Greenville University	3	0.53	0.16	0.36	0.68
National Louis University	13	0.53	0.13	0.20	0.73
Elmhurst University	7	0.53	0.07	0.46	0.63
Quincy University	1	0.53	.	0.53	0.53
Southern Illinois Edwardsville	9	0.53	0.10	0.40	0.71
Bradley University	5	0.52	0.10	0.40	0.68
Judson University	1	0.51	.	0.51	0.51
Loyola University	5	0.50	0.12	0.38	0.67
Lewis University	4	0.49	0.10	0.38	0.61
Benedictine University	2	0.48	0.02	0.47	0.49
Olivet Nazarene University	9	0.47	0.17	0.24	0.73
Aurora University	6	0.44	0.18	0.13	0.60
Northwestern University	5	0.41	0.19	0.21	0.71
Trinity International University	3	0.40	0.11	0.27	0.47
Concordia University	9	0.38	0.19	0.08	0.62
Lake Forest College	2	0.37	0.09	0.31	0.43
Trinity Christian College	7	0.36	0.10	0.25	0.50
Knox College	1	0.31	.	0.31	0.31
North Park University	6	0.29	0.12	0.13	0.41
Wheaton College	5	0.23	0.08	0.15	0.31

Table 24 presents the differences in I10 across subjects. On average, all subjects were above the minimum standard, with the highest average placement in high needs schools observed in *Sciences* and *Special Education and Disabilities* (64%) and the lowest in the *Social Sciences* (46%). Interestingly, standard deviations were quite similar across subjects ranging from 10% (*Computer Education*) to 19% (*Arts*). As a consequence, there were no statistically significant differences among any subjects.

Table 24.

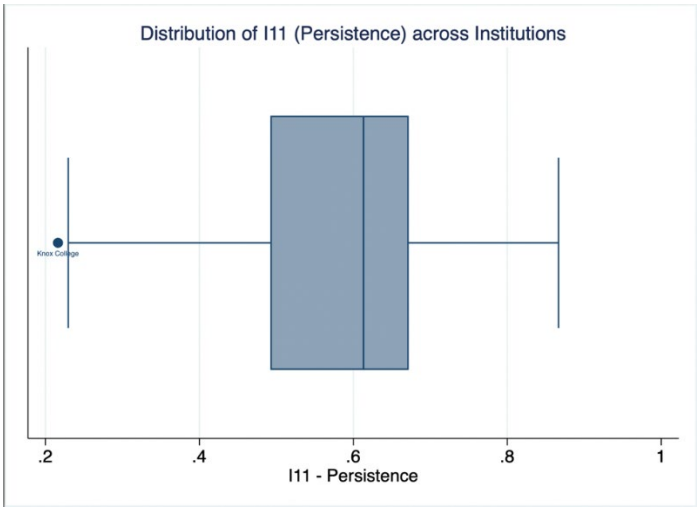
Differences in I10 (Proportion of Candidates Placed in High Needs Schools) Across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	33	.49	0.19	.08	.90
Computer Education	8	.52	0.10	.38	.69
ELA	48	.56	0.18	.13	1.00

Foreign Language	10	.60	0.15	.33	.90
General/Elementary	46	.57	0.15	.29	.87
Math	25	.54	0.14	.27	.75
Other	24	.58	0.17	.33	.92
Sciences	26	.64	0.16	.40	1.00
Social Sciences	34	.46	0.16	.17	.95
Special Ed & Disabilities	38	.64	0.12	.39	.91

I11. Persistence. This indicator describes the percentage of completers who continue working in an Illinois public school for 3 or more consecutive years. While we recognize that this is important to fulfilling statewide needs, research has indicated that persistence is often correlated to teacher labor market and working conditions in schools and districts (Borman & Dowling, 2008), rather than to teacher education programs. Figure 13 shows a wide range across universities for this indicator. The program average across institutions was 58% (S.D.=16) ranging from 22% to 87%. The distribution of this indicator is shown in Figure 13.

Figure 13.
Distribution of Indicator 11 (Proportion of Candidates Who Persist in Teaching) Across Institutions.



There was large variation in persistence in teaching across institutions. However, as shown in Table 25, variation was not consistent across institutions, as some had very little variation in this indicator (e.g., University of Chicago, Benedictine University), whereas others had a much larger range (e.g., McKendree University, St. Xavier University, Northeastern Illinois University). And, while institutions with more programs have, on average, more variation in these percentages, this was not systematic, as institutions with few programs also had large variations. The minimum standard for this indicator established by the state was 33%. Setting a lower standard makes sense because researchers have found that teachers stay about 5 years, on

average, in the same school (Ronfeldt et al., 2013). Only five institutions had average rates of persistence for 3 or more years below the minimum standard of 33%.

Table 25.
Differences in I11 (Proportion of Candidates Who Persist in Teaching) Across Institutions.

Institution	N	Mean	SD	Min	Max
North Central College	1	0.87	.	0.87	0.87
Illinois College	1	0.83	.	0.83	0.83
University of St. Francis	3	0.82	0.08	0.76	0.91
Rockford University	4	0.78	0.09	0.71	0.90
Eureka College	3	0.75	0.10	0.64	0.82
Chicago State University	2	0.73	0.05	0.70	0.77
McKendree University	2	0.71	0.20	0.56	0.85
Northern Illinois University	14	0.70	0.16	0.40	0.93
Eastern Illinois University	9	0.69	0.11	0.52	0.82
Roosevelt University	6	0.69	0.06	0.58	0.74
Lewis University	4	0.69	0.07	0.62	0.77
Monmouth College	2	0.68	0.13	0.58	0.77
Elmhurst University	7	0.67	0.16	0.46	0.94
Governors State University	4	0.67	0.09	0.58	0.78
Western Illinois University	7	0.65	0.19	0.31	0.88
St. Xavier University	6	0.65	0.21	0.30	0.86
University of Illinois at Urbana/Champaign	14	0.64	0.10	0.48	0.84
Illinois Wesleyan University	2	0.64	0.01	0.64	0.65
Judson University	1	0.63	.	0.63	0.63
Southern Illinois University	7	0.62	0.13	0.47	0.80
Greenville University	2	0.62	0.16	0.51	0.73
Northeastern Illinois University	5	0.62	0.23	0.25	0.81
Benedictine University	2	0.62	0.02	0.60	0.64
University of Illinois at Springfield	3	0.62	0.23	0.39	0.83
University of Chicago	2	0.61	0.01	0.61	0.62
Aurora University	5	0.61	0.25	0.31	0.93
University of Illinois at Chicago	11	0.61	0.12	0.41	0.87
Illinois State University	28	0.60	0.25	0.00	1.00
Bradley University	4	0.60	0.12	0.44	0.73
Millikin University	3	0.59	0.12	0.50	0.72
Augustana College	5	0.59	0.15	0.42	0.71
National Louis University	9	0.58	0.13	0.33	0.81
Southern Illinois Edwardsville	8	0.57	0.10	0.39	0.75
Vander Cook College of Music	1	0.52	.	0.52	0.52
Blackburn College	1	0.50	.	0.50	0.50
Concordia University	7	0.50	0.32	0.10	0.87
Lake Forest College	2	0.49	0.05	0.46	0.52
Olivet Nazarene University	7	0.45	0.27	0.07	0.92
Loyola University	5	0.44	0.12	0.34	0.63
School of the Art Institute of Chicago	1	0.40	.	0.40	0.40
Northwestern University	5	0.39	0.15	0.16	0.59
Trinity Christian College	5	0.36	0.13	0.18	0.51
DePaul University	4	0.33	0.24	0.10	0.59
Wheaton College	5	0.31	0.07	0.23	0.40
Dominican University	5	0.29	0.10	0.18	0.43
Trinity International University	2	0.27	0.14	0.17	0.37
North Park University	6	0.23	0.10	0.09	0.36
Knox College	1	0.22	.	0.22	0.22

We also explored the extent to which there were significant differences across subjects in Table 26. On average, all subject matters were above the minimum standard,

but standard deviations (the variation within each subject) were large and ranged from 11 (Other) to 26 (ELA) points. Differences between *Special Education and Disabilities* and all other subjects were statistically significant.

