

A Survey of Principals Who Hired Indiana University Bloomington Teacher Education Graduates

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Table of Contents

1. Executive Summary.....	1
1.1. Method.....	2
1.2. Conclusions.....	2
2. Introduction.....	7
3. A Brief Literature Review.....	9
3.1. A Short Overview of IUB School of Education.....	9
3.2. Teacher Education Programs’ Strength and Weaknesses	9
3.3. Issues in Data Collection and Limitations.....	11
4. Method.....	13
4.1. Sample.....	13
4.2. Instrument: IUB SOE Teacher Preparation Survey-2008 (TPPS-2008).....	15
4.3. Focus Group Interviews	16
5. Analysis of Results.....	21
6. Summary	53
Appendix A: Licensing Programs.....	59
Appendix B: Electronic Letters	61
Appendix C: IUB School of Education Teacher Preparation Survey-2008	65
Appendix D: Teacher Preparation Surveys Reviewed for this Study.....	71
Appendix E: Regrouping of TEGSI Items Based on IUB SOE Graduates’ Perceived Areas of Concern & Strength.....	73
Appendix F: IUB’s Six Principles for Teacher Education and NCATE Standards.....	77
Appendix G: Elementary and Secondary Survey Results: Strong & Excellent Responses	81
Appendix H: Elementary and Secondary Survey Results by Six Principles of IUB Teacher Education	83

List of Tables

TABLE 1. District	21
TABLE 2. Degree/major – Elementary	22
TABLE 3. Degree/major – Secondary	23
TABLE 4. Subject area taught, classified	24
TABLE 5. School level	24
TABLE 6. Subject/school level	25
TABLE 7. Licensure area or preparation program	26
TABLE 8. School locale code translations	27
TABLE 9. Respondents’ location based on school locale code	28
TABLE 10. Respondents’ subject taught and school level	28
TABLE 11. Year in which the IU graduate began teaching at the school – Elementary	29
TABLE 12. Year in which the IU graduate began teaching at the school – Secondary	29
TABLE 13. Subject taught – Elementary	30
TABLE 14. Subject taught – Secondary	31
TABLE 15. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in content knowledge	37
TABLE 16. Principals’ perceptions of IUB elementary education graduates’ levels of preparedness to teach content area separated by type (primary or intermediate elementary)	39
TABLE 17. Principals’ perceptions of IUB secondary education graduates’ levels of preparedness to teach content area	39
TABLE 18. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in instructional strategies	40

TABLE 19. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in integrating technology into instruction	41
TABLE 20. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in integrating assessment into instruction	41
TABLE 21. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in providing meaningful experience for students	42
TABLE 22. Mean TPPS-2008 scores by school size and locale	43
TABLE 23. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in managing the classroom environment to maximize learning.....	43
TABLE 24. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in providing personalized learning for students	44
TABLE 25. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in working as a part of the school, corporation, and community.....	45
TABLE 26. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in reflecting on one’s own teaching practices	45
TABLE 27. Principals’ comparisons of IUB School of Education graduates, by teacher education program, to beginning teachers graduated from other schools of education	46
TABLE 28. Principals’ perceptions of IUB graduates’ levels of preparedness to use effective instructional strategies in comparison to elementary and secondary education program graduates’ perceptions.....	47
TABLE 29. Principals’ perceptions of IUB graduates’ levels of preparedness to Integrate Technology into Instruction in comparison to elementary and secondary education program graduates’ perceptions.....	48
TABLE 30. Principals’ perceptions of IUB graduates’ levels of preparedness to integrate assessment into instruction in comparison to elementary and secondary education program graduates’ perceptions.....	48

TABLE 31. Principals’ perceptions of IUB graduates’ levels of preparedness to provide meaningful experience for students in comparison to elementary and secondary education program graduates’ perceptions 49

TABLE 32. Principals’ perceptions of IUB graduates’ levels of preparedness to provide personalized learning for students in comparison to elementary and secondary education program graduates’ perceptions 50

TABLE 33. TPPS items with lowest mean scores..... 51

TABLE 34. TPPS items with highest mean scores 52

List of Figures

FIGURE 1. Mean TPPS-2008 scores assigned by principals to beginning teachers who graduated from IUB School of Education elementary, secondary, and special education programs.....	34
FIGURE 2. Mean TPPS-2008 scores assigned by principals to beginning teachers based on subject area taught.....	35
FIGURE 3. Mean scores of principals' ratings on IUB graduates' levels of knowledge in the four graduate performance areas mentioned in knowledge principle of IUB Teacher Education Program.....	36
FIGURE 4. Principals' perception of IUB primary elementary, intermediate elementary, and special education program graduates' levels of preparedness to teach content area	38

1. Executive Summary

The Center for Evaluation and Education Policy (CEEP) recently undertook a study of Indiana principals' perceptions of teacher preparation at the Indiana University Bloomington (IUB) School of Education (SOE). The goal of the study was to contribute to the knowledge base that the SOE uses to improve the quality of pre-service teacher education.

The report sought to answer two questions: How well do principals think IUB SOE graduates are prepared to teach? What are the strengths and weaknesses of the IUB Teacher Education Program?

The results are organized based on IUB's "Six Principles of Teacher Education," as these principles served as a framework in structuring the survey used for this study. Specifically, principals' perceptions on IUB graduates' levels of preparation will be presented in five areas:

1. Principals' perceptions of IUB graduates' levels of knowledge
 - a. Principals' perceptions of IUB graduates' levels of content knowledge
 - b. Principals' perceptions of IUB graduates' levels of knowledge in instructional strategies
 - c. Principals' perceptions of IUB graduates' levels of knowledge in integrating technology in instruction
 - d. Principals' perceptions of IUB graduates' levels of knowledge in integrating assessment into instruction
2. Principals' perceptions of IUB graduates' levels of preparation to provide meaningful experience for students
3. Principals' perceptions of IUB graduates' levels of preparation to provide personalized learning for students
4. Principals' perceptions of IUB graduates' levels of preparation to work as a part of the school, corporation, and community

5. Principals' perceptions of IUB graduates' levels of preparation in reflecting on one's own teaching practices

1.1. Method

A list of IUB SOE graduates and information on their employment placement was provided by the IUB Office of Teacher Education. These lists were the 2003-2004, 2004-2005, and 2005-2006 Preliminary Report: Beginning Teacher Internship/Assessment Programs Pass/Fail Reports on 988 beginning teachers. An extensive amount of work was conducted using these initial lists as beginning points to create a database, including accurate district, school, teacher, and principal information.

The Teacher Education Graduate Self-Assessment Instrument (TEGSI), which was developed for the previous "Follow-up Study of Three Cohorts of IUB Teacher Education Graduates," was used as a foundation to create the survey used in the present study. The resulting survey, entitled IUB School of Education Teacher Preparation Principal Survey-2008 (TPPS-2008), included 30 questions in an elementary school version and 28 questions in a secondary school version. Survey items addressed beginning teachers' current teaching status along with principals' knowledge of and satisfaction with IUB SOE graduates' professional skills. In addition to the web-based survey, two focus group interviews were conducted prior to the start of the study for the purpose of evaluating the appropriateness of the survey questions.

Contact information for principals was obtained via the Indiana Department of Education's (INDOE) Teacher Inquiry Web page and by phone calls to the schools where IUB SOE graduates were employed. The final sample of principals included 75 elementary and 64 secondary school principals.

1.2. Conclusions

The purpose of this study was to examine principals' opinions about IUB SOE teacher preparation program graduates' professional performance in elementary and secondary schools in Indiana. A total of 295 electronic surveys were emailed, and principals

provided feedback on about 139 teachers who graduated from education programs at IUB SOE.

Several positive results were found:

- A majority of teachers were assigned to teach in the areas for which they were prepared at IUB SOE.
- Principals think IUB graduates are stronger in selected teaching skills compared to graduates of other teacher preparation programs.
- Principals are more positive about IUB graduates' performance compared to that of graduates of other teacher preparation programs.
- IUB graduates appear to be more critical about their preparation in comparison to what principals think.

There are several important limitations to the present study: the sample only included Indiana principals, yet a significant portion of IUB SOE alumni teach outside of the state; the state database of newly licensed teachers had a great deal of inaccurate data that had to be corrected by hand, and not all records could be saved; the survey response rate, although acceptable, was not ideal; the study design did not allow for the examination of principals' demographics or philosophical underpinnings; and social desirability effects may have skewed the results.

The purpose of this study was to assess how principals perceive IUB graduates compared to graduates of other institutions' preparation programs teaching at the same grade level. The principals who responded to the survey only have knowledge about those teachers they supervise within their elementary or secondary schools. Principals were not comparing elementary and secondary teachers. This is not a study of the relative strength of the elementary and secondary programs. In this report, comparisons are made by subject area taught, teacher education program (elementary/secondary), and school size and locale. In addition, comparisons are made between the TPPS and the TEGSI surveys. Mean scores were very similar, and the differences noted are very small and not statistically significant. These differences are discussed only to compare and not to distinguish one program as superior to the others (or vice-versa).

Summary of principals' opinions

Survey questions targeted the areas of level of knowledge, providing meaningful experience, personalized learning, community building, and skills in reflecting critically on all aspects of education. Overall, in comparison to graduates from other Indiana teacher preparation programs, principals found IUB graduates strongly or excellently prepared.

- In the area of content knowledge, both elementary and secondary education teachers were found to be well prepared to teach content areas.
- In regard to knowledge using effective instructional strategies, teachers were found to be prepared strongly or excellently.
- When it came to integrating technology and incorporating assessment into instruction, elementary graduates were slightly better prepared when compared to secondary graduates.
 - Although both majors performed at a higher level than satisfactory, mean scores in integrating technology were lower than other knowledge areas for both groups of graduates.
- Principals were asked how satisfactorily IUB graduates provide meaningful experience by managing the classroom environment to maximize learning.
 - When examined by school size, locale, and school level, graduates performed best in urban fringe areas at both elementary and secondary schools in controlling misbehavior and responding to students' emotional and social problems.
 - Elementary education program graduates were found to perform slightly better at managing the classroom environment than were secondary education graduates.
- Principals were pleased with IUB graduates' performance in providing personalized learning for students compared to graduates of other teacher education programs.
 - Principals rated elementary education graduates' performance slightly higher than secondary education majors in addressing the needs of students with disabilities and planning their instruction based on students' developmental levels and interests.
 - However, secondary education teachers were found to be slightly more successful in meeting the needs of students from different cultural backgrounds and serving students with limited English proficiency.

- Principals thought elementary education teachers were slightly more skillful in working collaboratively with other school professionals and parents.
- Principals considered secondary education teachers to be slightly more reflective on their own teaching experiences.
- When principals were asked to rate IUB graduates in comparison to other teachers they have employed, they indicated that IUB graduates were between the top 25th and upper middle 25th percentile. Among the IUB teacher preparation programs, special education program graduates were found to be the best prepared.

Summary of comparisons between TEGSI and TPPS-2008 results

Overall, the comparison between TEGSI and TPPS-2008 results reveals that beginning teachers were more critical of their abilities and their pre-service teacher preparation than were the principals who responded to the principal survey. It should be noted that the principals who responded to the TPPS-2008 survey were not necessarily employing the graduates who participated in the earlier study. In addition, the TPPS-2008 asked principals to rate recent graduates, while the TEGSI data consisted of responses from three cohorts of graduates, some of whom had graduated more recently than others.

- Although elementary education teachers were given slightly higher technology integration ratings than were secondary education teachers by principals, elementary education graduates' self ratings were lower than secondary education graduates' self ratings in this area.
- Integrating technology into instruction was not viewed as a challenge by beginning teachers, but principals assigned the lowest scores to this area.
- In regard to preparation for providing personalized learning for students who come from diverse cultural backgrounds, the secondary education program was found to be slightly more successful than the elementary education program by both principals and graduates.
- Working with culturally and linguistically diverse student populations was reported by beginning teachers as a challenging aspect of their work. Although principals thought they were prepared satisfactorily in this area, the mean scores assigned to elementary school teachers were lower in this aspect of providing personalized learning.
- In all other comparison areas, elementary education graduates and principals assigned slightly higher ratings to IUB teacher preparation programs than secondary education principals and graduates.

2. Introduction

The purpose of this study was to examine elementary and secondary education principals' views regarding the professional performance of IUB Teacher Education Program graduates. Through web-based surveys, school principals were asked about IUB SOE graduates' current teaching status. The surveys also asked principals for their opinions on the graduates' teaching skills. Information obtained from this study provides useful insight into the IUB Teacher Education Program, based on valuable feedback from principals who work with graduates on a daily basis.

In this report, a brief review of literature on teacher education is provided. Results of the study include descriptive information regarding the current work status of the graduates, including the locale, grade level, and content areas in which they are currently teaching. Comparisons are made between the TPPS-2008 and the previously used TEGSI, which included questions pertaining to major, current teaching status, and perceived preparation provided by the IUB Teacher Education Program. Finally, conclusions regarding the strengths and areas for improvement within the IUB program are presented based on these findings.

3. A Brief Literature Review

3.1. A Short Overview of IUB School of Education

Indiana University (IU) has been committed to preparing teachers for over 150 years. In 1905, its School of Education had four faculty members and 189 students. Since then, IU has grown rapidly and become one of the largest public teacher education institutions in the nation, awarding more than 200 doctoral and 1,200 master's degrees in some years (see <http://site.educ.indiana.edu/Default.aspx?tabid=5656>). Currently IUB offers many teacher licensing programs, such as Early Childhood Education, Elementary Education, Teaching for All learners, Anchor Secondary Education, and Community of Teachers (see Appendix A).

IU is accredited by North Central Association Commission on Institutions of Higher Education and is a member of the American Association of Colleges for Teacher Education. The IUB SOE received its initial accreditation in 1954 from the National Council for Accreditation of Teacher Education (Indiana University School of Education, 2008).

3.2. Teacher Education Programs' Strength and Weaknesses

A 2006 national report on teacher education (Educating Teachers Report, Levine) demonstrates that today's teachers are faced with different challenges as a result of changes in society and educational policies. However, there is concern that pre-service teachers may not be well-equipped upon graduating from college to perform in "standard-based, accountability driven" classrooms (Levine, 2006). According to the report, when the best teacher institutions were studied, it was found that these programs systematically gather and use data about their preparation programs. Their program objectives are not only parallel with state standards but also with National Council for

Accreditation of Teacher Education (NCATE) standards (Dean, Lauer, & Urquhart, 2005). Being accredited by NCATE demonstrates that the institution meets “state, professional, and institutional standards of educational quality.”

NCATE provides standards to serve as a framework and guide for teacher preparation institutes to ensure increased teacher quality. According to the second NCATE standard, practices at schools of education should be informed by data analysis on pre- and in-service teachers’ performance. An evaluation of the institution’s programs is also required by this standard (NCATE, 2008).

IUB SOE and CEEP previously conducted a study exploring the status of recent graduates and their opinions about the teacher preparation program from which they graduated (Plucker, Ravert, Simmons, & Kohler, 2005). The results revealed that IUB graduates felt well prepared in the areas of instructional methods, content knowledge, and teaching reading and writing. These teachers indicated that in their teacher preparation program there was room for improvement in classroom management, serving diverse groups of students, and working with other professionals and parents (Plucker et al., 2005).

In the milieu of teacher education critiques, there are also favorable findings from the local school principals’ points of view. In a recent study, researchers at Kent State University (KSU) replicated a national study on teacher preparation (Levine, 2006) and examined principals’ opinions on KSU’s teacher education program (Arhar & Brodsky, 2007). The results of the national study, which was conducted with teachers in over 6,000 schools, concluded that pre-service teachers were inadequately prepared to integrate technology into their teaching, work in a standards-based environment, use different assessment techniques, and meet the needs of students with diverse needs (Levine, 2006). However, the KSU study results demonstrated that local principals had a more positive opinion of their graduates. The principals believed KSU graduates were strong in the areas of knowledge of pedagogy, content, differentiating instruction, lesson planning, and providing support for their students. On the negative side, they suggested that teacher candidates could be better prepared in diversity and communicating with parents (Arhar & Brodsky, 2007).