Table 26.
Differences in I11 (Proportion of Candidates Who Persisted in Teaching) Across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	24	.49	0.20	.07	.74
Computer Education	7	.68	0.21	.33	.93
ELA	43	.56	0.26	.06	.93
Foreign Language	8	.58	0.25	.20	.92
General/Elementary	45	.58	0.17	.22	.87
Math	20	.55	0.18	.10	.86
Other	18	.63	0.11	.41	.80
Sciences	17	.63	0.16	.27	.82
Social Sciences	27	.44	0.19	.00	.85
Special Ed & Disabilities	34	.74	0.12	.35	1.00

I12. Persistence in high needs schools. This last indicator captures the percentage of completers who continue working in a *High Needs* Illinois public school for 3 or more consecutive years. As before, the minimum standard for this indicator was 33%. The program average for each institution was 47%, ranging from 15% (Knox College) to 74% (Illinois College), as shown in Figure 14. The standard deviation was 15 points, indicating a large variation in values across institutions.

Figure 14.
Average of Indicator 12 (Proportion of Candidates Persisting in High Needs Schools) across Institutions.

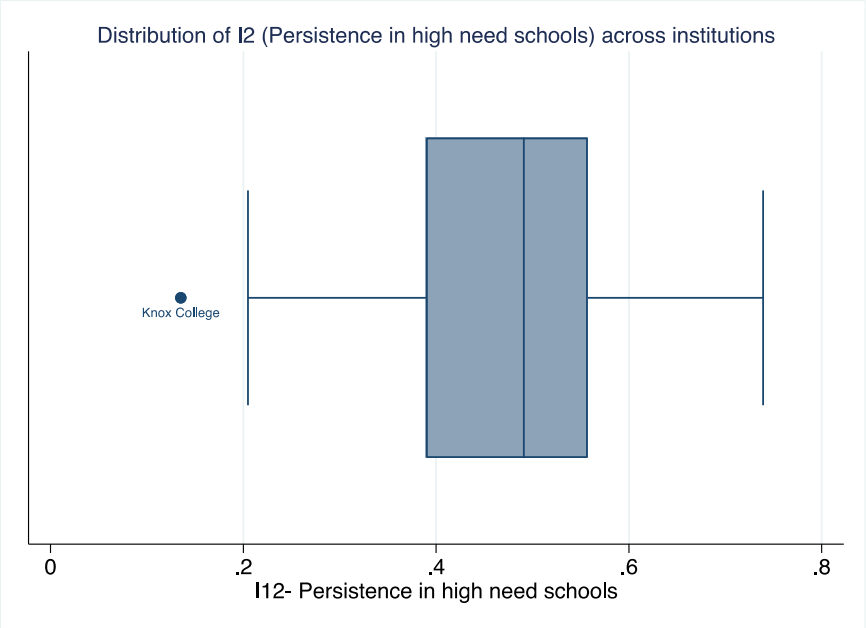


Table 27 shows that persistence in *High Needs* schools varied across and within institutions; i.e., some programs had better I12 percentages and higher variation than others. However, this did not seem to be related to the number of programs within an institution. Nine institutions had persistence rates lower than the minimum standard of 33%.

Table 27.
Differences in I12 (Proportion of Candidates Persisting in High Needs Schools) within Institutions.

Institution	N	Mean	SD	Min	Max
Illinois College	1	0.74	.	0.74	0.74
Rockford University	4	0.73	0.12	0.64	0.90
University of St. Francis	3	0.70	0.04	0.67	0.74
Eureka College	3	0.70	0.05	0.64	0.73
Chicago State University	2	0.67	0.09	0.61	0.73
Monmouth College	2	0.64	0.08	0.58	0.70
Eastern Illinois University	9	0.63	0.12	0.45	0.82
Western Illinois University	7	0.61	0.15	0.31	0.79
University of Chicago	2	0.60	0.03	0.58	0.62
Southern Illinois Carbondale	7	0.58	0.14	0.43	0.80
Greenville University	2	0.57	0.14	0.46	0.67
University of Illinois at Springfield	3	0.56	0.23	0.31	0.75
Governors State University	4	0.55	0.10	0.42	0.65
Northeastern Illinois University	5	0.55	0.21	0.20	0.73
Roosevelt University	6	0.54	0.07	0.41	0.61
Millikin University	3	0.54	0.13	0.44	0.69
McKendree University	2	0.54	0.23	0.38	0.70
St. Xavier University	6	0.52	0.20	0.20	0.79
Augustana College	5	0.51	0.16	0.35	0.71
Illinois Wesleyan University	2	0.51	0.01	0.50	0.52
University of Illinois at Chicago	11	0.50	0.12	0.33	0.67
Blackburn College	1	0.50	.	0.50	0.50
Vander Cook College of Music	1	0.50	.	0.50	0.50
Northern Illinois University	14	0.50	0.12	0.29	0.69
Lewis University	4	0.49	0.08	0.42	0.60
Elmhurst University	7	0.49	0.07	0.39	0.59
Bradley University	4	0.48	0.10	0.38	0.60
University of Illinois at Urbana/ Champaign	14	0.47	0.11	0.29	0.67
Southern Illinois Edwardsville	8	0.46	0.10	0.36	0.64
Illinois State University	28	0.46	0.18	0.00	0.71
Judson University	1	0.44	.	0.44	0.44
National Louis University	9	0.43	0.09	0.28	0.53
Benedictine University	2	0.42	0.08	0.36	0.48
Aurora University	5	0.41	0.19	0.15	0.64
North Central College	1	0.40	.	0.40	0.40
Olivet Nazarene University	7	0.40	0.21	0.07	0.71
School of the Art Institute of Chicago	1	0.38	.	0.38	0.38
Concordia University	7	0.36	0.18	0.10	0.57
Loyola University	5	0.34	0.11	0.25	0.51
DePaul University	4	0.31	0.22	0.10	0.54
Northwestern University	5	0.29	0.13	0.12	0.47
Trinity Christian College	5	0.29	0.07	0.18	0.36
Lake Forest College	2	0.28	0.14	0.18	0.38
Dominican University	5	0.24	0.10	0.10	0.33
Wheaton College	5	0.21	0.11	0.12	0.40
North Park University	6	0.21	0.10	0.09	0.33
Trinity International University	2	0.21	0.17	0.08	0.33
Knox College	1	0.14	.	0.14	0.14

Finally, we analyzed differences in persistence in *High Needs* schools across subjects. Table 28 shows that averages across subjects ranged from 39% (*Social Sciences*) to 56% (*Special Education and Disabilities*), with important variation across programs within each subject. However, only the differences between *Special Education and Disabilities* with *Social Sciences* and *Arts* programs were statistically significant.

Table 28.
Differences in I12 (Proportion of Candidates Persisting in High Needs Schools) across Subjects.

Subject	N	Mean	SD	Min	Max
Arts	24	.40	0.17	.07	.69
Computer Education	7	.47	0.12	.28	.64
ELA	43	.45	0.22	.06	.90
Foreign Language	8	.43	0.21	.10	.69
General/Elementary	45	.48	0.16	.12	.75
Math	20	.46	0.16	.10	.79
Other	18	.52	0.13	.29	.73
Sciences	17	.52	0.18	.20	.82
Social Sciences	27	.39	0.15	.00	.64
Special Ed & Disabilities	34	.56	0.12	.32	.73

Summary of Domain 4 (Indicators I9-I12): Contribution to State Needs. Our descriptive analysis of the Domain 4 indicators yields the following key takeaways:

- TPPs varied widely in their performance on indicators related to candidate placement and persistence in teaching, including in high needs schools. Notably, there are differences in the institutions that performed well on Domain 1 versus Domain 4, suggesting that institutions could learn from targeted collaboration with other institutions. (Because Domains 2 and 3 have no real variance, they are not as ripe for collaborative learning.)
- There were nuanced differences in which subject matters were associated with more placement and persistence. In general, Special Education programs were associated with higher placement and persistence rates, including in High Needs Schools.

SECTION 1 SUMMARY & IMPLICATIONS

While nuanced summaries can be found by domain above, we note two big-picture issues. First, four indicators (I4-I7) have almost no real variation, rendering them incapable of evaluating distinctions between programs/institutions. Indeed, all institutions (averaged across programs within institutions) perform over the state

minimum standard for each of these indicators, and generally perform quite high. Combined, these four indicators are worth 50 points towards the 100 points possible on the IEPP, which would equate to a Commendable designation (the second-highest designation). In a practical sense, then, the lack of variation in these values means that *almost* every program will automatically be designated Commendable or higher. In addition, for transparency, having additional and more explicit data would be relevant, regardless of the variation in the indicator, as interested candidates will have more information for program selection.

If the goal of the IEPP is for all programs to obtain a set benchmark that is reasonably attainable, this lack of variation may be fine. If the goal of the IEPP is to distinguish between programs on their tangible outcomes, this lack of variation may be troubling. Thus, the **first implication** is for ISBE and its stakeholders to determine the purpose of these indicators and, if more variation is desired, to collect and report additional data.

Second, it is clear that institutions do not perform equally well on all indicators, particularly within Domains 1 (*Candidate Selection*) and 4 (*Contribution to State Needs*), where there is substantial variation. Institutions could benefit from being paired for collaboration with institutions that perform better or worse on the same indicator(s). Where programs within institutions have differential results on indicators, we would also encourage internal collaboration. The issue of completing diverse enrollees is an area in which many institutions could learn from the small subset of institutions that are effective in this regard. Thus, the **second implication** is for ISBE to work with TPPs to identify natural collaborators (in terms of program size and performance on indicators) for peer learning. The institution-level tables provided in this section for Domains 1 and 4 should provide fertile ground for this identification process (see, for example, (Putman, 2022)).

SECTION 2: ANALYSIS OF INSTITUTION-OUTCOME RELATIONSHIPS

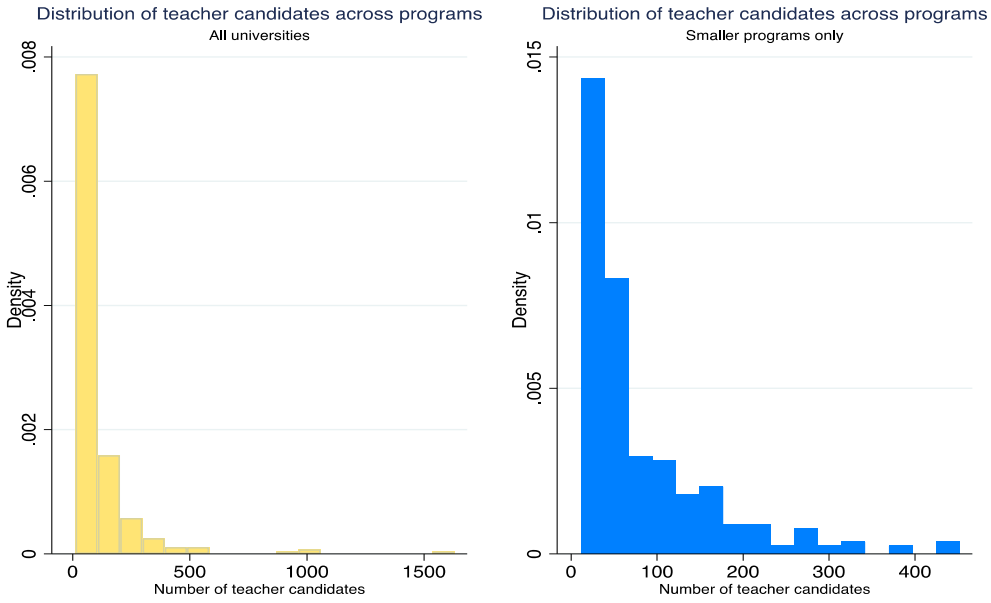
In this section, we present findings on the relationship of institutional characteristics to IEPP indicators. We ask: **How do institutional characteristics relate to IEPP indicator outcomes, and how do these outcomes relate to each other?** To begin, we describe the measures used for these analyses. We then dig into our findings.

MEASURES

IEPP Indicators

We use the same IEPP indicators as detailed in Section 1 for our outcomes for this analysis. We also use IEPP to examine program size. There was an average of 102 (S.D.=158) teacher candidates across programs, ranging from 12 to 1630, as shown in Figure 15. Aggregating by institution, the average was 95 (S.D.=45). Most programs (284 out of 292) had fewer than 500 candidates. The remaining programs were at the largest universities (e.g., Chicago State University and Northwestern University). Most teacher candidates were enrolled in *Elementary/General Education* programs.

Figure 15.
Distribution of teacher candidates across programs.



Complementary Measures

We used several external data sources to characterize institutions. In order to characterize institutions' enrollment (i.e., size) and demographics, we used 2018 data from the Illinois Board of Higher Education's (IBHE) annual Fall Enrollment Survey (IBHE, n.d.) and from the Integrated Postsecondary Education Data System (IPEDS, n.d.). To characterize institutional selectivity, we used two different measures: (1) selectivity ranking from U.S News, which is based on SAT and ACT scores, high school class standing in the top 10% and 25%, as well as acceptance rates (U.S. News, n.d.), and which classifies institutions from Least Selective to Most Selective; and (2) Barron's, a measure used in National Council on Teacher Quality (NCTQ) data that classifies institutions on a continuum from not selective to most selective, accounting for SAT scores, high school GPA and class rank, and acceptance rate (Barron's College Division, 2018; NCTQ, 2020). Finally, we classified institutions into regions depending on counties' geographic location. To do this, we used data from the Illinois Association of Regional Superintendents of Schools (IARSS). These regions are constructed based on their proximity to Cook County. Accordingly, Region 1 refers to Cook County and the number for the region is higher the more distant it is to Cook County (i.e., Region 6 is the southernmost region in the state).