3.3. Issues in Data Collection and Limitations

The purpose of the present study was to examine school principals' perceptions of how well IUB SOE graduates were prepared to work as teachers and to identify the areas of strength and opportunities for improvement in the IUB Teacher Education Program. In order to reach this goal, the TPPS-2008 instrument was developed, with one version for elementary schools and another for secondary schools.

Surveys have been a common choice of data collection, especially in teacher education follow-up studies (Blanton, Sindelar & Correa, 2006; Loadman, Freeman & Brookhart, 1999; Thomas & Loadman, 2001). Researchers who conduct follow-up studies utilizing surveys assume that participants are dependable sources of information on teacher preparation (Blanton, et al., 2006). Although the limitations of survey research have been recognized, online surveys (as opposed to other types, such as telephone and paper-and-pencil surveys) have been gaining acceptance as a result of (a) societal movements toward self-administration, (b) their cost efficiency and speed, and (c) improved computer technology and increased familiarity with computers in the workplace (Dillman, 2000).

This report provides valuable information on principals' opinions of IUB teacher preparation. However, users of the report should take into consideration the study's limitations related to instrumentation and sampling. Both elementary and secondary versions of TPPS-2008 include questions on teachers' placements (e.g., grade level and subject area) and teaching skills (e.g., classroom management, working with students with special needs, and content knowledge). The data neither provide information on principals' preparation or experiences nor do they reveal whether the principal is familiar with the philosophy of IUB teacher education or has the necessary pedagogy and content knowledge on the subject area to evaluate the teacher. In addition, the surveys do not inquire about school characteristics, such as type of school district, enrollment trends, ethnic composition of the school, or school climate. These factors may impact IUB graduates' performance in schools and also affect how principals view their knowledge and skills as teachers. To cover all of these aspects in this study would have

required a lengthy survey. However, in order to have a better rate of response, it is imperative to keep the survey short and easy to complete (Dillman, 2000).

Furthermore, only school principals in Indiana participated in the survey, as beginning teacher employment data were only available from this state. A list of IUB graduates' placements was provided as a foundation to create the potential participant list (a list of principals who hired IUB graduates). An analysis of the list revealed that many of the recent teacher education graduates had moved out of state or no longer worked as teachers. Non-response is a common limitation of survey studies (Dillman, 2000; Thomas & Loadman, 2001). A total of 139 of the 295 principals who were sent the surveys responded.

4. Method

Participants were 112 elementary and secondary school principals at schools where 139 graduates of the IUB undergraduate Teacher Education Program were teaching. Principals of these schools were asked to complete a web-based survey. Questions focused on principals' opinions about the preparation level of these beginning teachers with regard to the quality of their pre-service education. This study utilized the TPPS-2008, a survey instrument created collaboratively with professionals from the IUB SOE Office of Teacher Education and CEEP, and was aligned with IUB's "Six Principles for Teacher Education."

4.1. Sample

The Office of Teacher Education at IUB provided CEEP with hard copies of the 2003-2004, 2004-2005, and 2005-2006 Preliminary Report: Beginning Teacher Internship/Assessment Programs Pass/Fail Reports. Within these reports was information obtained from the INDOE on a total of 998 IUB SOE graduates. The reports provided the beginning teacher's name; subject area assigned; school name, telephone number, and address; and an indication as to whether or not the teacher passed the assessment program. Initially, these data were used to compile a list of school principals who had hired IUB graduates and who would, in turn, receive the survey.

Complying with a request from the Office of Teacher Education, the INDOE's Web page (<http://www.doe.state.in.us/>) and Internet search engines were used first to compile a list of the Indiana school districts that employed these beginning teachers. Using this list, a database was created that contained each beginning teacher's name, the school and school district where employed, and school telephone numbers.

At this point, it was determined that the reports provided by the INDOE included teachers who had graduated from other IU campuses, such as South Bend, Kokomo, or Indianapolis, in addition to the IUB graduates. Therefore, the IU student information

database was used to determine which of the 998 beginning teachers in the database were Bloomington graduates, and all other beginning teachers were removed. Next, the records of each teacher were reviewed to determine the type of teaching license held. This review was done using the INDOE database and IU student information database, and by working collaboratively with the director of Student and Information Management Services and the assistant to the licensing advisor at the Office of Teacher Education. Two main challenges were (a) determining the certification types of beginning teachers and (b) determining the schools where they were currently employed. It was recognized that many beginning teachers changed schools after a short time and were not employed in the same schools stated in the Beginning Teacher Internship/Assessment Programs Pass/Fail Reports. More interestingly, some of them were no longer working as teachers.

By utilizing this information, a database was created for this study that included school corporations, school names, principal names, as well as IUB SOE graduates' names, graduation year, and type of teaching license. This database included 295 teachers. To protect the privacy of these teachers, their names were replaced with individual code numbers based on the school and school district where employed and the type of certification held.

In January 2008, CEEP personnel contacted each school in the study's database by telephone to confirm the IUB SOE graduate's employment location and principal's e-mail address. The database was updated based on the information gathered from these initial phone calls. During these phone calls, principals were given information about the study and notified that a survey would be sent to them electronically or via mail, based on their preference.

In March 2008, 295 principals were e-mailed an introduction letter (see Appendix B) that included a link to the web-based survey. Five principals requested that their names be removed from the list, and 17 e-mails were returned as invalid, leaving 272 principals. Eight principals were mailed the letter with a hard copy of the survey per their request. In the introduction letter sent to each principal, the purpose of study was explained, and the principals' participation was requested. Each principal was asked to

complete one survey for each recent IUB SOE graduate hired. Initially, only 16 principals responded to the survey, so a second and third round of contact efforts (via telephone calls and electronic mail) was conducted to achieve greater participation. By the end of the study, 112 principals had completed surveys on 140 IUB SOE graduates.

4.2. Instrument: IUB SOE Teacher Preparation Survey-2008 (TPPS-2008)

Two versions of the TPPS-2008 were prepared: one for elementary education and one for secondary education. The surveys included 27 and 24 questions respectively (see Appendix C). The instrument was developed after a review of (a) the TEGSI, (b) other teacher preparation principal surveys (see Appendix D), (c) IUB's "Six Principles for Teacher Education," (d) NCATE standards, and (e) focus group interviews.

In 2004, CEEP conducted a study of alumni perceptions of the IUB Teacher Education Program. In the course of that study, CEEP staff developed and used the TEGSI to determine the teaching status of recent graduates and their opinions on pre-service teacher preparation at the IUB SOE. Results of that study served as a foundation for the survey used in the current study. First, TEGSI items were regrouped (see Appendix E) based on IUB SOE graduates' self-reported strengths and weaknesses. Then, some TEGSI items (targeting the areas of strength as well as the areas of challenge) were modified to use in the TPPS-2008.

The IUB SOE prepares prospective teachers based on six principles: knowledge, meaningful experience, personalized learning, community, critical reflection, and growth (see <http://site.educ.indiana.edu/SixPrinciples/tabid/5489/Default.aspx>). These principles served as a framework for developing the TPPS-2008 items. As a result, the survey corresponds with the SOE's conceptual framework for teacher education (see Appendix F).

In the process of developing the survey, several teacher preparation principal surveys from other schools of education were reviewed (see Appendix D). Moreover, an interview was conducted with a faculty member at IUPUI who had developed a similar

survey and used it for several years to evaluate another teacher preparation program. This interview provided valuable information on the best times to send a survey, the most effective survey items, and ways to increase response rates (e.g., including the individual principal's name in the introduction letter).

Drawing from this research, a team made up of personnel from CEEP and the Office of Teacher Education created the first version of the TPPS-2008 by (a) modifying some of TEGSI items, (b) adapting items from other teacher preparation principal surveys, and (c) developing new items specific to the IUB Teacher Education Program.

4.3. Focus Group Interviews

Two pilot focus group interviews were conducted with Indiana principals before the survey was distributed. The purpose of these interviews was to verify the validity of the proposed survey items and to better understand principals' opinions about the effectiveness of the IUB Teacher Education Program. The first focus group interview was conducted with five elementary school principals (two male and three female). The second focus group consisted of two male and two female secondary education principals. Each interview lasted between one and one-and-a-half hours. The participants were asked semi-structured questions about their criteria for hiring, experiences with IUB SOE graduates, and suggestions for improving teacher preparation programs.

The focus group interviews confirmed that the proposed survey items reflected matters of importance to the principals. In addition, the principals who participated were pleased to know their contributions were valued. The interviews also provided further insight into principals' perceptions of teacher preparation and why principals have certain opinions about novice teachers. The following themes emerged from these interviews:

Content knowledge and pedagogy

For the principals who were interviewed, it is crucial that a new teacher has well-grounded knowledge in the content areas. However, it is equally important to them that a teacher also knows how to teach content. According to principals, teachers should be

able to adjust their instruction based on students' ability levels. They stated that they seek teachers who can understand students with different levels of academic and social skills. One principal stated, "In many cases, like coaching, if you are the star player everything comes easy. So he cannot understand the children who struggle." Another principal agreed, saying, "Care about the D student as much as an A! Care about a regular student as much as the prom queen. But it is hard when you are 23."

In terms of content knowledge and pedagogy, principals found IUB SOE graduates especially well prepared to teach foreign languages at the secondary level. One high school principal said, "I want to know whether he/she can draw goofy pictures, talk the language, and know how to present the language by using different methods." He stated that, compared to other schools of education, IUB's graduates are equipped with the necessary skills and knowledge to teach foreign languages. He added that he could judge this especially well because it was his area. In addition, according to the elementary education principals, recent IUB graduates work successfully in standards-based environments compared to previous years' graduates.

Classroom management

Both elementary and secondary education principals stated that, when making hiring decisions, one of the most important criteria they consider is strong classroom management skills. Interestingly, in the prior study, IUB Teacher Education Program graduates reported classroom and behavior management to be an area they found challenging.

Practical experience

Principals at both levels strongly believed in the importance of hands-on experience, which was also valued by IUB SOE graduates based on TEGSI results. According to the elementary education principals, teacher preparation programs should place their students in schools as early as possible. These early experiences allow pre-service teachers to gain practical information and develop a realistic understanding of their future career. It also provides program staff with insight into which students may not be

a good fit for the profession and ought to be considered for elimination from the program.

High school principals, however, did not think that student teaching situations were realistic environments for learning the true role of a teacher. All principals agreed that pre-service teachers would be better equipped if they took advantage of other opportunities (e.g., substitute teaching, working at a summer camp, coaching cheerleading, etc.) in addition to student teaching. They also suggested that IUB SOE pre-service teachers would have a better chance of being hired if they were “coached” by the teacher preparation program to take an active role in their student teaching placements (e.g., staying after school to help with a sports activity).

Professionalism and social skills

The theme of professionalism and social skills includes a wide range of behaviors, from being on time to knowing how to balance the work day. Principals stated that these are areas on which teacher preparation programs could put more emphasis. One secondary education principal gave an example: “Some of them still roll their eyes. Immaturity... I cannot imagine my dentist rolling his eyes.” Another principal added, “You cannot get a second job at a bar two blocks down from the school.” A teacher candidate’s skill in working collaboratively with other school professionals and parents, as well as strong skills in verbal and written communication, were very important to them. When these principals spoke about professionalism, they also mentioned teacher candidates’ Internet use. That is, they do not want information on the Internet by or about a teacher at their school that will reflect badly on the school. Principals do not like to be surprised by parents telling them what they found online about one of their teachers.

Other suggestions to improve teacher preparation programs

Since these principals were in contact with graduates from different teacher preparation programs, they were able to make comparisons among programs. They saw great value in reducing classroom size in such programs. In their experience, teacher educators in small colleges had better opportunities to mentor and closely monitor pre-service

teachers. They also felt that teacher educators should be more involved with and/or connected to elementary and secondary schools.

When the principals were asked what would place an IUB graduate at the top in comparison to graduates from other programs, the elementary principals said, “Knowing Spanish.” Also, familiarity with the Response to Intervention processes, autism, curriculum mapping, and testing would help make an IUB SOE graduate a good teacher candidate. According to the principals, “flexibility” is also a very important teacher quality. One principal explained, “I would not hire someone for PE if he cannot teach health. They have to have couple different areas that they can teach.” In addition, secondary principals reported that an online professional teacher portfolio would make an IUB graduate stand out among others because it would be easy to view.

Focus group interviews served as a social validity tool for the selected survey items. They allowed the survey development team to confirm that the TPPS-2008 targeted areas of strength and challenge perceived by principals and beginning teachers. The instrument was then sent to the deans and department chairs at the IUB SOE for their review and input. Item modifications were made based on their feedback and NCATE standards in order to improve the survey.

Finally, one elementary and one secondary version of the TPPS-2008 were prepared. A letter of invitation to participate in the study was e-mailed to each school principal in the study database. The letter included a link to the survey and CEEP contact information. The first Web page of the survey prompted principals to type their name and select their school district, school name, and school level. On the second page of the survey, principals were provided with a list of teachers (by name) specific to their school. There they were prompted to select one teacher about whom they would respond to the survey items. Once they were finished, if their school employed more than one IUB graduate, they were returned to the beginning of the survey to chose the next teacher and complete the survey again.

The survey asked for background information on the IUB SOE graduate, including year and semester of hire as well as grade level and subject area taught. It then presented a

number of items (25 for elementary school principals and 23 for secondary school principals) pertaining to teaching skills. Principals responded to the questions by choosing one of the six specific rating labels: Poor, Fair, Satisfactory, Strong, Excellent, or Don't Know. Finally, principals were asked to indicate where the IUB SOE graduate ranked (top, upper middle, lower middle, or lower 25%) in comparison to recent beginning teachers from other teacher preparation programs.

5. Analysis of Results

Sample by district

Principals from 71 districts across the state of Indiana, representing 118 schools, responded to the survey. Those districts where more than two surveys were completed are displayed in Table 1 below. The districts with the largest representation were Hamilton Southeastern Schools, Monroe County Community School Corporation, Greater Clark County Schools, Indianapolis Public Schools, Bartholomew Consolidated School Corporation, MSD Perry Township, North Lawrence Community Schools, and the Office of Catholic Education.

TABLE 1. District

	Frequency	Percent
Bartholomew Consolidated School Corporation	5	3.6%
Brown County School Corporation	4	2.9%
Center Grove Community School Corporation	4	2.9%
Franklin Township Community School Corporation	3	2.2%
Greater Clark County Schools	6	4.3%
Hamilton Southeastern Schools	7	5.0%
Indianapolis Public Schools	6	4.3%
M S D Lawrence Township	3	2.2%
M S D Perry Township	5	3.6%
M S D Washington Township	3	2.2%
M S D Wayne Township	4	2.9%
Monroe County Community School Corporation	7	5.0%
North Lawrence Community Schools	5	3.6%
Office of Catholic Education	5	3.6%
Zionsville Community School	3	2.2%

Sample by degree

Each survey was pre-populated with the IUB graduates' type of degree received (Bachelor of Arts, Bachelor of Science.) and major area of study. The data was separated by the type of survey sent to principals, either elementary or secondary. Table 2 displays

the major area of study for elementary teachers in the survey, and Table 3 shows the major area of study for secondary teachers. Over half (53%) of the IUB graduates were designated as elementary education majors, and another 7% were general elementary education majors. Special education majors were also well represented with 13% of the sample. Due to the way secondary education is delivered, secondary teachers' majors were as varied as the topics taught. The largest discipline represented was English education (30%), followed by social studies education (19%) and Spanish education (11%).