FINDINGS

Correlation among Indicators

Before examining how institutional characteristics related to IEPP outcomes, we first examined how IEPP outcomes relate to each other. If institutions matter for producing positive outcomes, one would hope that those outcomes would be correlated (i.e., that an institution that produces one positive outcome would potentially produce many others). However, one would also hope the measures would not be perfectly correlated—that could mean the measures are all essentially measuring the same underlying thing, such as the preparation of students before entering college, and thus are not useful for evaluating the diverse strengths and weaknesses of programs. Thus, we wanted to see how IEPP outcomes, in general, correlate with each other. An important property of valid measures concerns the correlation among them; correlation is a measure that quantifies the association between two variables (Putman, 2022).

Thus, neither full correlation nor the lack thereof is a good indication of healthy associations among variables (Spearman, 1961).

Table 29 describes the correlation among IEPP indicators at the institution level. Overall, we observed small correlations among all indicators, with a few exceptions regarding placement and persistence. A correlation close to zero was observed between evaluated teaching skill and placement and persistence, which in turn, are also very little correlated with the percentage of completers who identify as diverse. In addition, the lack of correlation between mastery and general teaching skills is problematic as, in practice, this correlation is very unlikely to be zero. Another problematic correlation was observed between the percentage of candidates with an entry GPA above 3.0 and general teaching skill (edTPA). Correlations at the program level follow the same trend, with a smaller magnitude. This correlation table can be found in Appendix B.

On the other hand, the correlation between placement and persistence across institutions was large, with the smallest correlation being r=0.69. While this could be a good indication of the relationship between both indicators, it could also relate to the short time span of these measures (i.e., persistence captures the percentage of teachers who work in a public school for at least 3 consecutive years). Correlations were calculated at the program level.

Table 29.

Correlation among IEPP Indicators.

		I1	I2	I3	I4	I5	I6	I7	I9	I10	I11
I1	Entry GPA	1									
I2	Race/Ethnicity	-0.31	1								
I3	Diverse completers	0.07	-0.1	1							
I4	Mastery of content area	0.09	-0.14	0.08	1						
I5	General teaching skills (edTPA)	0.34	-0.08	-0.12	0	1					
I6	Completer survey	0.17	0.17	0.45	-0.03	0	1				
I7	Evaluated teaching skill	0.05	-0.3	-0.22	-0.19	0.05	-0.15	1			
I9	Placement	-0.1	0.13	0.04	0.12	0.16	0.01	-0.05	1		
I10	Placement high needs	-0.18	0.19	-0.02	0.11	0.05	-0.09	-0.08	0.9	1	
I11	Persistence	-0.08	-0.04	0.04	-0.02	0.11	0.04	0.28	0.83	0.69	1
I12	Persistence high needs	-0.25	-0.06	-0.01	-0.06	-0.04	-0.08	0.26	0.8	0.86	0 .81

Institution Size and IEPP Outcomes

From the 52 institutions that have at least one teacher education program, 50 had data for some indicators. We noted that larger institutions were less likely to have missing values for their indicators. Given that larger universities could have more access to resources and/or could be more likely to satisfy the minimum thresholds of data, we decided to separate institutions by size. To do this, we created quintiles of student enrollment according to the distribution in Table 30. Each quintile was composed of ten institutions, which varied themselves in size. The smallest institution had a student enrollment population of 227 students, whereas the largest institution's student population was almost 50,000.

Table 30.

Quintiles of student enrollment for institutions in IEPP.

Quintiles of size for institutions with no missing data	N	Mean	SD	Min	Max
1	10	814	373.70	227	1201
2	10	2085	615.31	1333	2928
3	10	3699	620.15	2963	4575
4	10	6434	1237.12	4857	8502
5	10	22360	11026.53	12817	49702

However, institution size was not related to performance in IEPP indicators, as shown in Table 31. The only significant difference was more candidates identifying as a person of color in larger colleges than in smaller ones (I2), which could be attributed to their geographic location (Adams et al., 2014).

Table 31.
Performance in IEPP by institution size (in quintiles).

		Q1		*Q2*		*Q3*		*Q4*		*Q5*	
	Description	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
I1	Entry GPA	10	0.82	10	0.85	9	0.78	10	0.81	10	0.85
I2	Race/Ethnicity	10	0.15	10	0.20	10	0.30	10	0.23*	10	0.23*
I3	Diverse completers	10	0.81	8	0.89	10	0.74	9	0.73	9	0.83
I4	Mastery	10	0.99	10	0.99	10	0.98	10	0.98	10	0.99
I5	General teaching	10	0.97	10	0.97	10	0.98	10	0.97	10	0.98
I6	Completer survey	10	0.87	10	0.91	10	0.87	10	0.89	10	0.88
I7	Teaching skill	10	0.96	10	0.96	10	0.96	10	0.95	10	0.96
I9	Placement	10	0.71	10	0.63	10	0.67	10	0.69	10	0.72
I10	Placement high needs	10	0.66	10	0.49	10	0.56	10	0.55	10	0.59
I11	Persistence	8	0.63	10	0.52	10	0.56	10	0.62	10	0.55
I12	Persistence high needs	8	0.58	10	0.38	10	0.47	10	0.49	10	0.45

Public/Private Status and IEPP Outcomes

We also explored the extent to which public and private institutions had different values in their IEPP indicators. Table 32 shows that public universities had a smaller percentage of candidates who had a GPA of 3.0 or higher, but were better able to place teacher candidates, especially in high needs schools, and, at the same time, these candidates were more likely to remain in their teaching position. Note that the IEPP includes data on placement in Illinois public schools, and thus private-school teaching placements are not included. It could be that students who attend public institutions of higher education also have more willingness or interest in teaching in public K-12 institutions (Lee et al., 2019).

Table 32.
Differences in performance in IEPP by type of institution (public v. private).

		Private		Public		
	Description	N	Mean	N	Mean	Significance
I1	Entry GPA	37	0.84	12	0.76	***
I2	Race/Ethnicity	38	0.21	12	0.26	
I3	Diverse completers	34	0.81	12	0.80	
I4	Mastery	38	0.99	12	0.98	
I5	General teaching	38	0.98	12	0.97	
I6	Completer survey	38	0.89	12	0.88	
I7	Teaching skill	38	0.96	12	0.97	
I9	Placement	38	0.67	12	0.74	***
I10	Placement high needs	36	0.55	12	0.63	***
I11	Persistence	38	0.55	12	0.64	***
I12	Persistence high needs	36	0.45	12	0.55	***

Institutional Demographics and IEPP Outcomes

We also analyzed the correlation between the demographic composition of institutions and indicators. Institutions with smaller proportions of candidates who identify as persons of color were more likely to report higher completion of candidates who identify as diverse; however, we noted that public universities were more likely to have higher completion rates for diverse candidates as their percentage of candidates who identified as persons of color increased. According to data we obtained from IBHE, we observed differences in indicators depending on the representation of several racial/ethnic groups in institutions. As expected, we find that institutions' performance in the race/ethnicity indicator was higher as they have higher percentages of Black and LatinX/Hispanic students, as shown in Table 33 (see asterisk).

Table 33.

Differences in performance in IEPP by demographic composition of institutions.