TABLE 2. Degree/major – Elementary

	Frequency	Percent
Early Childhood Education	6	8.0%
Elementary Education	40	53.3%
Elementary/Primary Generalist	3	4.0%
Elementary/Primary, Elementary Intermediate/ Mild Intervention	1	1.3%
English Education	2	2.7%
Finance	1	1.3%
General Elementary Education	5	6.7%
General Studies Arts and Humanities Track	1	1.3%
Management and Human Resource Management	1	1.3%
Physical Education	2	2.7%
Sociology	1	1.3%
Spanish Education	1	1.3%
Special Education	10	13.3%
Telecommunication	1	1.3%
Total	75	100.0%

TABLE 3. Degree/major – Secondary

	Frequency	Percent
Biology and Chemistry	2	3.1%
Economics	1	1.6%
Elementary Education	2	3.1%
English Education	19	29.7%
French Education	1	1.6%
German Education	1	1.6%
History	1	1.6%
Instrumental Teaching - Horn	3	4.7%
Journalism Education	2	3.1%
Language Arts	1	1.6%
Mathematics Education	2	3.1%
Nutrition Science and Dietetics	1	1.6%
Science Education	1	1.6%
Secondary Education	1	1.6%
Social Studies Education	12	18.8%
Spanish Education	7	10.9%
Special Education	2	3.1%
Speech & Communication and Theatre Education	1	1.6%
Studio Arts	1	1.6%
Teaching area- voice	1	1.6%
Telecommunication	1	1.6%
Visual Arts Education	1	1.6%
Total	64	100.0%

Although the surveys were pre-populated with the college degree and major area of study of each IUB graduate, principals were asked what subject area the IUB graduate taught at their school. Table 4 represents a consolidation or merging of each reported area in which IUB graduates were teaching. The highest percentages were of those teaching primary elementary (22%), intermediate elementary (17%), secondary language arts/English (17%), and special education (13%).

TABLE 4. Subject area taught, classified

	Frequency	Percent
Elementary Music	2	1.4%
Elementary Physical Education	1	0.7%
Elementary Visual Arts	1	0.7%
Intermediate Elementary	24	17.3%
Primary Elementary	31	22.3%
Secondary Foreign Language	11	7.9%
Secondary Journalism	1	0.7%
Secondary Language Arts/English	23	16.5%
Secondary Mathematics	3	2.2%
Secondary Music	4	2.9%
Secondary Science	7	5.0%
Secondary Social Studies	11	7.9%
Secondary Visual Arts	2	1.4%
Special Education	18	12.9%
Total	139	100.0%

The level of school at which the IUB graduate was teaching was merged into three categories: elementary, secondary, and special education. As displayed in Table 5, elementary and secondary teachers were equally represented, splitting about 86% of the sample, while 13% of the teachers taught special education.

TABLE 5. School level

	Frequency	Percent
Elementary	60	43.2%
Secondary	61	43.9%
Special Education	18	12.9%
Total	139	100.0%

It was also essential to determine the subject taught at each of the school levels. Table 6 shows the subject (if applicable) and level at which each teacher was teaching.

Elementary teachers were mainly teaching at the primary and intermediate levels while secondary teachers were primarily teaching English, social studies, or foreign language.

The All School Settings category included music, visual arts, and physical education.

Although not displayed in this table, of the 18 special education teachers, 15 (83%) were in elementary school settings and three (17%) were in secondary school settings.

TABLE 6. Subject/school level

	Elementary Frequency	Secondary Frequency	Special Education Frequency	Total Frequency
Primary Elementary	31	0	0	31
Intermediate Elementary	22	0	0	22
English/LA/ESL Secondary	0	23	0	23
Foreign Language Primary/Secondary	1	10	0	11
Social Studies Secondary	0	11	0	11
Science Secondary	0	7	0	7
Math Primary/Secondary	2	3	0	5
Journalism Secondary	0	1	0	1
Special Education	0	0	18	18
All School Settings	4	6	0	10
Total	60	61	18	139

The table below (Table 7) shows the teachers' licensure area or IUB SOE preparation program. The largest percentage of teachers had Elementary licensure (33%) or Middle School/Junior High/ High School: Language Arts/English (16%). Two licensure areas below were collapsed into one category: Middle School/Junior High/High School: Other includes math, health, theatre, and journalism; and the All School Settings Program includes music, physical education, and visual arts. The category NA represents those graduates who were not certified by IUB SOE. A supplementary report is forthcoming and will include principals' responses to comparisons of IUB graduates relative to other beginning teachers by the categories below (licensure area or preparation program).

TABLE 7. Licensure area or preparation program

	Frequency	Percent
Elementary: Primary & Intermediate	46	33.1
Middle School/Junior High/ High School: Language Arts/English	22	15.8
Exceptional Needs Education and Elementary: Primary and Intermediate/TAL	16	11.5
Middle School/Junior High/High School: Social Studies	15	10.8
Middle School/Junior High/High School: Foreign Language	10	7.2
All School Settings Program	8	5.8
Preschool & Elementary: Primary	7	5.0
Middle School/Junior High/High School: Other	6	4.3
NA	5	3.6
Middle School/Junior high/High School: Science	4	2.9
Elementary: Primary & Intermediate	46	33.1

Location of school

Although there are ways to determine the geographic location of each district in Indiana, there are very few agreed upon methods to distinguish whether a school is classified as rural, urban, or suburban. The National Center for Education Statistics (NCES) developed designations called “school locale codes” as part of the general information reported in the Common Core of Data (CCD), which is an annual collection containing basic demographic information on every public school in the United States. The school locale code defines how a school is situated in a particular location in terms of the size of the community in which it is located and the proximity of that community to urban and metropolitan areas, based on U.S. Bureau of the Census data. The locale code translations below (in Table 8) describe how schools are situated in a particular location relative to populous areas, based on each school’s physical address. Religiously affiliated schools were not included in the database from NCES and are designated later in this report as “parochial.”

TABLE 8. School locale code translations

Locale Code	Locale Type	Definition
1	Large City	A principal city of a metropolitan core-based statistical area (CBSA), with the city having a population greater than or equal to 250,000.
2	Mid-Size City	A principal city of a metropolitan CBSA, with the city having a population less than 250,000.
3	Urban Fringe of Large City	An incorporated place, Census-designated place, or non-place territory within a metropolitan CBSA of a large city and defined as urban by the Census Bureau.
4	Urban Fringe of Mid-Size City	An incorporated place, Census-designated place, or non-place territory within a CBSA of a mid-size city and defined as urban by the Census Bureau.
5	Large Town	An incorporated place or Census-designated place with a population greater than or equal to 25,000 and located outside a metropolitan CBSA or inside a micropolitan CBSA.
6	Small Town	An incorporated place or Census-designated place with a population less than 25,000 and greater than or equal to 2,500 and located outside a metropolitan CBSA or inside a micropolitan CBSA.
7	Rural, Outside CBSA	An incorporated place, Census-designated place, or non-place territory not within a metropolitan CBSA or within a micropolitan CBSA and defined as rural by the Census Bureau.
8	Rural, Inside CBSA	An incorporated place, Census-designated place, or non-place territory within a metropolitan CBSA and defined as rural by the Census Bureau.

As displayed in Table 9 below, the largest percentage of principal respondents were from *urban fringe of large city* (35%), *rural, inside CBSA* (14%), *large city* (14%), and *mid-size city* (12%). *Urban fringe of large city* includes the districts of Center Grove Community School Corporation, Greater Clark County Schools, Hamilton Southeastern Schools, and MSD Lawrence Township. *Rural, inside CBSA* includes the districts of Brown County School Corporation and Franklin Township Community School Corporation. *Large city* includes the districts of MSD Washington Township, Indianapolis Public Schools, MSD Wayne Township, and MSD Perry Township. *Mid-size city* includes the districts of Bartholomew Consolidated School Corporation and Monroe County Community School Corporation.

TABLE 9. Respondents' location based on school locale code

Locale Code	Locale Type	Frequency	Percent
1	Large City	19	13.7%
2	Mid-Size City	17	12.2%
3	Urban Fringe of Large City	48	34.5%
4	Urban Fringe of Mid-Size City	1	0.7%
5	Large Town	1	0.7%
6	Small Town	11	7.9%
7	Rural, Outside CBSA	13	9.4%
8	Rural, Inside CBSA	20	14.4%
9	Parochial	9	6.5%
Total		139	100.0%

Further analysis into school locale and subject/level shows the distribution of subject taught and school level in the sample (see Table 10). Of the four largest locales represented: *large city* teachers were somewhat evenly distributed among subject and level; *mid-size city* locale had a larger distribution of primary elementary teachers; *urban fringe of large city* had the largest distribution of primary elementary teachers, intermediate elementary teachers, secondary English teachers, and interestingly, the largest percentage of special education teachers; *rural, inside CBSA* had a larger distribution of secondary English teachers.

TABLE 10. Respondents' subject taught and school level

Subject/Level	Large City Frequency	Mid-size City Frequency	Urban Fringe of Large City Frequency	Rural, Inside CBSA Frequency
Primary Elementary	3	7	18	2
Intermediate Elementary	3	2	10	2
English/LA/ESL Secondary	3	2	6	6
Foreign Language Primary/Secondary	3	0	2	2
Social Studies Secondary	1	1	2	3
Science Secondary	1	2	1	1
Math Primary/Secondary	2	1	2	0
Journalism Secondary	0	0	0	0
Special Education	1	1	6	2
All School Settings	2	1	1	2
Total	19	17	48	20

Employment status of graduates by school level and subject area

The year the IUB graduate began teaching at the school is indicative of the time of tenure in the position. Those principals who responded to the elementary survey specified the year the teacher began teaching at their school, as displayed in Table 11 below. The largest percentage (74%) of teachers at the elementary level began teaching at their locations between 2004 and 2006. These teachers were predominantly teaching K-3 (46%) or grades 4, 5, and 6 (30%). The largest percentage of secondary teachers (Table 12) represented in the survey began teaching in 2005 (36%) or 2006 (28%). These teachers were predominantly teaching grades 9-12 (59%) or grades 6-8 (30%).

TABLE 11. Year in which the IU graduate began teaching at the school – Elementary

Year	Frequency	Percent
1998	1	1.5%
2002	1	1.5%
2003	10	15.2%
2004	13	19.7%
2005	23	34.8%
2006	13	19.7%
2007	5	7.6%
Total	66	100.0%

TABLE 12. Year in which the IU graduate began teaching at the school – Secondary

Year	Frequency	Percent
2003	9	15.5%
2004	6	10.3%
2005	21	36.2%
2006	16	27.6%
2007	6	10.3%
Total	58	100.0%

Principals were also asked to report what subject the specified IUB graduate taught at the school, and their responses are listed in Table 13. Both elementary and secondary principals used a variety of classifications to designate what subject the teacher taught.

Just under half (45%) of principals responded that the elementary school teacher taught all subjects, 15% reported elementary education, and 12% each reported general education and special education. Although there are only nine special education teachers reported here, several principals listed “All” as the designated subject. A much smaller number of principals reported a specific subject, such as language arts, math, or science.

TABLE 13. Subject taught – Elementary

	Frequency	Percent
All	34	45.3%
Elementary Education	11	14.7%
English	1	1.3%
General Education	9	12.0%
Kindergarten	1	1.3%
Language Arts	1	1.3%
Language Arts, Religion, Health	1	1.3%
Literacy, Social Skills, Mathematics	1	1.3%
Mathematics, Science	1	1.3%
Music	2	2.7%
Physical Education	1	1.3%
Science	1	1.3%
Science, Mathematics, Religion	1	1.3%
Special Education	9	12.0%
Title 1	1	1.3%
Total	75	100.0%

Secondary principals also reported a variety of subjects. The most prevalent were English, Spanish, and social studies, while the rest were more specific to the discipline (e.g., English-newspaper). Table 14 shows their responses.

TABLE 14. Subject taught – Secondary

	Frequency	Percent
All	1	1.6%
Art	3	4.7%
Band, Music	1	1.6%
Biology	2	3.1%
Chemistry	2	3.1%
Choir	1	1.6%
Economics	1	1.6%
Elementary Education	1	1.6%
English	10	15.6%
English, Mathematics	1	1.6%
English, ESL	1	1.6%
English, Journalism	1	1.6%
English, Newspaper	1	1.6%
ENL, World Languages	1	1.6%
ESL	1	1.6%
French	1	1.6%
General Music	1	1.6%
Geography, World History, Government	1	1.6%
German	1	1.6%
Journalism	1	1.6%
Language Arts	4	6.3%
Mathematics, Science	1	1.6%
Mathematics	3	4.7%
Music	1	1.6%
Reading	1	1.6%
Social Studies	8	12.5%
Spanish	9	14.1%
Special Education	3	4.7%
World Civilization	1	1.6%
Total	64	100.0%

Major area of study versus subject taught

The IUB SOE trains pre-service teachers to serve in a variety of school settings. Major categories of teacher certification programs are elementary, secondary, and all grades (such as visual arts and physical education). In addition to these main areas, teacher candidates can receive license additions in several different programs, including English as a second language (ESL), health, special education, and computer education (<http://site.educ.indiana.edu/K12Licensing/TeacherLicensurePrograms/tabid/5283/Default.aspx>). In the first phase of this study, certification types of recent IUB graduates were confirmed by comparing IUB's student information database to INDOE's 2003-2004, 2004-2005, and 2005-2006 Preliminary Report: Beginning Teacher Internship/Assessment Programs Pass/Fail Reports. Additionally, the information on the beginning teachers' current teaching assignment by subject area and grade level was gathered from the participating principals via questions at the beginning of the survey.

It was of interest to this investigation to understand the degree to which school principals believed that beginning teachers were proficient in the areas for which they were initially prepared to teach during their undergraduate years at IUB. Therefore, it was important to distinguish, in principals' feedback about IUB teacher preparation programs, whether or not the teachers were assigned to the areas in which they had majored.

The data analysis demonstrated that the majority of teachers (about whom principals filled the surveys) were teaching in the areas they were prepared to teach. Preschool & Elementary: Primary (primary elementary) and Elementary: Primary & Intermediate (intermediate elementary) certification graduates were reported by principals as being expected to teach across multiple content areas, such as "all", "elementary math & science" or "literacy, social skills and mathematics". Secondary certification graduates were reported to be more specialized, teaching a single subject such as secondary mathematics or secondary science. There were only few instances in which IUB graduates were expected to teach in areas other than their licensure area. Two of these instances occurred in parochial schools. One teacher was expected to teach religion and health, although she only had a certification in secondary education language arts.

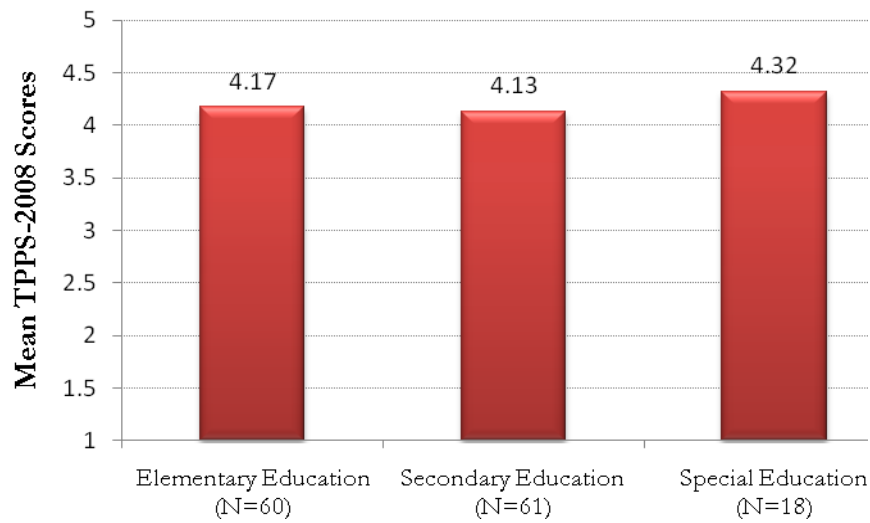
Another teacher, who was certified in general elementary education, was teaching religion and mathematics in sixth, seventh, and eighth grade classrooms. Six primary and intermediate elementary teachers were teaching physical education, English, journalism, mathematics, special education, and science in elementary settings. In addition, one teacher with a degree in speech and communication and theatre education was assigned to teach English and mathematics at a secondary level.

Principals' perceptions on IUB graduates' levels of preparation

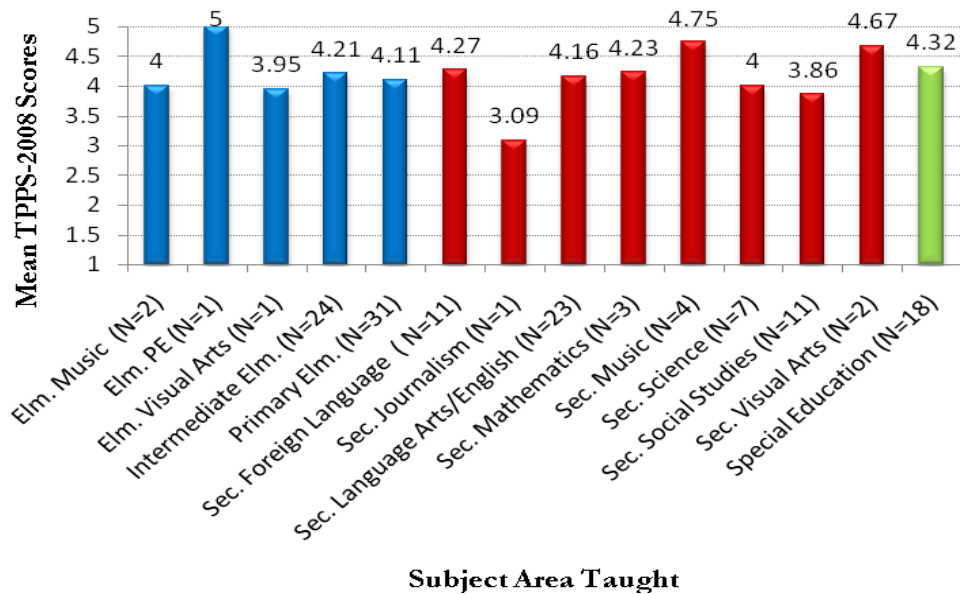
Elementary and secondary school principals were asked to rate IUB graduates in comparison to other school of education graduates by choosing poor, fair, satisfactory, strong, excellent, or don't know labels. For the purposes of data analysis, these labels were assigned the numbers 1, 2, 3, 4, 5, and 9 respectively. Overall mean TPPS-2008 scores were calculated for elementary, secondary, and special education majors. Elementary education majors included primary and intermediate elementary programs. Sixty-one secondary education graduates represented several majors, including social studies, language arts, and mathematics. The special education category was made up of "teaching all learners" and "exceptional needs" graduates.

Figure 1 below is provided to demonstrate principals' opinions on IUB graduates' preparation in teaching skills, such as level of knowledge (i.e. subject area, assessment techniques), providing meaningful experience, personalized learning, community building, and skills in reflecting critically on all aspects of education. While the special education majors were found to be slightly more prepared than general elementary and secondary education teachers, school principals overall found IUB SOE graduates strongly or excellently prepared in contrast to other beginning teachers they have hired. Appendix G provides a list of the survey items pertaining to principals' opinions as well as the frequencies and percentages of those who selected strong or excellent in response to each item.

FIGURE 1. Mean TPPS-2008 scores assigned by principals to beginning teachers who graduated from IUB School of Education elementary, secondary, and special education programs



The next figure (Figure 2) is a graphic representation of principals' views on 139 teachers who graduated several different programs at IUB by the subject areas they currently teach. The results indicated that principals thought IUB graduates were strongly or excellently prepared to teach the content areas. The lowest mean scores in content knowledge were 3.09, 3.86, and 3.95 in the areas of secondary journalism, secondary social studies, and elementary visual arts, respectively. Even these lower scores fell between the labels of satisfactory and strong.

FIGURE 2. Mean TPPS-2008 scores assigned by principals to beginning teachers based on subject area taught

The results in the next section are organized based on IUB’s “Six Principles of Teacher Education” (<http://site.educ.indiana.edu/SixPrinciples/tabid/5489/Default.aspx>), as these principles served as a framework in structuring the TPPS-2008 survey. Specifically, principals’ perceptions on IUB graduates’ levels of preparation will be presented in five areas:

- Principals’ perceptions of IUB graduates’ levels of knowledge

Principals’ perceptions of IUB graduates’ levels of content knowledge

- Principals’ perceptions of IUB graduates’ levels of knowledge in instructional strategies
- Principals’ perceptions of IUB graduates’ levels of knowledge in integrating technology in instruction
- Principals’ perceptions of IUB graduates’ levels of knowledge in integrating assessment into instruction

- Principals’ perceptions of IUB graduates’ levels of preparation to provide meaningful experience for students
- Principals’ perceptions of IUB graduates’ levels of preparation to provide personalized learning for students

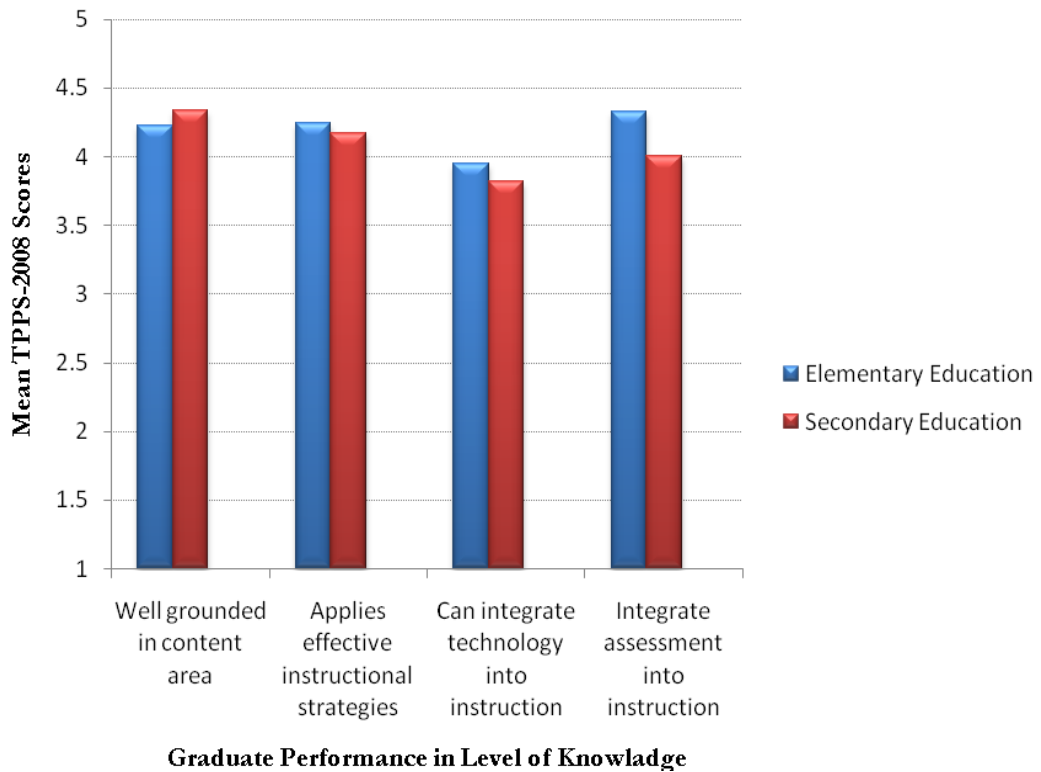
- Principals’ perceptions of IUB graduates’ levels of preparation to work as a part of the school, corporation, and community
- Principals’ perceptions of IUB graduates’ levels of preparation in reflecting on one’s own teaching practices

In the next section of this report, data related to each of these five areas will be presented. Appendix H (Elementary and Secondary Survey Results by Six Principles of IUB Teacher Education) provides tables of the frequency and percentage of each question in both surveys along with the mean scores.

1. Principals’ perceptions of IUB graduates’ levels of knowledge

At the IUB SOE, the “knowledge” principle applies to teacher candidates’ levels of knowledge in subject areas, instructional and assessment techniques, and their ability to integrate technology into education. The following figure illustrates principals’ perceptions of beginning teachers’ levels of knowledge in these four domains.

FIGURE 3. Mean scores of principals’ ratings on IUB graduates’ levels of knowledge in four graduate performance areas included in knowledge principle of IUB Teacher Education Program



a. Principal's perceptions of IUB graduates' levels of content knowledge

Table 15 below provides information on how elementary and secondary school principals perceived the level of preparation of beginning teachers in the area of content knowledge. Principals were asked to rate elementary education teachers' content knowledge specifically in the areas of mathematics, science, reading, social studies, and language arts. The data analysis demonstrated that IUB prepares elementary teachers especially strongly in language arts, with a mean score of 4.39 (strong=4, excellent=5). The lowest mean score was in the depth of knowledge and skills to teach science. However, that item was still rated strong, with a mean of 4.07.

TABLE 15. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in content knowledge

Principals' perceptions of IUB graduates' level of knowledge	Elem. Mean Score	Sec. Mean Score
9. Has the depth of knowledge and skills required in order to effectively teach mathematics	4.28	
10. Has the depth of knowledge and skills required in order to effectively teach science	4.07	
11. Has the depth of knowledge and skills required in order to effectively teach reading	4.32	
12. Has the depth of knowledge and skills required in order to effectively teach social studies	4.14	
13. Has the depth of knowledge and skills required in order to effectively teach language arts	4.38	
9. Prepared to teach the content area		4.46
10. Presents the subject matter with appropriate breadth and depth		4.23

Principals were asked to rate secondary beginning teachers (items 9 and 10 in the table above) on their content knowledge in their specific content area and the way they presented this content. Sixty-one secondary education teachers were found to be prepared strongly or excellently to teach their specific content area. Their mean score was 4.46, which was very close to the excellent designation. Their mean score in presenting the content with appropriate breadth and depth was slightly lower compared to their level of content knowledge.

Figure 4 below focuses on elementary and special education program graduates' level of content knowledge in mathematics, science, reading, social studies, and language arts.

Mean scores reveal that the intermediate elementary and special education program graduates were found to be slightly more prepared by principals to teach all the content areas when compared to primary elementary program graduates. Tables 16 and 17, which follow, provide data separately on principals' perceptions of IUB elementary education and secondary education graduates' levels of preparedness to teach content area. With the exception of science at the primary elementary level and language arts/English at the secondary level, IUB graduates' training in content area were not identified as poor or fair. The majority of school principals labeled teachers graduated from the IUB SOE as either strong or excellent.

FIGURE 4. Principals' perception of IUB primary elementary, intermediate elementary, and special education program graduates' levels of preparedness to teach content area

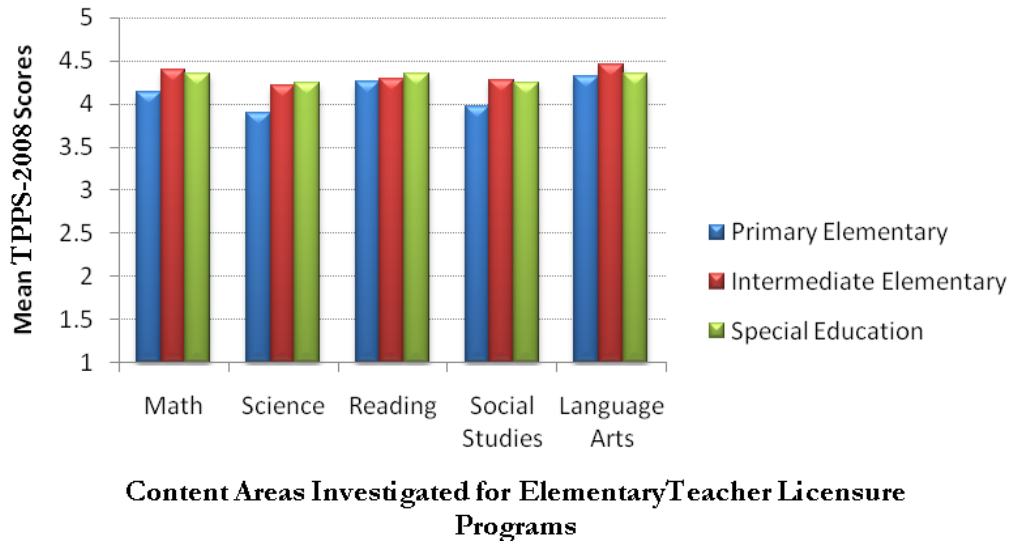


TABLE 16. Principals’ perceptions of IUB elementary education graduates’ levels of preparedness to teach content area separated by type (primary or intermediate elementary)

IUB SOE prepares pre-service teachers who have the depth of knowledge and skills required in order to effectively teach the content area	Primary						Intermediate					
	Poor	Fair	Satisfactory	Strong	Excellent	Don't Know	Poor	Fair	Satisfactory	Strong	Excellent	Don't Know
Mathematics	0.0%	0.0%	25.8%	35.5%	38.7%	0.0%	0.0%	0.0%	13.6%	31.8%	50.0%	4.5%
Science	0.0%	3.2%	29.0%	41.9%	25.8%	0.0%	0.0%	0.0%	18.2%	40.9%	36.4%	4.5%
Reading	0.0%	0.0%	19.4%	35.5%	45.2%	0.0%	0.0%	0.0%	18.2%	36.4%	45.5%	0.0%
Social studies	0.0%	0.0%	32.3%	35.5%	29.0%	3.2%	0.0%	0.0%	9.1%	45.5%	36.4%	9.1%
Language arts	0.0%	0.0%	16.1%	35.5%	48.4%	0.0%	0.0%	0.0%	13.6%	27.3%	59.1%	0.0%

TABLE 17. Principals’ perceptions of IUB secondary education graduates’ levels of preparedness to teach content area

Content Area	Prepared to teach the content area						Presents the subject matter with appropriate breadth and depth					
	Poor	Fair	Satisfactory	Strong	Excellent	Don't Know	Poor	Fair	Satisfactory	Strong	Excellent	Don't Know
English/Language Arts/ESL (N=22)	0.0%	4.5%	9.1%	22.7%	59.1%	4.5%	0.0%	4.5%	9.1%	45.5%	36.4%	4.5%
Foreign Languages (N=11)	0.0%	0.0%	0.0%	20.0%	80.0%	0.0%	0.0%	0.0%	9.1%	45.5%	45.5%	0.0%
Social Studies (N=11)	0.0%	0.0%	0.0%	72.7%	27.3%	0.0%	0.0%	0.0%	36.4%	36.4%	27.3%	0.0%
Science (N=7)	0.0%	0.0%	14.3%	28.6%	57.1%	0.0%	0.0%	0.0%	14.3%	57.1%	28.6%	0.0%
Math (N=5)	0.0%	0.0%	20.0%	40.0%	40.0%	0.0%	0.0%	0.0%	13.6%	27.3%	59.1%	0.0%

b. Principals’ perceptions of IUB graduates’ levels of knowledge in instructional strategies

In teacher preparation at IUB, knowledge in applying effective instructional strategies is as important as well-grounded content knowledge. Therefore, six questions in the TPPS-

2008 sought principals' opinions on how well IUB graduates were prepared in instructional strategies. In comparison to other beginning teachers, IUB graduates were found to be strongly qualified. When the mean scores provided in Table 18 are examined, it can be seen that elementary education majors were found to be slightly more knowledgeable than secondary education majors in the application of effective instructional strategies.

TABLE 18. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in instructional strategies

IUB SOE prepares pre-service teachers who apply effective instructional strategies	Elem. Princ. Mean Score	Sec. Princ. Mean Score
16/14. Creates effective instructional plans (TEGSI 5)	4.26	4.11
11. Has the knowledge and skills to utilize multiple forms of instructional delivery (TEGSI 21)		4.24
19/17. Aligns curriculum goals with state academic standards (TEGSI 26)	4.39	4.35
20/18. Employs effective techniques that require student problem solving (TEGSI 18)	4.12	4.05
21/19. Employs teacher directed instruction effectively	4.27	4.20
22/20. Supports student directed learning	4.18	4.14

c. Principals' perceptions of IUB graduates' levels of knowledge in integrating technology in instruction

Integrating technology into instruction is one of the important components of the well-grounded knowledge principle of IUB teacher education. Table 19 shows principals' opinions on the levels of preparedness of IUB elementary and secondary education graduates. Compared to other beginning teachers, principals rated IUB elementary education majors as strongly prepared to integrate technology into instruction, with a mean of 4.03. Secondary education majors had a lesser mean score (3.90) in technology integration. When it came to developing technology skills in students, mean scores assigned by principals were 3.89 for elementary and 3.79 for secondary majors, placing these graduates between the levels of satisfactory and strong. Interestingly, these ratings were among the lowest observed in the surveys of both principals and alumni, yet the principals participating in the focus groups enthusiastically identified technology integration as the School of Education's greatest strength.