	Description	White	Black	Hispanic/LatinX	American Indian	Asian	Native Hawaiian & Pacific Islander	Multi-Race
I1	Entry GPA	0.16	-0.19	0.11	0.11	0.18	0.23	0.15
I2	Race/Ethnicity	-0.05	0.25*	0.25*	0.05	0.18	0.06	0.06
I3	Diverse completers	0.07	-0.01	0.02	0.03	0.12	0.06	0.10
I4	Mastery	0.10	-0.11	-0.01	-0.05	0.13	-0.15	0.13
I5	General teaching	0.09	-0.02	0.06	0.12	0.10	-0.01	0.08
I6	Completer survey	-0.11	-0.08	-0.03	-0.17	-0.04	0.05	-0.12
I7	Teaching skill	0.02	0.07	-0.04	0.00	-0.04	-0.04	-0.02
I9	Placement	0.11	0.22	0.15	0.06	0.13	-0.10	0.14
I10	Placement high needs	-0.03	0.12	0.033	-0.05	0.04	-0.21	0.02
I11	Persistence	-0.01	0.11	-0.02	-0.06	-0.05	-0.20	-0.04
I12	Persistence high needs	-0.06	0.11	-0.07	-0.08	-0.07	-0.26*	-0.07

Institutional Selectivity and IEPP Outcomes

Another measure we used to help us characterize institutions was selectivity. We used these measures with caution as selectivity metrics are often arbitrary and not reliable as a predictor of student learning, job satisfaction, or well-being (Harvey, 2008). However, because ranking measures include SAT scores and average GPA, these scores could offer some insight into variance in the students admitted to each institution (Challenge Success, 2018). We used two measures of selectivity: the U.S. News & World Report and Barron's. The correlation between them was low (r=0.18), suggesting that they are two distinct measures of selectivity. In Table 34, we summarized how these two measures differ in terms of their relation to IEPP indicators.

Overall, we did not observe any practical differences across indicators by selectivity level for either measure, except for small differences in entry GPA (I1) between less selective and more selective institutions (for the U.S. News ranking) and for I2: candidate race/ethnicity percentages, with more selective institutions outperforming the less selective ones. In terms of the Barron's index, we observed a significant difference between level 2 selectivity and level 4 and 6 selectivity in general teaching skills (I7:edTPA)[14].

[14] Barron's uses a continuum of selectivity levels, ranging from least to most selective.

Table 34.

Relation between performance in IEPP and selectivity measures.

a. U.S. News Selectivity Ranking

Indicator	Description	Least selective		Less selective		Selective		More selective		Most selective	
		N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
I1	Entry GPA	1	0.90	3	0.67	30	0.81	9	0.91*	2	0.89*
I2	Race/Ethnicity	1	0.41	3	0.48	30	0.17	9	0.19*	2	0.35
I3	Diverse completers	1	0.69	3	0.78	29	0.80	6	0.86	2	0.86
I4	Mastery	1	0.98	3	0.97	30	0.98	9	1.00	2	1.00
I5	General teaching	1	0.98	3	0.98	30	0.97	9	0.99	2	0.99
I6	Completer survey	1	0.88	3	0.90	30	0.89	9	0.90	2	0.87
I7	Teaching skill	1	0.95	3	0.96	30	0.97	9	0.95	2	0.94
I9	Placement	1	0.68	3	0.77	30	0.69	9	0.65	2	0.75
I10	Placement high needs	1	0.62	3	0.67	30	0.57	9	0.51	2	0.67
I11	Persistence	1	0.62	3	0.66	29	0.60	9	0.54	2	0.50
I12	Persistence high needs	1	0.55	3	0.55	29	0.50	9	0.39	2	0.44

b. Barron's (NTCQ) Selectivity Measure

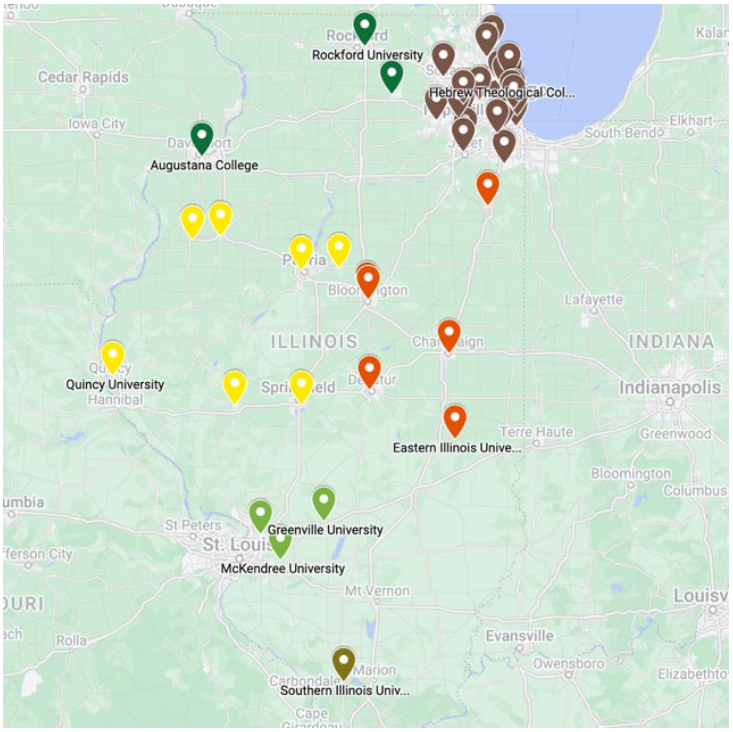
Indicator	Description	Non-Selective 1		2		3		4		5		6		Most selective 7	
		N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
I1	Entry GPA	7	0.75	3	0.93	2	0.86	16	0.80	3	0.80	16	0.85	1	0.96
I2	Race/Ethnicity	7	0.28	3	0.37	2	0.34	16	0.17	3	0.15	16	0.19	1	0.24
I3	Diverse completers	7	0.87	3	0.86	2	0.64	16	0.80	2	0.85	13	0.87	1	0.73
I4	Mastery	7	0.97	3	1.00	2	0.99	16	0.99	3	0.98	16	0.99	1	1.00
I5	General teaching	7	0.97	3	0.99	2	0.98	16	0.98	3	0.98	16	0.97	1	0.99
I6	Completer survey	7	0.91	3	0.87	2	0.87	16	0.89	3	0.90	16	0.89	1	0.87
I7	Teaching skill	7	0.94	3	0.90	2	0.95	16	0.97*	3	0.97	16	0.96*	1	0.96
I9	Placement	7	0.73	3	0.81	2	0.70	16	0.69	3	0.66	16	0.64	1	0.54
I10	Placement high needs	7	0.62	2	0.55	2	0.60	15	0.61	3	0.55	16	0.53	1	0.39
I11	Persistence	7	0.66	3	0.75	2	0.58	16	0.57	3	0.46	16	0.51	1	0.41
I12	Persistence high needs	7	0.54	2	0.44	2	0.49	15	0.52	3	0.43	16	0.41	1	0.29

Institutional Region and IEPP Outcomes

Finally, we explored the relationship between IEPP indicators for institutions across different regions in the state, using geographic regions established by the Illinois Association of Regional Superintendents of Schools (Feldmann, 2017), in Table 35.[15] Region 1 refers to Cook County and the number for the region increases with distance from Cook County (i.e., Region 6 is the southernmost region in the state). There were no significant differences in terms of regions. We noted that in Region 1 (Cook County), there are more diverse candidates in terms of race/ethnicity, which is the only practical difference among regions.

Figure 16.

Participating IEPP institutions by region.



It is important to note that most institutions were located in Region 1. In Figure 16, we have mapped institutions across IARSS regions to identify which are in each region. [16]

[15] For details on these regions, please see: https://iarss.org/map/

[16] An interactive version of this map can be found at the following link: https://www.google.com/maps/d/edit?mid=1Qo_Lsi3PXRLOJdhllVi5iTihfMorbHo&usp=sharing

Table 35.
Relation between performance in IEPP by region.