TABLE 19. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in integrating technology into instruction

IUB SOE prepares pre-service teachers who apply effective instructional strategies	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
17/15. Integrates technology effectively in teaching (TEGSI 4)	4.03	3.64	3.90	3.81
18/16. Develops technology skills in students (TEGSI 24)	3.89	3.57	3.79	3.67

d. Principals' perceptions of IUB graduates' levels of knowledge in integrating assessment into instruction

IUB graduates are trained to be well-grounded in different assessment methods. Table 20 summarizes principals' beliefs on how well beginning teachers were prepared at IUB in assessment strategies, and it illustrates the differences between the two majors. It was found that elementary education graduates were perceived by principals as slightly more prepared than secondary education majors in using different methods of assessment and making educational decisions based on their results.

TABLE 20. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in integrating assessment into instruction

IUB SOE prepares pre-service teachers who can integrate assessment into instruction	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
23/21. Uses a variety of assessment materials to measure learning (TEGSI 13)	4.19	3.95	4.00	3.79
24/22. Uses formal and informal assessment data to make teaching decisions (TEGSI 23)	4.22	4.26	4.03	4.0

2. Principals' perceptions of IUB graduates' levels of preparation to provide meaningful experiences for students

According to the principles, IUB SOE graduates are prepared to provide meaningful experience for students by being thoughtful, reflective practitioners (<http://site.educ.indiana.edu/SixPrinciples/tabid/5489/Default.aspx>). Teacher education programs at IUB offer field experiences that provide pre-service teachers with experiences in different school settings, such as in urban or rural areas. In these field

experiences, teacher candidates are coached to develop their skills by connecting the theoretical information they gained during their classes with different situations in actual educational settings.

Therefore, in this study, principals were asked for their opinions on how satisfactorily IUB graduates provided meaningful experience by managing the classroom environment to maximize learning. It was hypothesized that the ecological environment in or around a school would have an impact on student behavior. Different sizes or locales of schools would offer different occasions for behaviors to occur. Consequently, teachers who had received similar training in the area of behavior management would be confronted with a variety of student behaviors. Subsequently, principals' views on how well the beginning teachers were prepared could be different. This possibility facilitated the idea of evaluating the TPPS-2008 results by making a distinction by school size and locale. Table 21 indicates that principals had a favorable opinion about the extent to which teachers were providing meaningful experience for students.

TABLE 21. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in providing meaningful experience for students

IUB SOE prepares pre-service teachers who provide meaningful experience for students	Elem. Mean Score	Sec. Mean Score
8/8. Creates a safe, orderly classroom environment	4.35	4.28
14/12. Teaches subject matter in ways that are meaningful to students	4.32	4.23

In Table 22, the mean scores of survey items related to behavior management are shown. The table demonstrates that large and mid-size school principals in both urban and rural settings rated IUB graduates as performing satisfactorily or above. Compared to other schools of education graduates in large schools; mid-size elementary schools; urban fringe elementary and secondary schools; and rural inside elementary and secondary schools, IUB graduates were found to be at a level between strong (4) and excellent (5) in using effective methods to control student misbehavior and responding effectively to social emotional problems of students. IUB graduates' lowest rate in behavior management was above satisfactory (3.86 and 3.57) and allocated by mid-size secondary school principals. This result is worth attention for two main reasons: (1) When the

results of a previous follow-up study (Plucker et al., 2005) were investigated, it was found that recent IUB graduates reflected more critically on their skills and preparation, and 22% of them cited classroom management and discipline as one of the greatest challenges they meet, and (2) when the focus group interviews were analyzed, it was recognized that having good classroom management skills is an important criterion for principals when they are hiring.

TABLE 22. Mean TPPS-2008 scores by school size and locale

IUB SOE prepares pre-service teachers who manage the classroom environment to maximize learning	Large City Elem. Mean Score	Large City Sec. Mean Score	Mid-size Elem. Mean Score	Mid-size Sec. Mean Score	Urban Fringe Elem. Mean Score	Urban Fringe Sec. Mean Score	Rural, Inside Elem. Mean Score	Rural, Inside Sec. Mean Score
15/13. Uses effective methods to control student misbehavior	4.13	4.27	4.0	3.86	4.41	4.44	4.0	4.0
25/23. Responds effectively to social and emotional problems of students	4.13	4.09	4.10	3.57	4.44	4.31	4.14	4.14

In comparison to the table above, Table 23 provides principals' opinions on the level of preparedness of teachers from elementary education programs in contrast to those from secondary education programs. Principals view elementary education teachers in a slightly better light than secondary education program teachers in regard to managing the classroom environment.

TABLE 23. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in managing the classroom environment to maximize learning

IUB SOE prepares pre-service teachers who manage the classroom environment to maximize learning	Elem. Mean Score	Sec. Mean Score
15/13. Uses effective methods to control student misbehavior	4.24	4.16
25/23. Responds effectively to social and emotional problems of students	4.28	4.19

3. Principals' perceptions of IUB graduates' levels of preparation to provide personalized learning for students

All teacher preparation programs at IUB intend to prepare teachers to (a) appreciate different abilities, interests, and learning styles of students, and (b) differentiate their instruction based on their students' individual characteristics. The ability to provide

personalized learning is of interest not only because it is a key IUB teacher education principle but also because it was one the areas beginning teachers found challenging in the previous study (Plucker et al., 2005).

The next table (Table 24) differentiates between elementary and secondary education majors. School principals found elementary teachers prepared slightly better than secondary teachers to meet the needs of students with special needs and plan instruction based on individual features of the students. However, they thought that secondary teachers were slightly more prepared to work with students with limited English proficiency and from different cultural backgrounds. Overall, compared to graduates from other schools of education, IUB graduates were labeled as strongly prepared to work with diverse groups of students.

TABLE 24. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in providing personalized learning for students

IUB SOE prepares pre-service teachers who provide personalized learning for students	Elem. Mean Score	Sec. Mean Score
3. Plans instruction based on students' developmental level, abilities and interests	4.29	4.21
4. Addresses the needs of students with disabilities	4.11	4.10
5. Addresses the needs of students with limited English proficiency	4.06	4.12
6. Addresses the needs of students from diverse cultural backgrounds	4.09	4.23

4. Principals' perceptions of IUB graduates' levels of preparation to work as a part of the school, corporation, and community

Faculty at the IUB SOE place special emphasis on training future teachers who can be active participants in learning communities in and out of the school context. The next table (Table 25) provides mean scores assigned by principals to elementary and secondary teachers in this area. Principals thought that working as part of the school, corporation, and community was a strength of IUB graduates compared to other beginning teachers. The data collected from principals demonstrated that elementary education teachers were slightly more prepared to work with parents and instructional planning teams than were secondary education teachers.

TABLE 25. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in working as a part of the school, corporation, and community

IUB SOE prepares pre-service teachers who work as a part of the school, corporation, and community	Elem. Mean Score	Sec. Mean Score
1. Works effectively as part of an instructional planning team	4.24	4.17
2. Works effectively with parents	4.17	4.13

5. Principals' perception of IUB graduates' levels of preparation in reflecting on one's own teaching practices

Table 26 is provided to illustrate the principals' views on IUB SOE graduates' critical reflection skills. Similar to the graduates themselves (Plucker et al., 2005), school principals reported that teachers who graduated from IUB were strongly prepared to reflect upon and evaluate their teaching experiences. Study participants found that teachers prepared by the secondary education programs were slightly more prepared in this area than were teachers from the elementary education programs.

TABLE 26. Mean TPPS-2008 scores assigned to IUB elementary and secondary education program graduates by school principals in reflecting on one's own teaching practices

IUB SOE prepares pre-service teachers who reflect on their own teaching practices	Elem. Mean Score	Sec. Mean Score
7. Regularly reflects upon and evaluates his/her own teaching	4.22	4.27

Principals' comparisons of IUB graduates to graduates of other schools of education

Information for this section came from the last survey question. Principals were asked to compare beginning teachers who graduated from teacher education programs other than IUB's to those who graduated from IUB. The options presented were (1) top 25%, (2) upper middle 25%, (3) lower middle 25%, and (4) lower 25%. In this scale, the smaller the number, the higher the teacher was regarded by the principal. As shown in Table 27, elementary and secondary teachers were seen on average as being in between the top 25% and the upper middle 25%, respectively, compared to graduates of other teacher education programs. Special education teachers were considered especially well-prepared compared to special education teachers from other programs.

TABLE 27. Principals' comparisons of IUB School of Education graduates, by teacher education program, to beginning teachers graduated from other schools of education

Principal Comparisons	Lower 25%	Lower Middle 25%	Upper Middle 25%	Upper 25%
All	0%	8%	27%	65%
Elementary School Survey	0%	9%	23%	68%
Secondary School Survey	0%	6%	33%	61%
School Level - Elementary	0%	12%	23%	65%
School Level - Secondary	0%	7%	33%	61%
School Level - Special Education	0%	0%	22%	78%

Comparing TEGSI and TPPS-2008 results

The findings of the present study overall demonstrated that elementary and secondary education principals regard teachers graduated from IUB as strong or excellent. The next section of this report provides comparative information between the results of the TEGSI and TPPS-2008 in the areas of (1) using effective instructional strategies, (2) integrating technology into instruction, (3) integrating assessment into instruction, (4) providing meaningful experience for students, and (5) providing personalized learning for students. In each of these five areas, principals consistently expressed greater satisfaction with IUB SOE graduates' performance as teachers than did the graduates themselves. Later in this report, a comparison of general strengths and weaknesses of the IUB Teacher Education Program from principals' and beginning teachers' points of view will be provided.

It is important to note that principals did not provide feedback on the identical group of IUB graduates who completed the TEGSI. However, these comparisons still offer valuable information in the sense that both principals and graduates, while answering questions about teacher preparation, provided input on the IUB Teacher Education Program specifically. The TEGSI study compiled graduate data from three cohorts, all graduating from different years (1998, 2000, 2002). To assess the chance that there were differences between years, the most recent alumni cohort (2002) from the TEGSI was pulled for analysis and compared to the overall means (elementary and secondary) of the

entire study population and the results were not significantly different from those reported below.

Just as beginning teachers were surveyed using the TEGSI, principals were asked on the TPPS-2008 to reflect on IUB graduates' preparedness to use effective instructional strategies by answering six survey questions. Table 28 presents these six survey items, their equivalent items in the TEGSI, and the mean scores of principals and IUB graduates. For example, TEGSI item 12 ("My teacher education program prepared me to work effectively with students in collaborative groups") is equivalent to two sets of items (elementary/secondary survey items 21/19 and 22/20) in the TPPS-2008 survey.

TABLE 28. Principals' perceptions of IUB graduates' levels of preparedness to use effective instructional strategies in comparison to elementary and secondary education program graduates' perceptions

IUB SOE prepares pre-service teachers who apply effective instructional strategies	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
16/14. Creates effective instructional plans (TEGSI 5)	4.26	4.11	4.11	3.82
11. Has the knowledge and skills to utilize multiple forms of instructional delivery (TEGSI 21)			4.24	3.94
19/17. Aligns curriculum goals with state academic standards (TEGSI 26)	4.39	3.52	4.35	3.42
20/18. Employs effective techniques that require student problem solving (TEGSI 18)	4.12	4.05	4.05	3.88
21/19. Employs teacher directed instruction effectively	4.27		4.20	
22/20. Supports student directed learning	4.18		4.14	
All, 21/19 and 22/20 (TEGSI 12)		4.24		3.94

Among the four groups of school professionals (elementary and secondary school principals and beginning elementary and secondary school teachers), teachers who graduated from secondary education programs appear to be the most critical of their preparation in applying effective instructional strategies. Their lowest mean score was in aligning curriculum goals with state academic standards. Interestingly, the same item was ranked the lowest by teachers who graduated from elementary education programs as well. Although beginning teachers in both majors thought aligning curriculum goals with state academic stands was the area in which they felt the least prepared, in principals' opinions, among these six survey items, the lowest ranking was for teachers' preparation

in using techniques that require student problem solving. Overall, school principals' perceptions of teacher preparation with regard to instructional strategies were more positive than were beginning teachers' perceptions.

Like the graduates, principals were also asked for their opinions on teacher training in integrating technology and assessment into instruction. Tables 29 and 30 compare the findings of the present study to those of IUB's teacher education graduates follow-up study (Plucker et al., 2005). The data presented in these two tables demonstrate that, while elementary education majors find themselves better prepared to integrate assessment into instruction, secondary education majors believed they were better equipped to integrate technology into instruction. With the exception of one item in the elementary version of the TPPS-2008 survey (using formal and informal assessment data to make educational decisions), principals had higher satisfaction with IUB graduates' abilities in integrating assessment and technology than did the graduates. Elementary education principals had the most positive opinions of graduates compared to the other three groups.

TABLE 29. Principals' perceptions of IUB graduates' levels of preparedness to Integrate Technology into Instruction in comparison to elementary and secondary education program graduates' perceptions

IUB SOE prepares pre-service teachers who can integrate technology into instruction	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
17/15. Integrates technology effectively in teaching (TEGSI 4)	4.03	3.64	3.90	3.81
18/16. Develops technology skills in students (TEGSI 24)	3.89	3.57	3.79	3.67

TABLE 30. Principals' perceptions of IUB graduates' levels of preparedness to integrate assessment into instruction in comparison to elementary and secondary education program graduates' perceptions

IUB SOE prepares pre-service teachers who can integrate technology into instruction	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
23/21. Uses a variety of assessment materials to measure learning (TEGSI 13)	4.19	3.95	4.00	3.79
24/22. Uses formal and informal assessment data to make teaching decisions (TEGSI 23)	4.22	4.26	4.03	4.0

The next table (Table 31) lists the two items that targeted IUB graduates' level of preparation in providing meaningful experiences for students by managing the classroom and responding effectively to social and emotional problems of students. Appendix E presents matching items in TEGSI targeted skills in this area. The previous follow-up study results revealed that beginning teachers view behavior management as a challenging aspect of their profession. However, when similar survey items were presented to principals, it was discovered that IUB graduates are viewed to be stronger than the graduates view themselves. Principals also consider them to be better prepared than other school of education graduates.

TABLE 31. Principals' perceptions of IUB graduates' levels of preparedness to provide meaningful experience for students in comparison to elementary and secondary education program graduates' perceptions

IUB SOE prepares pre-service teachers who manage the classroom environment in order to maximize learning	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
15/13. Uses effective methods to control student misbehavior (TEGSI 7)	4.24	3.05	4.16	3.01
25/23. Responds effectively to social and emotional problems of students (TEGSI 16)	4.28	3.17	4.19	3.05

Future teachers at IUB are taught to provide personalized learning by (a) understanding students' abilities, interests, and learning, and (b) planning and implementing instruction that reflects the diversity among learners. Both the elementary and secondary versions of the TPPS-2008 included items asking principals' opinions on their teachers' skill at providing personalized learning for children with special needs, those with limited English proficiency, and those who come from different cultural backgrounds. While the majority of items targeting these skills were modified from TEGSI items, the survey for the current study included an additional item ("Addresses the needs of students with limited English proficiency") that was not in TEGSI. Table 32 presents the four survey items in this area as well as the mean scores of elementary and secondary principals and teachers. Among the three questions asked, elementary and secondary education program graduates rated themselves the lowest at addressing the needs of students with disabilities. There was consensus among secondary education principals and teachers that the graduates were less prepared in this area compared to others, which focused on meeting the needs of students from different cultural backgrounds and planning

instruction based on students’ individual characteristics. Elementary education principals, however, found graduates less prepared in meeting the needs of students from different cultural backgrounds.

TABLE 32. Principals’ perceptions of IUB graduates’ levels of preparedness to provide personalized learning for students in comparison to elementary and secondary education program graduates’ perceptions

IUB SOE prepares pre-service teachers who provide personalized learning for students	Elem. Princ. Mean Score	Elem. Grad. Mean Score	Sec. Princ. Mean Score	Sec. Grad. Mean Score
3. Plans instruction based on students' developmental level, abilities and interests (TEGSI 3)	4.29	3.92	4.21	3.75
4. Addresses the needs of students with disabilities (TEGSI 9)	4.11	3.44	4.10	3.14
5. Addresses the needs of students with limited English proficiency (No TEGSI equivalent)	4.06	NA	4.12	NA
6. Addresses the needs of students from diverse cultural backgrounds (TEGSI 8)	4.09	3.77	4.23	3.67

Principals’ and graduates’ perceptions of IUB graduates’ weaknesses and strengths

This last section of the findings will provide a general comparison of perceived strengths and weaknesses of the IUB Teacher Education Program by employers as well as teachers. The majority of principals rated IUB graduates’ performances as strong and excellent. The lowest mean score assigned to IUB graduates’ teaching skills was 3.79 for the item on developing technology skills in students. This score still places the IUB graduates between the ranking labels of satisfactory and strong in principals’ views. None of the mean scores located IUB graduates in the poor or fair ranking. Therefore, it is important to note that the items in the “Challenges” table (Table 33) were not skills for which principals thought IUB graduates were ill prepared; they were simply the items which were rated the lowest among the overall high rankings.

TABLE 33. TPPS items with lowest mean scores

TPPS-2008 Items with Lowest Mean Scores	Elem. Princ. Mean Score	Sec. Princ. Mean Score	Challenge for Graduates
5. Addresses the needs of students with limited English proficiency	4.06		Yes
6. Addresses the needs of students from diverse cultural backgrounds	4.09		Yes
10. Has the depth of knowledge and skills required in order to effectively teach science	4.07		No, strength
17/15. Integrates technology effectively in teaching	4.03	3.90	No
18/16. Develops technology skills in students	3.89	3.79	No
18. Employs effective techniques that require student problem solving		4.05	No

The common challenges reported by IUB graduates in the TEGSI follow-up study were:

1. Creating safe and orderly classrooms and dealing with student misbehavior
2. Dealing with diversity and individual student needs/providing fair and appropriate education to all within the classroom (culture, socio-economics and disabilities)
3. Parent involvement/interacting with parents
4. Teaching in a standards-based environment (2002 graduates felt better prepared in this area compared to other cohorts)
5. Addressing professional issues (collaboration with other professionals/administrators, etc.)
6. Motivating students

Table 33 above provides a list of the survey items that were rated the lowest by the principals. The last column shows whether IUB graduates considered each area a challenge or strength. Clearly, the area seen as a challenge according to principals, for both elementary and secondary teachers, is in technology related skills. This was not seen as a challenge according to the TEGSI follow-up study.

The common strengths of the IUB Teacher Education Program, as reported by IUB graduates in the TEGSI follow-up study, were:

1. Instructional/teaching methods
2. Instructional content knowledge
3. Teaching reading and writing (Although they would like to learn more varied methods to teach these specific contents, overall they felt well-prepared.)

The following table (Table 34) provides a list of the survey items that were rated the highest by principals. In the last column, IUB graduates’ opinions on whether the specific survey item was a challenge or strength are presented. Both graduates and principals were confident in IUB graduates’ ability to teach reading and language arts. Graduates did feel that creating an orderly classroom environment, aligning curriculum goals, and addressing the needs of students from diverse cultural backgrounds were challenges, but principals saw these as qualities as strengths.

TABLE 34. TPPS items with highest mean scores

TPPS-2008 Items with Highest Mean Scores	Elem. Princ. Mean Score	Sec. Princ Mean Score	Strength for Graduates
8. Creates a safe, orderly classroom environment	4.35		No, challenge
11. Has the depth of knowledge and skills required in order to effectively teach reading	4.32		Yes
13. Has the depth of knowledge and skills required in order to effectively teach language arts	4.38		Yes
14/12. Teaches subject matter in ways that are meaningful to students	4.32	4.23	No
19/17. Aligns curriculum goals with state academic standards	4.39	4.35	No, challenge
6. Addresses the needs of students from diverse cultural backgrounds		4.23	No, challenge
9. Prepared to teach the content area		4.46	Yes
11. Has the knowledge and skills to utilize multiple forms of instructional delivery		4.24	Yes

6. Summary

The purpose of this study was to examine principals' opinions about IUB Teacher Education Program graduates' professional performance in elementary and secondary schools in Indiana. A total of 295 surveys were sent out, and principals provided feedback on about 139 teachers who graduated from education programs at IUB SOE.

Limitations to the study include the following:

1. The sample only included principals in Indiana.
2. The response rate, although acceptable, was not ideal.
3. The database provided to researchers was not completely accurate due to teacher mobility and missing data.
4. The report is based on principals' opinions, but no data was collected on their education background, philosophy or frame of reference, etc.
5. Responses to this type of survey may be prone to social desirability effects.

In general, several positive results were found: a majority of teachers were assigned to teach in the areas for which they were prepared at IUB SOE; principals think that IUB graduates are stronger in selected teaching skills compared to graduates of other teacher preparation programs; principals are more positive about IUB graduates' performance compared to graduates of other teacher preparation programs; and IUB graduates are more critical about their preparation in comparison to what principals think.

The next section summarizes this report's detailed information on principals' opinions about IUB teacher preparation. It is followed by a short summary of the comparisons between the results of this study and the previous TEGSI study.

Summary of principals' opinions

Survey questions targeted the areas of level of knowledge, providing meaningful experience, personalized learning, community building, and skills in reflecting critically

on all aspects of education. Overall, in comparison to graduates of other teacher preparation programs, principals found IUB graduates strongly or excellently prepared (p. 33 of this report).

- Principals' opinions on graduates' level of knowledge was examined in four areas: content knowledge, knowledge in instructional strategies, integration of technology, and assessment in instruction.

Directly below are the opinions related to content knowledge:

- Both elementary and secondary education teachers were found to be well prepared to teach content areas.
- Among subject areas, elementary education majors were found to be especially well equipped to teach language arts.
- Although principals identified teachers as effective in science, mean scores in science were lower than in reading, math, or social studies (p. 37-40).
- Secondary education majors were found to have high levels of content knowledge in foreign languages and language arts (p. 40).
- Principals' opinions regarding knowledge in using effective instructional strategies indicate that teachers are seen as prepared strongly or better on all survey items. All mean scores were higher than 4.05.
 - According to principals, IUB SOE prepared its graduates best in the area of aligning curriculum goals with state standards (p. 40-41).
- Principals' opinions regarding integrating technology and incorporating assessment into instruction indicate that elementary education graduates were better prepared when compared to secondary graduates (p. 41-42).
 - Although both majors perform at a higher level than satisfactory, mean scores in integrating technology are lower than other knowledge areas for both groups of graduates.
 - However, when graduates were asked similar questions, secondary education majors were more confident in their ability to integrate technology, and elementary education majors were more confident in incorporating assessment into instruction.
 - Overall, principals rated elementary education majors highly in instructional strategies, integration of technology, and assessment in instruction, and secondary education teachers in content knowledge.

- Principals were asked how satisfactorily IUB graduates provide meaningful experience by managing the classroom environment to maximize learning.
 - When examined by school size, locale, and school level, graduates performed best in urban fringe areas at both elementary and secondary schools in controlling misbehavior and responding to students' emotional and social problems (p. 44-45).
 - Elementary education program graduates were rated slightly higher at managing the classroom environment than were secondary education graduates.
- Principals were pleased with IUB graduates' performance in providing personalized learning for students compared to graduates of other teacher preparation programs.
 - Principals rated elementary education graduates' performance slightly higher than that of secondary education majors in addressing the needs of students with disabilities and planning their instruction based on students' developmental levels and interests.
 - However, secondary education teachers were found slightly more successful in meeting the needs of students from different cultural backgrounds and serving students with limited English proficiency.
- Principals thought IUB-trained teachers were skillful in working collaboratively with other school professionals and parents, with elementary teachers receiving slightly higher ratings.
- Principals considered IUB-trained teachers to be more reflective on their own teaching experiences (p.46), with secondary teachers receiving slightly higher ratings.
- When principals were asked to rate IUB graduates in comparison to other teachers they have employed, they indicated that IUB graduates were between the top 25th and upper middle 25th percentile. Among the IUB teacher preparation programs, special education program graduates were believed to be especially well-prepared (p.46-47).

Summary of comparisons between TEGSI and TPPS-2008 results

Overall, the comparison between TEGSI and TPPS-2008 results provides evidence that beginning teachers are more critical of their abilities and their pre-service teacher preparation than are their principals. On the other hand, principals who had the opportunity to observe many other beginning teachers viewed IUB teacher education graduates as strong or excellent in many critical teaching skills. Elementary education

principals gave positive feedback on the teacher education program at IUB with regard to a majority of teaching skills.

- Although elementary education teachers were given slightly higher ratings than were secondary education teachers by principals in integrating technology into instruction, elementary education graduates' self ratings were lower than secondary education graduates' self ratings in this skill.
- Integrating technology into instruction was not viewed as a challenge by beginning teachers, but principals assigned the lowest scores to this area.
- In regard to preparation for providing personalized learning for students who come from diverse cultural backgrounds, the secondary education program was found to be slightly more successful than the elementary education program by both principals and graduates.
- Working with culturally and linguistically diverse student populations was reported by beginning teachers as a challenging aspect of their work. Although principals thought they were prepared satisfactorily in this area, the mean scores assigned to elementary school teachers were lower in this aspect of providing personalized learning
- In all other comparison areas, elementary education graduates and principals assigned slightly higher ratings to IUB teacher preparation programs when compared to secondary education principals and graduates.

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Appendix A: Licensing Programs

School of Education, Office of Teacher Education, Room 1000
Indiana University Bloomington
2007-2008 Undergraduate Teacher Licensing Programs

PRESCHOOL & ELEMENTARY: PRIMARY

Early Childhood Education

Generalist, Early & Middle Childhood Education
Pre-School, Kindergarten, Primary Grades (Pre K, K - 3) (125 credits)

ELEMENTARY: PRIMARY & INTERMEDIATE

Theory into Practice: K-6

Generalist, Elementary Primary and Elementary Intermediate,
Kindergarten & Elementary Grades (K - 6) (128 credits)

EXCEPTIONAL NEEDS EDUCATION AND ELEMENTARY: PRIMARY & INTERMEDIATE

Teaching All Learners

Generalist (Elementary Primary and Elementary Intermediate) K - 6
& Mild Intervention (Elementary Primary and Elementary
Intermediate) K - 6, Kindergarten & Elementary Grades (K - 6) (130 credits)

MIDDLE SCHOOL/JUNIOR HIGH/HIGH SCHOOL

Anchor Secondary Education

Content Field Specialist (See list that follows), Early Adolescence &
Adolescence/Young Adult, (6 - 12) (124 credits - minimum)

Community of Teachers (CoT)

Content Field Specialist (See list that follows), Early & Late
Adolescence & Young Adult, (6 - 12) (124 credits - minimum)

Content Fields for Middle School/ Junior High/High School

Exceptional Needs: Mild Intervention (Community of Teachers only.)

Foreign Languages: Chinese, French, German, Japanese, Latin, Russian, or Spanish.

Health Education: Contact School of Health, Physical Education & Recreation for program details

Journalism: Contact the School of Journalism for program details

Language Arts/English

Mathematics

Science: Chemistry, Earth-Space Science, Life Science, & Physics

Social Studies: Economics, Geographical Perspectives, Government & Citizenship, Historical Perspectives, Psychology, & Sociology

Theatre: Contact the Department of Theatre and Drama for program details

NOTE: Bachelor degrees may be available from schools other than Education. Students must meet the requirements for graduation outlined by that school, in addition to School of Education and state licensing requirements

ALL SCHOOL SETTINGS PROGRAMS

(CoT option available)

Music Education

Contact School of Music for program details

Physical Education

Contact School of Health, Physical Education & Recreation for program details

Visual Art

Content Field Specialist (Art), Early & Middle Childhood, Early & Late Adolescence & Young Adult, Kindergarten, Elementary, Middle School/Junior High or High School (K-12) (124 credits - minimum)

LICENSE ADDITIONS

(Must be paired with one of the preceding programs)

Computer Educator

(21 credits)

Elementary Reading: Level 1 (K-6)

(24 credits)

English as a Second Language

(26-27credits)

Health

Contact School of Health, Physical Education & Recreation for program details

Middle Grades Mathematics

(32 credits)

Physical Education

Contact School of Health, Physical Education & Recreation for program details

Graduate Level Instructional & School Service Licensing Programs

School of Education

Office of Graduate Studies, Room 4210

E-mail: educate@indiana.edu

Phone: 812-856-8504

Website:

www.indiana.edu/~educate/SchoolLicensure.html

Appendix B: Electronic Letters

Original e-mail

Dear Principal:

Your school should have received a call, since early January, from the Center for Evaluation and Education Policy at Indiana University. This call concerned a study of principals' opinions about the preparation level of IU Bloomington (IUB) School of Education beginning teachers. Previously, the Center explored the opinions of beginning IUB teachers (recent graduates of the program) with regard to the quality of their pre-service education.

Now we are asking principals who have hired recent IUB graduates to share their opinions about the preparation level of these beginning teachers by completing a web-based survey (<http://ceep.indiana.edu/survey/principal/>). Your participation is critical. As principals, your firsthand knowledge and insight are necessary to ensure that the Center's feedback to the IUB School of Education is useful and meaningful.

We ask that you please complete the survey by March 28th.

Why you were selected

We are asking all K-12 principals who have recently hired IUB School of Education graduates to teach at their schools to complete the survey. In your role as principal, you have the depth of knowledge needed for this study. We understand that you are extremely busy. Please know your responses and the time spent completing the survey will be greatly appreciated. You will be providing vital information to the IUB School of Education.

Confidentiality

Although this email is being sent via your school email address, the website for the survey and data collection is maintained solely by the Center for Evaluation and Education Policy at Indiana University. Your answers are completely confidential. When you return your completed questionnaire, your email address will be deleted from the mailing list and never connected to your answers in any way.

How to complete the survey

Simply click on the following URL to connect to the web-based survey:

<http://ceep.indiana.edu/survey/principal/>. The survey takes approximately 10 minutes. Please allow yourself enough time to complete it all at once. If you complete only a portion, you will unfortunately be unable to save your responses. We ask that you please take the survey by March 28th.

Questions

If you have any questions about the survey, or your participation, please feel free to contact Dr. Marcey Moss at the Center for Evaluation and Education Policy at 1-800-511-6575, or marmoss@indiana.edu.

Thank you for your time and consideration. It's only with the generous help of people like you that our research can be successful.

Note: For those principals who have more than one IUB graduate, you will be able to complete one survey for each teacher on your staff.

For technical problems, please send email to yjchang@indiana.edu.

Reminder E-mail

Dear Principal:

We recently contacted you by email asking that you kindly take part in a survey conducted by the Center for Evaluation & Education policy at Indiana University. The survey concerns principals opinions about the preparation level of IU Bloomington (IUB) School of Education beginning teachers.

We ask that you please complete the survey as soon as possible.

Your participation is critical. As principals, your firsthand knowledge and insight are necessary to ensure that the IUB School of Education receives useful, meaningful feedback about its teaching program.

We understand that you are extremely busy. Please know your responses and the time spent completing the survey will be greatly appreciated. In addition, your responses will be completely anonymous.