		Region 1		Region 2		Region 3		Region 4		Region 5		Region 6	
Indicator	Description	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
I1	Entry GPA	27	0.83	3	0.84	8	0.78	6	0.84	4	0.85	1	0.78
I2	Race/Ethnicity	28	0.29	3	0.15	8	0.13	6	0.14	4	0.08	1	0.11
I3	Diverse completers	27	0.79	3	0.82	7	0.79	5	0.92	3	0.87	1	0.65
I4	Mastery	28	0.98	3	0.98	8	0.99	6	0.99	4	0.99	1	0.97
I5	General teaching	28	0.98	3	0.98	8	0.96	6	0.97	4	0.98	1	1.00
I6	Completer survey	28	0.89	3	0.89	8	0.88	6	0.90	4	0.89	1	0.84
I7	Teaching skill	28	0.95	3	0.97	8	0.96	6	0.97	4	0.98	1	0.96
I9	Placement	28	0.67	3	0.78	8	0.67	6	0.71	4	0.70	1	0.71
I10	Placement high needs	27	0.55	3	0.64	8	0.59	6	0.57	4	0.60	1	0.65
I11	Persistence	28	0.54	3	0.69	7	0.62	6	0.60	4	0.60	1	0.62
I12	Persistence high needs	27	0.42	3	0.58	7	0.55	6	0.50	4	0.52	1	0.58

SECTION 2 SUMMARY & IMPLICATIONS

A major finding in this section is that IEPP indicators do not correlate much with each other, except for indicators related to general persistence and placement and persistence in high needs schools. Too much correlation is not desirable, as it may be an indication that an accountability system is measuring the same thing in different ways. However, too little correlation can also be problematic, indicating a lack of robust measures. For instance, the complete lack of correlation between content area exam and edTPA exam is concerning, as one would expect those outcomes to be related as indicators of a successful program completer. The lack of variation described in Section 1 may contribute to the lack of correlation. We thus suggest further review of measures with little variation, as discussed in Section 1.

A second key finding is that very few institutional characteristics are associated with IEPP indicator values. We found the following relationships:

- Larger institutions had a greater proportion of candidates identifying as "diverse" or non-white (I2).
- Public institutions had smaller proportions of candidates meeting the GPA threshold of 3.0 (I1), but they had higher proportions of candidates placed and persisting in schools, including high needs schools (I9-I12).

- Institutions with higher Black and Hispanic/Latinx enrollment had higher enrollments of students of color in TPPs (I2).
- More selective institutions had higher proportions of candidates meeting the GPA threshold of 3.0 (I1), as well as higher proportions of non-white candidates (I2).

These nuanced findings suggest that institutions may have different advantages (or disadvantages) for meeting IEPP expectations based on characteristics. As such, we suggest that institutions be paired with similar institutions to learn from each other on how to improve on specific indicators, particularly the indicator related to program diversity (I2). As the IEPP matures, it may also be appropriate to set different benchmarks for different types of programs and institutions.

SECTION 3: TECHNICAL ANALYSIS

An accountability system is only as good as its underlying data. Many of the IEPP indicators are constructed based on information reported by the institutions themselves, which can leave room for error. In this section, we ask: **How accurate are these data?** To begin, we describe the measures used for these analyses. We then dig into our findings.

MEASURES

To examine the quality of the underlying IEPP data, we conducted two technical checks. First, we compared data reported by a program for one IEPP indicator to data reported by the same program for a related IEPP indicator, to determine the level of *internal consistency* in the data. Second, we compared data reported by a program for IEPP indicators to related data in the Illinois Board of Higher Education's (IBHE's) enrollments and degrees data set.[17] This comparison determines the level of *external consistency* in the data. In general, issues with internal or external consistency may suggest problems with the data collection process that may require clarity or adjustment.

FINDINGS

Number of Candidates: Internal Consistency

First, we examined data on the number of candidates in each program. IEPP indicators I1 (*Entry GPA*) and I2 (*Race/ethnicity*) are calculated by dividing the candidates meeting each indicator's criterion (GPA over 3.0 and non-white, respectively) by the total number of candidates in the program. In theory, then, the total number of candidates in a program should *exactly match* for I1 and I2.

How did these data compare? For 35% of programs, I1 and I2 did indeed match. For 57% of programs, the total number of candidates in I2 was smaller than in I1, which makes sense given that some candidates might not disclose race/ethnicity information and thus might be excluded from the calculation. Another 8% of programs had the inverse situation, in which more candidates were included in the I2 (race/ethnicity)

[17] IBHE's enrollments and degrees information can be found here: http://www.ibhe.org/EnrollmentsDegrees/Search.aspx.

calculation than the I1 (GPA) calculation; however, this is also explainable if the candidate or institution did not need GPA information for whatever reason. One institution (Art Institute of Chicago) does not collect GPA information.

In general, the discrepancies between I1 and I2 candidate counts seem reasonable, However, it is worth noting that 8% of programs (including multiple programs at Dominican, Lewis, Loyola, National Louis, and Wheaton) had large (>10) gaps between I1 and I2 in total candidate counts. These instances may warrant further clarification with institutions.

Number of Diverse Candidates: Internal Consistency

Two IEPP indicators, I2 (*Race/ethnicity*) and I3 (*Diverse completers*), involve counts of the number of "diverse" candidates in a program. The definitions of "diverse" in these indicators differ. For I2, programs provide a count of non-white candidates in the program. For I3, programs provide a count of candidates identifying as non-white, first generation, or low-income who completed or withdrew from the program. These counts are used to calculate percentage of non-white candidates in a program and percentage of diverse candidates who complete the program, respectively. Importantly, for I3, the total count of "diverse" candidates must be greater than 10 for a calculation to be made; otherwise, I3 data are not given for the program.

One might expect that the count of "diverse" candidates in I2 should be smaller than the count of "diverse" candidates in I3, as the definition of "diverse" widens in I3 (from race/ethnicity alone in I2 to include low-income and first-generation in I3). Of course, this would only occur if enough candidates from I2 progressed to the completion or withdrawal stage of the program required for I3 during the 5-year IEPP data collection window. In some cases, I2 could be larger than I3, if most of the candidates identified as diverse for I2 had not yet progressed within the program. In any event, one would expect the gap between I2 and I3 to be relatively small; while a drop-off in the count might occur from enrollments in formal teacher candidacy (I2) to the completion stage (I3), a growth should occur from the more restrictive (I2) to the more inclusive (I3) definition of "diverse."[18]

[18] We also note that, assuming many colleges restricted their definition of "enrollment" to formal teacher candidacy, which generally occurs around junior year in an undergraduate program, the drop-off from I2 to I3 should be slight—most candidates would have had the chance to graduate over 5 years.

What did the data say? First, there were 159 programs with no data in I3. As noted above, this occurs when there are fewer than 10 candidates who identify as diverse. Of the 159 programs with no I3 data, 127 programs had fewer than 10 candidates identifying as diverse in I2, so it is likely they indeed did not meet the minimum threshold for inclusion in I3. The other 32 programs reported more than 10 diverse candidates in I2, and thus seemingly could have been included in I3 (if enough of those candidates progressed to the completion stage of the program). However, small gaps are unsurprising. What is surprising is that programs housed at Concordia University Chicago, Loyola University Chicago, and National Louis University had over 40 diverse candidates in I2, but were omitted entirely from I3. (It seems quite unlikely that fewer than 10 out of 40 students enrolled in teacher candidacy (generally occurring in junior year for undergraduate programs) would not have produced some sort of completion outcome (i.e., to graduate or not graduate) in 5 years.)