Simply click on the following URL to connect to the web-based survey:

<http://ceep.indiana.edu/survey/principal/index.php>. The survey takes approximately 10 minutes. Please allow yourself enough time to complete it all at once. If you complete only a portion, you will unfortunately be unable to save your responses.

If you have any questions about the survey, or your participation, please feel free to contact Dr. Marcey Moss at the Center for Evaluation & Education Policy at 1-800-511-6575, or marmoss@indiana.edu.

Thank you for your time and consideration. Its only with the generous help of people like you that our research can be successful.

For technical problems, please send email to yjchang@indiana.edu.

Appendix C: IUB School of Education Teacher Preparation Survey-2008

For Elementary School

Please complete the following information as it relates to the IU graduate's Current Teaching Assignment:

Teachers Name:

When did the IU Graduate Start Teaching at Your School?

Year: Semester: Fall Spring Summer

Subject Areas:

Grade Level(s):

Please compare this IU Graduate's Skills relative to other *Beginning Teachers*:

Teaching Skills	Poor	Fair	Satis- factory	Strong	Excellent	Don't Know
1. Works effectively as part of an instructional planning team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Works effectively with parents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Plans instruction based on students' developmental level, abilities and interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Addresses the needs of students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Addresses the needs of students with limited English proficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Addresses the needs of students from diverse cultural backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Regularly reflects upon and evaluates his/her own teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Creates a safe, orderly classroom environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Has the depth of knowledge and skills required in order to effectively teach mathematics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Has the depth of knowledge and skills required in order to effectively teach science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Has the depth of knowledge and skills required in order to effectively teach reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Has the depth of knowledge and skills required in order to effectively teach social studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Has the depth of knowledge and skills required in order to effectively teach language arts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Teaches subject matter in ways that are meaningful to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Uses effective methods to control student misbehavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Creates effective instructional plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Integrates technology effectively in teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Develops technology skills in students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Aligns curriculum goals with state academic standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Employs effective techniques that require student problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Employs teacher directed instruction effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Supports student directed learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Uses a variety of assessment materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

to measure learning						
24. Uses formal and informal assessment data to make teaching decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Responds effectively to social and emotional problems of students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In comparison to beginning teachers graduated from teacher education programs other than Indiana University- Bloomington that you have employed, how would you rate this graduate from IUB?

- Top 25%
- Upper Middle 25%
- Lower Middle 25%
- Lower 25%

For Secondary School

Please complete the following information as it relates to the IU graduate's Current Teaching Assignment:

Teachers Name:

When did the IU Graduate Start Teaching at Your School?

Year: **Semester:** **Fall** **Spring** **Summer**

Subject Areas:

Grade Level(s):

Please compare this IU Graduate's Skills relative to other *Beginning Teachers*:

Teaching Skills	Poor	Fair	Satisfactory	Strong	Excellent	Don't Know
1. Works effectively as part of an instructional planning team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Works effectively with parents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Plans instruction based on students' developmental level, abilities and interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Addresses the needs of students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Addresses the needs of students with limited English proficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Addresses the needs of students from diverse cultural backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Regularly reflects upon and evaluates his/her own teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Creates a safe, orderly classroom environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Prepared to teach the content area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Presents the subject matter with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

appropriate breadth and depth						
11. Has the knowledge and skills to utilize multiple forms of instructional delivery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Teaches subject matter in ways that are meaningful to students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Uses effective methods to control student misbehavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Creates effective instructional plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Integrates technology effectively in teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Develops Technology skills in students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Aligns curriculum goals with state academic standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Employs effective techniques that require student problem solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Employs teacher directed instruction effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Supports student directed learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Uses a variety of assessment materials to measure learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Uses formal and informal assessment data to make teaching decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Responds effectively to social and emotional problems of students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In comparison to beginning teachers graduated from teacher education programs other than Indiana University- Bloomington that you have employed, how would you rate this graduate from IUB?

- Top 25%
- Upper Middle 25%
- Lower Middle 25%
- Lower 25%

Appendix D: Teacher Preparation Surveys Reviewed for this Study

University	Survey Title	URL
IUPUI	Employer Survey of Beginning Teachers	
Kent State University	EDUCATING SCHOOL TEACHERS: A Survey of Principals Who Hire Kent State University Graduates	http://www.ehhs.kent.edu/news/documents/CompleteWebReport07.pdf
Saint Michael's College	Principal Survey	http://64.233.167.104/search?q=cache:csr7ylGF1SQJ:www2.smcvt.edu/ropa/stnd7_files/Principal%2520Survey.doc+%22Saint+Michael%27s+College%22,+%22principal+survey%22&hl=en&ct=clnk&cd=1&gl=us
Ball State University	Survey of Recent Graduates from Ball State's Technology Teacher Education Program	http://www.bsu.edu/cast/itech/ncate7.htm
Indiana University of Pennsylvania	Indiana University of Pennsylvania NCATE Reports	

Appendix E: Regrouping of TEGSI Items Based on IUB SOE Graduates' Perceived Areas of Concern & Strength

	Areas of Concerns & Strengths	Item Number	TEGSI Items
Challenges	Student needs (Dealing with diversity and individual student needs /providing fair and appropriate education to all: culture, socio-economics, and disabilities)	1. (3)	My IU teacher education program prepared me to be aware of different developmental stages of children.
		2. (8)	My IU teacher education program prepared me to respond effectively to needs of students from different backgrounds.
		3. (9)	My IU teacher education program prepared me to work effectively with children with special needs.
		4. (19)	My IU teacher education program prepared me to adapt my instruction to the needs of students with special needs.
	Teaching in a standard-based environment	5. (26)	My IU teacher education program prepared me to align curriculum goals with state academic standards.
		6. (27)	My IU teacher education program prepared me to design activities to help students meet state academic standards.
		7. (28)	My IU teacher education program prepared me to think critically about teaching within a standards-based environment.

	Areas of Concerns & Strengths		Item Number	TEGSI Items
Challenges (continued)	Discipline & management (Creating safe and orderly classrooms and dealing with student misbehavior)		8. (7)	My IU teacher education program prepared me to use effective methods to control student misbehavior.
			9. (14)	My IU teacher education program prepared me to create a safe, orderly classroom environment.
			10. (16)	My IU teacher education program prepared me to respond effectively to social and emotional problems of students.
	Parents		11. (15)	My IU teacher education program prepared me to work effectively with parents.
	Professional		12. (6)	My IU teacher education program prepared me to work effectively as part of an instructional planning team.
Strengths	Instructional content knowledge		13. (1)	My IU teacher education program prepared me to teach the content in my area.
	Instructional/ Teaching Methods	Planning	14. (5)	My IU teacher education program prepared me to create effective instructional plans.
			15. (11)	My IU teacher education program prepared me to create instructional plans that include opportunities for critical thinking.
	Instructional/ Teaching Methods	Evaluation	16. (13)	My IU teacher education program prepared me to create effective assessment instruments to measure learning.
			17. (20)	My IU teacher education program encouraged me to regularly reflect upon and evaluate my own teaching.
			18. (23)	My IU teacher education program prepared me to use methods of assessment other than paper and pencil tests.

	Areas of Concerns & Strengths		Item Number	TEGSI Items
Strengths (continued)	Instructional/ Teaching Methods (continued)	Instructional Delivery	19. (4)	My IU teacher education program prepared me to use technology effectively in my teaching.
			20. (10)	My IU teacher education program prepared me to use media effectively in my teaching.
			21. (24)	My IU teacher education program prepared me to develop skills in technology in my students.
			22. (12)	My IU teacher education program prepared me to work effectively with students in collaborative groups.
			23. (17)	My IU teacher education program prepared me to create effective assessment instruments to measure learning.
			24. (18)	My IU teacher education program prepared me to employ teaching techniques that require student problem solving.
			25. (21)	My IU teacher education program prepared me to use multiple methods to teach the same content.
Others			27. (2)	My IU teacher education program helped me to understand how children learn.
			28. (25)	Overall, I am satisfied with the career preparation through the IU teacher education program .

Appendix F: IUB's Six Principles for Teacher Education and NCATE Standards

NCATE Standards	Six Guiding Principles of IUB Teacher Education Program	Graduate Performance	TEGSI Survey Items	Elementary Survey Item #s	Secondary Survey Item #s
<i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i> 1a. Professional Disposition for All Candidates	1. Community	Build and develop relationships within the school, corporation, and community	Works effectively as part of an instructional planning team (TEGSI Item 6, Challenge area for IUB graduates) Works effectively with parents (TEGSI Item 15, Challenge area for IUB graduates)	1, 2	1, 2
	2. Professional Growth	-	-	-	-
<i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i> 1d. Student Learning for Teacher Candidate	3. Personalized Learning	Understand students' ability levels, interests, and learning styles	Understands how children learn (TEGSI Item 2) Aware of different developmental stages of children (TEGSI Item 3, Challenge area for IUB graduates)	3	3
<i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i> 1d. Student Learning for Teacher Candidate <i>Standard 4: Diversity</i> 4d. Experiences Working with Diverse Students in P-12 Schools		Plan and implement instruction that reflects the diversity among learners Optimize learning opportunities for students with disabilities	Responds effectively to needs of students from different backgrounds (TEGSI Item 8, Challenge area for IUB graduates) Works effectively with children with special needs (TEGSI Item 9, Challenge area for IUB graduates) Can adapt his/her instruction to the needs of students with special needs (TEGSI Item 19, Challenge area for IUB graduates)	4, 5, 6	4, 5, 6

NCATE Standards	Six Guiding Principles of IUB Teacher Education Program	Graduate Performance	TEGSI Survey Items	Elementary Survey Item #s	Secondary Survey Item #s
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1b. Pedagogical Content Knowledge and Skills for Teacher Candidates</p> <p>1c. Professional and Pedagogical Knowledge and Skills for Teacher Candidates</p>	4. Critical Reflection	-	<p>Regularly reflects upon and evaluates his/her own teaching (TEGSI Item 20, Strength area for IUB graduates)</p> <p>Thinks critically about teaching within a standards-based environment (TEGSI Item 28, Challenge area for IUB graduates)</p>	7	7
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1c. Professional and Pedagogical Knowledge and Skills for Teacher Candidates</p>	5. Meaningful Experience	Create and nurture a positive social and academic learning environment	<p>Creates a safe, orderly classroom environment (TEGSI Item 14, Challenge area for IUB graduates)</p> <p>Can teach subject matter in ways that are meaningful to students (TEGSI Item 17).</p>	8 14	8 12
		Manage classroom environment in order to maximize learning	<p>Uses effective methods to control student misbehavior (TEGSI Item 7, Challenge area for IUB graduates)</p> <p>Responds effectively to social and emotional problems of students (TEGSI Item 16, Challenge area for IUB graduates)</p>	15, 25	13, 23
		Positively impact student learning	-	-	-

NCATE Standards	Six Guiding Principles of IUB Teacher Education Program	Graduate Performance	TEGSI Survey Items	Elementary Survey Item #s	Secondary Survey Item #s
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1a. Content Knowledge for Teacher Candidates</p>	6. Knowledge	Well-grounded in content (reading, math, social studies, science) areas central to their teaching	Prepared to teach the content area (TEGSI Item 1, Strength area for IUB graduates).	9, 10, 11, 12, 13	9, 10
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1a. Content Knowledge for Teacher Candidates</p> <p>1b. Pedagogical Content Knowledge and Skills for Teacher Candidates</p> <p>1d. Student Learning for Teacher Candidates</p>		Apply effective instructional strategies	<p>Creates effective instructional plans (TEGSI Item 5, Strength area for IUB graduates)</p> <p>Uses media effectively in teaching (TEGSI Item 10, Strength area for IUB graduates)</p> <p>Creates instructional plans that include opportunities for critical thinking (TEGSI Item 11, Strength area for IUB graduates)</p> <p>Uses multiple methods to teach the same content (TEGSI Item 21, Strength area for IUB graduates)</p> <p>Employs teaching techniques that require student problem solving (TEGSI Item 18, Strength area for IUB graduates)</p> <p>Works effectively with students in collaborative groups (TEGSI Item 12, Strength area for IUB graduates)</p> <p>Can align curriculum goals with state academic standards (TEGSI Item 26, Challenge area for IUB graduates)</p> <p>Designs activities to help students meet state academic standards (TEGSI Item 27, Challenge area for IUB graduates)</p>	<p>16</p> <p>20</p> <p>21, 22</p> <p>19</p>	<p>11, 14</p> <p>18</p> <p>19, 20</p> <p>17</p>

NCATE Standards	Six Guiding Principles of IUB Teacher Education Program	Graduate Performance	TEGSI Survey Items	Elementary Survey Item #s	Secondary Survey Item #s
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1a. Content Knowledge for Teacher Candidates</p> <p>1b. Pedagogical Content Knowledge and Skills for Teacher Candidates</p>	<p>6. Knowledge (continued)</p>	<p>Integrate technology into instruction</p>	<p>Uses technology effectively in teaching (TEGSI Item 4, Strength area for IUB graduates)</p> <p>Develops skills in technology in students (TEGSI Item 24, Strength area for IUB graduates)</p>	<p>17</p> <p>18</p>	<p>15</p> <p>16</p>
<p><i>Standard 1: Candidate Knowledge, Skills, and Professional Dispositions</i></p> <p>1d. Student Learning for Teacher Candidates</p> <p><i>Standard 3: Field Experiences with Clinical Practice</i></p> <p>3c. Candidates' Development and Demonstration of Knowledge, Skills, and Professional Dispositions to Help All Student's Learn</p>		<p>Integrate assessment into instruction</p>	<p>Creates effective assessment instruments to measure learning (TEGSI Item 13, Strength area for IUB graduates)</p> <p>Uses methods of assessment other than paper and pencil tests (TEGSI Item 23, Strength area for IUB graduates)</p>	<p>23, 24</p>	<p>21, 22</p>

Appendix G: Elementary and Secondary Survey Results: Strong & Excellent Responses

Number/percent of principals who rated the IU Bloomington graduates' skills as either Strong or Excellent relative to other beginning teachers

	Elementary		Secondary	
	Frequency	Percent	Frequency	Percent
1. Works effectively as part of an instructional planning team	59 (N=74)	79.7%	52 (N=64)	81.3%
2. Works effectively with parents	55 (N=74)	74.3%	49 (N=64)	76.6%
3. Plans instruction based on students' developmental level, abilities and interests	59 (N=74)	79.7%	54 (N=63)	85.7%
4. Addresses the needs of students with disabilities	52 (N=74)	70.3%	51 (N=64)	79.7%
5. Addresses the needs of students with limited English proficiency	39 (N=74)	52.7%	35 (N=64)	54.7%
6. Addresses the needs of students from diverse cultural backgrounds	56 (N=74)	75.7%	49 (N=63)	77.8%
7. Regularly reflects upon and evaluates his/her own teaching	59 (N=73)	80.8%	49 (N=63)	77.8%
8. Creates a safe, orderly classroom environment	65 (N=74)	87.8%	54 (N=64)	84.4%
9. Has the depth of knowledge and skills required in order to effectively teach mathematics (Elementary survey only)	55 (N=73)	75.3%		
10. Has the depth of knowledge and skills required in order to effectively teach science (Elementary survey only)	50 (N=73)	68.5%		
11. Has the depth of knowledge and skills required in order to effectively teach reading (Elementary survey only)	55 (N=73)	75.3%		
12. Has the depth of knowledge and skills required in order to effectively teach social studies (Elementary survey only)	48 (N=73)	65.8%		
13. Has the depth of knowledge and skills required in order to effectively teach language arts (Elementary survey only)	57 (N=74)	77.0%		
9. Prepared to teach the content area (Secondary survey only)			56 (N=63)	88.9%

10. Presents the subject matter with appropriate breadth and depth (Secondary survey only)			52 (N=64)	81.3%
11. Has the knowledge and skills to utilize multiple forms of instructional delivery (Secondary survey only)			51 (N=64)	79.7%
14/12. (Elementary/Secondary) Teaches subject matter in ways that are meaningful to students item numbers	61 (N=73)	83.6%	54 (N=64)	84.4%
15/13. (Elementary/Secondary) Uses effective methods to control student misbehavior	62 (N=74)	83.8%	50 (N=64)	78.1%
16/14. (Elementary/Secondary) Creates effective instructional plans	60 (N=74)	81.1%	52 (N=64)	81.3%
17/15. (Elementary/Secondary) Integrates technology effectively in teaching	53 (N=73)	72.6%	42 (N=64)	65.6%
18/16. (Elementary/Secondary) Develops technology skills in students	47 (N=73)	64.4%	34 (N=64)	53.1%
19/17. (Elementary/Secondary) Aligns curriculum goals with state academic standards	63 (N=72)	87.5%	54 (N=64)	84.4%
20/18. (Elementary/Secondary) Employs effective techniques that require student problem solving	57 (N=73)	78.1%	47 (N=64)	73.4%
21/19. (Elementary/Secondary) Employs teacher directed instruction effectively	61 (N=73)	83.6%	51 (N=64)	79.7%
22/20. (Elementary/Secondary) Supports student directed learning	59 (N=73)	80.8%	49 (N=64)	76.6%
23/21. (Elementary/Secondary) Uses a variety of assessment materials to measure learning	55 (N=74)	74.3%	49 (N=64)	76.6%
24/22. (Elementary/Secondary) Uses formal and informal assessment data to make teaching decisions	59 (N=74)	79.7%	45 (N=64)	70.3%
25/23. (Elementary/Secondary) Responds effectively to social and emotional problems of students	60 (N=74)	81.1%	54 (N=64)	84.4%

Appendix H: Elementary and Secondary Survey Results by Six Principles of IUB Teacher Education

1. Principals' perceptions of IUB graduates' levels of knowledge

- 1a. IUB SOE prepares pre-service teachers who are well-grounded in content areas (reading, math, social studies, science) central to their teaching (elementary survey items 9, 10, 11, 12, 13; secondary survey items 9, 10).