A similar trend emerged with the 133 programs that had data for both I2 and I3. Five programs reported an exact match in the number of diverse candidates in I2 and I3. A further 59 programs reported more diverse candidates in I3 than in I2, which could be expected, given the broader definition used in I3. Although some of these programs had large (>10) gaps between I2 and I3, such a gap seems possible. For 69 programs, the count of diverse candidates for I2 exceeded that for I3, which is also possible depending on candidates' progression through the program. However, in 37 of those cases, the difference in candidate counts was greater than 10, which is more surprising.

The large gaps—and the variation across programs in how I2 and I3 relate to one another—suggests possible data collection issues. One possibility is that some programs included all diverse candidates from I2 in I3, regardless of whether those candidates could have completed, while other programs included candidates in I3 only if they could have advanced to the possible completion stage for these programs. In other words, some programs reported all enrolled diverse candidates for I2 and I3, while others reported only a subset of diverse candidates *who could possibly have completed* for I3. Indeed, the IEPP technical guide (ISBE, 2020) seems to suggest that programs should limit their count in this way; for I3, it describes that universe as "All withdrawn candidates and/or completers" who identify as non-white, first generation, or low-

income (p. 14). However, given the number of programs where I3 grows from I2, it seems some programs did not limit the universe.

It is also possible that programs are defining teacher candidate enrollments differently. As discussed previously, the term "teacher candidate" has a formal and a colloquial meaning. Some programs may have been using the formal meaning, including only students who have officially been admitted to teacher candidacy, which generally occurs later on in an undergraduate program. Other programs may have been using the colloquial meaning, including all students with a declared major in the education program, from freshman year on. Programs with the more inclusive view (i.e., including freshmen through seniors) would have large drop-offs from I2 to I3, given that so few students could possibly have completed. Programs including only formal teacher candidates should have much less of a drop-off, if any.

In any event, it is clear that programs may require clarification on the reporting of I3 and I2. Programs may need clarification on the definition of a "teacher candidate," the different definitions of "diverse," and which candidates should be included in I3's count versus I2's. In addition, unifying the definition of "diverse" across I2 and I3 seems essential to the task of comparing how well programs actually move diverse candidates from enrollment to completion. Right now, I2 and I3 are comparing "apples" to "a few of those apples, plus some oranges." Whether using the more or less restrictive definition of "diverse," the definition should be the same.

Finally, while this section is about I2 and I3, we recognize that the issues here also bear on the other indicator entered by institutions: I1 (entry GPA). If some institutions are using a more inclusive definition of teacher candidate than others, they will also be including more enrollees in I1, including freshman-year enrollees in an undergraduate education program. This discrepancy could actually influence I1 outcomes across institutions in two ways. First, as students (including students with lower GPAs) may leave the education program prior to official teacher candidacy, TPPs who include such early-year students may help or hinder their GPA scores compared to programs that do not include such students. Second, the time that a student is considered a "teacher candidate" may influence what type of GPA is used in data entry. The Annual Program Report System user guide (ISBE, 2022), within which programs are given technical information on how to enter information for ISBE, asserts that

programs can enter a high school GPA, a postsecondary transfer GPA (for transfers into the institution), or a postsecondary graduate GPA defined as "GPA of individual prior to preparation program entry at either a) the same institution, immediately prior to entering the preparation program or b) the institution at which the individual earned a Bachelor's degree" (p. 22). TPPs that are primarily master's level programs—or that use the college GPA of a student when they advance to teacher candidacy later in an undergraduate program—will not be comparable to TPPs that are using primarily high school GPAs. For this reason, ISBE may wish to clarify one GPA definition to use for data entry, as well as the definition of "teacher candidacy."

Number of TPPs: External Consistency

Turning to external consistency, a fundamental issue concerned whether the programs found in the IEPP data matched those found in IBHE data. These two state systems should, ideally, confirm the accuracy of each other.

To examine this, we looked at institutions and TPPs found in IEPP 2020 data as compared to institutions and degree programs found in IBHE fall enrollments data for the same five-year time period (SY15-19). All Illinois institutions with enrollments in bachelor's or master's degrees in Education (i.e., Classification of Instructional Programs Code 13 or CIP Code 13) in the IBHE data were examined. As best as possible, we matched IBHE degree programs (by 6-digit CIP code, such as Mathematics Secondary Education 13.1311) to IEPP program names. The match between IBHE degree program and IEPP program was not always straightforward and required some inference. We thus acknowledge that this section may not perfectly capture the relationship between IBHE and IEPP data for every program. However, the overall trends provide an indication of the kinds of rectification between IBHE and IEPP data that should be done going forward.

At the institution level, we found that 49 institutions had data on Education candidates in both data sets (IBHE and IEPP). Nine institutions were found in IBHE data but not IEPP data; all nine were logically excluded from IEPP based on IEPP's requirements (see ISBE, 2020). One institution was found in IEPP data but not IBHE data, but it likely was excluded from the IBHE search parameters given its status as an out-of-state institution. The match of included institutions was strong.

At the program level, the match was weaker. 252 programs with enrollments were found in IBHE data, but not IEPP data. Of those, 109 were likely excluded from IEPP because of the subject matter (e.g., Early Childhood Education, Teaching ESL) or not clearly being an education program that leads to a specific teaching certificate. After removing those, a further set of around 40 programs might have been removed due to low enrollment (n<10). About 103 were left that should have technically had the data to observe them in the IEPP. However, ISBE may have applied other removal criteria for these, such as "recently approved." In addition, there may have been a mismatch between IEPP program labeling and IBHE degree labeling that caused a true match to be missed, as noted above.

In all, the exclusion of programs found in IBHE data makes sense based on IEPP's criteria. We do note that some high-enrollment, IEPP-excluded programs include:

- Aurora University, Elementary Education
- DePaul University, Physical Education & Music Education
- North Central College, Physical Education
- McKendree College, Music Education
- Southern Illinois University, Health Education & Physical Education
- A number of bilingual and reading specialist programs

These programs may potentially be included in future IEPP data sets.

On the flip side, 118 programs were found in the IEPP but not in the IBHE enrollment data. We believe these exclusions are likely due to mismatches in program labeling between IBHE and IEPP (such that we are missing a true match in this analysis) and programs using other mechanisms (beyond Bachelor's or Master's degree completion) to grant teacher licensure. In the end, 174 programs were found in both sets of data.

SECTION 3 SUMMARY & IMPLICATIONS

In general, this technical analysis suggests that improvements in data collection and data verification may benefit the validity of the indicators in the IEPP. In particular, we note the following implications:

- The IEPP should clarify the definition of "teacher candidate." TPPs should be advised to only enter candidates who have formally advanced to the teacher candidacy stage of the program, not all enrollees in the program regardless of level.
- The IEPP may wish to encourage use of one type of "entry GPA" (high school vs. college) or clarify when to enter which type.
- The IEPP may wish to unify the definition of "diverse" across indicators 2 and 3, to allow a true inspection of how many enrolled non-white candidates proceed to program completion.
- ISBE may wish to clarify the directions for data entry for indicator 3, as it is possible programs are underreporting (or overreporting) the total number of candidates out of which a proportion of completing candidates is determined.
- ISBE may wish to validate data on program enrollments and completions reported by TPPs with IBHE data, given that IBHE and IEPP show similar programs.