Elementary Survey Items

9. Has the depth of knowledge and skills required in order to effectively teach mathematics		
Mean=4.28	Frequency	Percent
Satisfactory	12	16.4%
Strong	24	32.9%
Excellent	31	42.5%
Don't Know	6	8.2%
Total	73	100.0%
10. Has the depth of knowledge and skills required in order to effectively teach science		
Mean=4.07	Frequency	Percent
Fair	1	1.4%
Satisfactory	16	21.9%
Strong	27	37.0%
Excellent	23	31.5%
Don't Know	6	8.2%
Total	73	100.0%
11. Has the depth of knowledge and skills required in order to effectively teach reading		
Mean=4.32	Frequency	Percent
Satisfactory	12	16.4%
Strong	22	30.1%
Excellent	33	45.2%
Don't Know	6	8.2%
Total	73	100.0%

12. Has the depth of knowledge and skills required in order to effectively teach social studies		
Mean=4.14	Frequency	Percent
Satisfactory	15	20.5%
Strong	24	32.9%
Excellent	24	32.9%
Don't Know	10	13.7%
Total	73	100.0%
13. Has the depth of knowledge and skills required in order to effectively teach language arts		
Mean=4.38	Frequency	Percent
Satisfactory	10	13.5%
Strong	22	29.7%
Excellent	35	47.3%
Don't Know	7	9.5%
Total	74	100.0%

Secondary Survey Items

9. Is prepared to teach the content area		
Mean=4.46	Frequency	Percent
Fair	1	1.6%
Satisfactory	6	9.5%
Strong	19	30.2%
Excellent	37	58.7%
Total	63	100.0%
10. Presents the subject matter with appropriate breadth and depth		
Mean=4.23	Frequency	Percent
Fair	1	1.6%
Satisfactory	11	17.2%
Strong	24	37.5%
Excellent	28	43.8%
Total	64	100.0%

- 1b. IUB SOE prepares pre-service teachers who apply effective instructional strategies (elementary survey items 16, 19, 20, 21, 22; secondary survey items 11, 14, 17, 18, 19, 20)

Elementary Survey Items

16. Creates effective instructional plans		
Mean=4.26	Frequency	Percent
Fair	2	2.7%
Satisfactory	11	14.9%
Strong	27	36.5%
Excellent	33	44.6%
Don't Know	1	1.4%
Total	74	100.0%
19. Aligns curriculum goals with state academic standards		
Mean=4.39	Frequency	Percent
Satisfactory	8	11.1%
Strong	27	37.5%
Excellent	36	50.0%
Don't Know	1	1.4%
Total	72	100.0%
20. Employs effective techniques that require student problem solving		
Mean=4.12	Frequency	Percent
Fair	2	2.7%
Satisfactory	13	17.8%
Strong	32	43.8%
Excellent	25	34.2%
Don't Know	1	1.4%
Total	73	100.0%
21. Employs teacher directed instruction effectively		
Mean=4.27	Frequency	Percent
Fair	1	1.4%
Satisfactory	10	13.7%
Strong	29	39.7%
Excellent	32	43.8%
Don't Know	1	1.4%
Total	73	100.0%

22. Supports student directed learning		
Mean=4.18	Frequency	Percent
Fair	2	2.7%
Satisfactory	12	16.4%
Strong	30	41.1%
Excellent	29	39.7%
Total	73	100.0%

Secondary Survey Items

11. Has the knowledge and skills to utilize multiple forms of instructional delivery		
Mean=4.24	Frequency	Percent
Fair	1	1.6%
Satisfactory	11	17.2%
Strong	23	35.9%
Excellent	28	43.8%
Don't Know	1	1.6%
Total	64	100.0%

14. Creates effective instructional plans		
Mean=4.11	Frequency	Percent
Fair	1	1.6%
Satisfactory	11	17.2%
Strong	32	50.0%
Excellent	20	31.3%
Total	64	100.0%

17. Aligns curriculum goals with state academic standards		
Mean=4.35	Frequency	Percent
Satisfactory	9	14.1%
Strong	23	35.9%
Excellent	31	48.4%
Don't Know	1	1.6%
Total	64	100.0%

18. Employs effective techniques that require student problem solving		
Mean=4.05	Frequency	Percent
Fair	1	1.6%
Satisfactory	14	21.9%
Strong	28	43.8%
Excellent	19	29.7%
Don't Know	2	3.1%
Total	64	100.0%
19. Employs teacher directed instruction effectively		
Mean=4.20	Frequency	Percent
Fair	1	1.6%
Satisfactory	12	18.8%
Strong	24	37.5%
Excellent	27	42.2%
Total	64	100.0%
20. Supports student directed learning		
Mean=4.14	Frequency	Percent
Fair	2	3.1%
Satisfactory	12	18.8%
Strong	24	37.5%
Excellent	25	39.1%
Don't Know	1	1.6%
Total	64	100.0%

1c. IUB SOE prepares pre-service teachers who can integrate technology into instruction (elementary survey items 17, 18; secondary survey items 15, 16).

Elementary Survey Items

17. Integrates technology effectively in teaching		
Mean=4.03	Frequency	Percent
Fair	4	5.5%
Satisfactory	15	20.5%
Strong	27	37.0%
Excellent	26	35.6%
Don't Know	1	1.4%
Total	73	100.0%

18. Develops technology skills in students		
Mean=3.89	Frequency	Percent
Poor	1	1.4%
Fair	4	5.5%
Satisfactory	17	23.3%
Strong	26	35.6%
Excellent	21	28.8%
Don't Know	4	5.5%
Total	73	100.0%

Secondary Survey Items

15. Integrates technology effectively in teaching		
Mean=3.90	Frequency	Percent
Fair	1	1.6%
Satisfactory	18	28.1%
Strong	28	43.8%
Excellent	14	21.9%
Don't Know	3	4.7%
Total	64	100.0%
16. Develops technology skills in students		
Mean=3.79	Frequency	Percent
Fair	2	3.1%
Satisfactory	20	31.3%
Strong	22	34.4%
Excellent	12	18.8%
Don't Know	8	12.5%
Total	64	100.0%

- 1d. IUB SOE prepares pre-service teachers who integrate assessment into instruction (elementary survey items 23, 24; secondary survey items 21, 22).

Elementary Survey Items

23. Uses a variety of assessment materials to measure learning		
Mean=4.19	Frequency	Percent
Fair	2	2.7%
Satisfactory	16	21.6%
Strong	22	29.7%
Excellent	33	44.6%
Don't Know	1	1.4%
Total	74	100.0%
24. Uses formal and informal assessment data to make teaching decisions		
Mean=4.22	Frequency	Percent
Fair	2	2.7%
Satisfactory	12	16.2%
Strong	28	37.8%
Excellent	31	41.9%
Don't Know	1	1.4%
Total	74	100.0%

Secondary Survey Items

21. Uses a variety of assessment materials to measure learning		
Mean=4.00	Frequency	Percent
Fair	4	6.3%
Satisfactory	10	15.6%
Strong	31	48.4%
Excellent	18	28.1%
Don't Know	1	1.6%
Total	64	100.0%

22. Uses formal and informal assessment data to make teaching decisions		
Mean=4.03	Frequency	Percent
Satisfactory	15	23.4%
Strong	28	43.8%
Excellent	17	26.6%
Don't Know	4	6.3%
Total	64	100.0%

2. Principals' perceptions of IUB graduates' levels of preparedness to provide meaningful experience for students

2a. IUB SOE prepares pre-service teachers who create and nurture a positive social and academic learning environment (elementary survey items 8, 14; secondary survey items 8, 12).

Elementary Survey Items

8. Creates a safe, orderly classroom environment		
Mean=4.35	Frequency	Percent
Fair	2	2.7%
Satisfactory	7	9.5%
Strong	28	37.8%
Excellent	37	50.0%
Total	74	100.0%
14. Teaches subject matter in ways that are meaningful to students		
Mean=4.32	Frequency	Percent
Fair	2	2.7%
Satisfactory	9	12.3%
Strong	25	34.2%
Excellent	36	49.3%
Don't Know	1	1.4%
Total	73	100.0%

Secondary Survey Items

8. Creates a safe, orderly classroom environment		
Mean=4.28	Frequency	Percent
Fair	1	1.6%
Satisfactory	9	14.1%
Strong	25	39.1%
Excellent	29	45.3%
Total	64	100.0%
12. Teaches subject matter in ways that are meaningful to students		
Mean=4.23	Frequency	Percent
Fair	1	1.6%
Satisfactory	9	14.1%
Strong	28	43.8%
Excellent	26	40.6%
Total	64	100.0%

2b. IUB SOE prepares pre-service teachers who manage the classroom environment in order to maximize learning (elementary survey items 15, 25; secondary survey items 13, 23).

Elementary Survey Items

15. Uses effective methods to control student misbehavior		
Mean=4.24	Frequency	Percent
Fair	3	4.1%
Satisfactory	8	10.8%
Strong	33	44.6%
Excellent	29	39.2%
Don't Know	1	1.4%
Total	74	100.0%
25. Responds effectively to social and emotional problems of students		
Mean=4.28	Frequency	Percent
Fair	1	1.4%
Satisfactory	13	17.6%
Strong	25	33.8%
Excellent	35	47.3%
Total	74	100.0%

Secondary Survey Items

13. Uses effective methods to control student misbehavior		
Mean=4.16	Frequency	Percent
Fair	2	3.1%
Satisfactory	12	18.8%
Strong	24	37.5%
Excellent	26	40.6%
Total	64	100.0%
23. Responds effectively to social and emotional problems of students		
Mean=4.19	Frequency	Percent
Satisfactory	9	14.1%
Strong	35	54.7%
Excellent	19	29.7%
Don't Know	1	1.6%
Total	64	100.0%

3. Principals' perceptions of IUB graduates' levels of preparedness to provide personalized learning for students

IUB SOE prepares pre-service teachers who provide personalized learning (elementary survey items 3, 4, 5, 6; secondary survey items 3, 4, 5, 6).

Elementary Survey Items

3. Plans instruction based on students' developmental level, abilities and interests		
Mean=4.29	Frequency	Percent
Satisfactory	15	20.3%
Strong	23	31.1%
Excellent	36	48.6%
Total	74	100.0%
4. Addresses the needs of students with disabilities		
Mean=4.11	Frequency	Percent
Fair	1	1.4%
Satisfactory	20	27.0%
Strong	23	31.1%
Excellent	29	39.2%
Don't Know	1	1.4%
Total	74	100.0%

5. Addresses the needs of students with limited English proficiency		
Mean = 4.06	Frequency	Percent
Poor	1	1.4%
Fair	2	2.7%
Satisfactory	8	10.8%
Strong	22	29.7%
Excellent	17	23.0%
Don't Know	24	32.4%
Total	74	100.0%
6. Addresses the needs of students from diverse cultural backgrounds		
Mean = 4.09	Frequency	Percent
Fair	2	2.7%
Satisfactory	15	20.3%
Strong	31	41.9%
Excellent	25	33.8%
Don't Know	1	1.4%
Total	74	100.0%

Secondary Survey Items

3. Plans instruction based on students' developmental level, abilities, and interests		
Mean=4.21	Frequency	Percent
Fair	3	4.8%
Satisfactory	6	9.5%
Strong	29	46.0%
Excellent	25	39.7%
Total	63	100.0%
4. Addresses the needs of students with disabilities		
Mean=4.10	Frequency	Percent
Fair	1	1.6%
Satisfactory	10	15.6%
Strong	33	51.6%
Excellent	18	28.1%
Don't Know	2	3.1%
Total	64	100.0%

5. Addresses the needs of students with limited English proficiency		
Mean=4.12	Frequency	Percent
Fair	1	1.6%
Satisfactory	7	10.9%
Strong	21	32.8%
Excellent	14	21.9%
Don't Know	21	32.8%
Total	64	100.0%
6. Addresses the needs of students from diverse cultural backgrounds		
Mean=4.23	Frequency	Percent
Fair	1	1.6%
Satisfactory	6	9.5%
Strong	28	44.4%
Excellent	21	33.3%
Don't Know	7	11.1%
Total	63	100.0%

4. Principals’ perceptions of IUB graduates’ levels of preparedness to work as a part of the school, corporation, and community

IUB SOE prepares pre-service teachers who build and develop relationships within the school, corporation, and community (elementary survey items 1, 2; secondary survey items 1, 2).

Elementary Survey Items

1. Works effectively as part of an instructional planning team		
Mean = 4.24	Frequency	Percent
Poor	1	1.4%
Satisfactory	14	18.9%
Strong	24	32.4%
Excellent	35	47.3%
Total	74	100.0%

2. Works effectively with parents		
Mean=4.17	Frequency	Percent
Fair	3	4.1%
Satisfactory	16	21.6%
Strong	20	27.0%
Excellent	35	47.3%
Total	74	100.0%

Secondary Survey Items

1. Works effectively as part of an instructional planning team		
Mean=4.17	Frequency	Percent
Poor	1	1.6%
Satisfactory	10	15.6%
Strong	28	43.8%
Excellent	24	37.5%
Don't Know	1	1.6%
Total	64	100.0%
2. Works effectively with parents		
Mean=4.13	Frequency	Percent
Fair	1	1.6%
Satisfactory	12	18.8%
Strong	27	42.2%
Excellent	22	34.4%
Don't Know	2	3.1%
Total	64	100.0%

5. Principals' perceptions of IUB graduates' levels of preparedness on reflecting on one's own teaching practices

IUB SOE prepares pre-service teachers who reflect on their own teaching practices (elementary survey item 7; secondary survey item 7).

Elementary Survey Item

7. Regularly reflects upon and evaluates his/her own teaching		
Mean=4.22	Frequency	Percent
Poor	1	1.4%
Fair	4	5.5%
Satisfactory	9	12.3%
Strong	24	32.9%
Excellent	35	47.9%
Total	73	100.0%

Secondary Survey Item

7. Regularly reflects upon and evaluates his/her own teaching		
Mean=4.27	Frequency	Percent
Fair	1	1.6%
Satisfactory	10	15.9%
Strong	21	33.3%
Excellent	28	44.4%
Don't Know	3	4.8%
Total	63	100.0%