We end by acknowledging that these sorts of discrepancies are to be expected in the formulation of an ambitious new accountability system, and that this research is meant to be constructive towards resolving them.

CONCLUSION

Accountability and transparency systems for teacher educator programs, like the IEPP, are important to guarantee that teachers are ready to teach and to support educator preparation programs. Given that research has found links between teacher quality and student outcomes, ensuring quality teaching is vital for the development of a strong and diverse workforce. However, approaches to TPP evaluation and accountability are not straightforward, as they often interact with other mechanisms such as labor market conditions, socioeconomic conditions of students and families, and even geographic location. For example, evaluating TPPs based on diversity of candidates might be affected by diversity in the geographic region surrounding the institution, or placement in high needs schools might be affected by whether such schools are found near the institution and/or are currently in need of teachers when candidates graduate the program.

Previous frameworks have identified about twelve dimensions to evaluate TPPs, including *licensure examination pass rates; candidate quality*; *faculty qualifications*; *content and pedagogical knowledge*; *cultural diversity, equity, and inclusion*; *assessment/data driven practice*; and *clinical practice; candidate impact on PK-12 learning*; *graduates' perceptions*; and *quality assurance and continuous improvement,* among others (Fenwick, 2021). In this report, we identified that IEPP has made attempts to capture five of these domains—licensure examination pass rates; candidate quality; content and pedagogical knowledge; equity and inclusion; and graduate's perceptions—but that refinements to the IEPP indicators may strengthen those attempts.

Specifically, our descriptive analysis shows that four indicators have a very small variance and, thus, are unable to adequately identify differences in teacher preparation based on institution or program. The domain that seeks to capture teaching skills and knowledge for teaching is of most concern. On average, 99% of candidates passed the content area exam on any number of attempts. While this could be explained by the fact that, in Illinois, all candidates must pass the test to obtain their teaching license, it is important to understand how the number of attempts necessary to pass the test are correlated to programs. When we analyzed only first attempt rates, we uncovered a larger variation with an average of 84% passing rate. A similar pattern was observed

with edTPA, as this is also a requirement for teaching in the state. While in theory all programs could be preparing their students equally well, information from the student survey shows that perceptions on the adequacy for teaching of teacher candidates did vary. This finding is relevant as research has found that student surveys are a reliable instrument to gather information on instructional quality (Barragan Torres, 2022).

Given that IEPP also seeks to identify the mechanisms that support diverse and successful teachers, understanding how programs across institutions are able to comply with the state's minimum standards and state targets is vital. For example, the state target for diverse candidates in terms of race/ethnicity was 50% to reflect the demographic characteristics of the population of Illinois, but the average across institutions was 22%. Similarly, in regard to placement and persistence, all subjects were above the minimum standard but standard deviations were large with significant differences between *Special Education and Disabilities* and all other subjects. Identifying institutions that excel at specific indicators, relative to similar institutions, can be helpful for identifying promising practices and/or pairing institutions for effective peer learning.

Prior research also points to institutional factors relating to differences across higher education outcomes. So, we explored the relation between IEPP indicators and program and institution characteristics. However, we noted that IEPP indicators were not strongly correlated to program and/or institution characteristics, with a few exceptions: public institutions were more likely to place teacher candidates in *High Needs* schools, as well as have more teacher candidates who identify as people of color complete the program; these candidates were more likely to remain in their teaching position.

Similarly, we observed that institutions with smaller proportions of candidates who identify as people of color were more likely to report a higher percentage of diverse completers, and that public universities were more likely to have more diverse completers as their candidates who identify as people of color increase. Specifically, we found that institutions' performance in the race/ethnicity indicator were higher as they have higher percentages of Black and LatinX/Hispanic students. We also explored the relation between IEPP indicators for institutions across different regions in Illinois. While we observed no significant differences, we noted that in Cook County there were

more diverse candidates in terms of race/ethnicity. The largest number of universities were also in this region.

While understanding how programs place their teachers is important, we were unable to disentangle the extent to which measures identify these mechanisms, as they are likely to be correlated with the structure and demands of the teacher labor market. We also identified data limitations that have not allowed us to fully study IEPP measures. For example, we are unable to identify the level of programs, as undergraduate and graduate programs have the same identifying number within the IEPP data. Another important limitation is the lack of internal and external consistency for some indicators.

In summary, our descriptive analysis suggests some possible refinements for IEPP indicators to improve the validity and variation across measures, particularly those related to general teaching skills and content area knowledge for candidates exiting each program. We conclude that current IEPP measures need refinements to accomplish their goals of systematically identifying the adequate preparation of teacher candidates, while providing programs with information for improvement and ultimately strong development of the teacher workforce. In the Executive Summary, as well as throughout this report, we have noted implications for ISBE to consider as IEPP becomes high stakes for renewal and approval of teacher preparation programs in the near future (ISBE, N.D.).

We also used this descriptive study as a motivation for future research. Specifically, we envision using student-level data to quantify how differences in student characteristics are related to outcomes in teacher preparation programs to capture how programs are contributing to such outcomes. For example, reporting entrance GPA averages, including information on passing attempts for the teaching skills assessments, and designing other measures that contribute to the understanding of how teaching skills and knowledge contribute to teacher preparation success. Similarly, we would also like to separate IEPP indicators by type of program including education level (undergraduate v. graduate), modality of instruction (in-person, online or blended) as well as program duration and type of certification (alternative or traditional). Next, we will examine the 2021 IEPP data which includes placement and persistence in private schools and programs that prepare teachers for early childhood education.

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APPENDIX A.

List of institutions in the IEPP.

Public Institutions (12)	Private Institutions (40)
Chicago State University	Augustana College
Eastern Illinois University	Aurora University
Governors State University	Benedictine University
Illinois State University	Blackburn College
Northeastern Illinois University	Bradley University
Northern Illinois University	Concordia University Chicago
Southern Illinois University Carbondale	DePaul University
Southern Illinois University Edwardsville	Dominican University
University of Illinois Chicago	Elmhurst University
University of Illinois Springfield	Eureka College
University of Illinois Urbana/Champaign	Greenville University
Western Illinois University	Illinois College
	Illinois Wesleyan University
	Judson University
	Knox College
	Lake Forest College
	Lewis University
	Loyola University of Chicago
	McKendree University
	Millikin University
	Monmouth College
	National Louis University
	North Central College
	North Park University
	Northwestern University
	Olivet Nazarene University
	Quincy University
	Relay Graduate School of Education
	Rockford University
	Roosevelt University
	School of the Art Inst. Chicago
	St. Xavier University
	Trinity Christian College
	Trinity International University
	University of Chicago
	University of St. Francis
	Vander Cook College of Music
	Wheaton College

APPENDIX B.

Correlation matrix of indicators across programs

	i1	i2	i3	i4	i5	i6	i7	i9	i10	i11
i2	-0.16	1								
i3	0.04	-0.05	1							
i4	0.06	-0.23	-0.02	1						
i5	-0.02	0.02	-0.01	0.32	1					
i6	0.06	0.00	0.26	-0.07	0.16	1				
i7	0.19	-0.19	0.18	0.12	-0.05	0.04	1			
i9	-0.02	0.02	0.07	0.16	0.12	0.04	0.14	1		
i10	-0.12	0.19	-0.02	0.13	0.07	-0.07	-0.01	0.80	1	
i11	0.01	-0.07	0.13	0.04	0.04	0.12	0.13	0.83	0.58	1
i12	-0.08	0.04	0.09	0.08	0.01	0.01	0.05	0.78	0.88	0.80