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ABSTRACT

Evidence of the validity of the National Teacher Examinations' (NTEs') Early Childhood Education Test (ECET) as it is used in the New York City School System is presented. The NTE Core Battery and Specialty Area Tests are used as part of the alternative process for teacher licensure in New York City. The ECET measures knowledge and skills required by entry-level teachers in the area. Only one form of the test was reviewed. Judgments were provided by 32 New York City educators with expertise in early childhood education (ECE). Each judge participated in two professional panels: (1) a job relevance panel that reviewed each test item and responded in one of four categories indicating the extent to which the knowledge/academic skills needed to answer each item correctly is relevant to competent performance as a beginning teacher of ECE in New York City; and (2) a knowledge estimation panel that reviewed each item and responded in one of eight categories reflecting the individual item difficulty for persons who have the minimum levels of knowledge/academic skills needed for competent performance as a beginning teacher of ECE in New York City. Job relevance findings were reviewed by two statistical methods; 96.0% or 99.3%, respectively, of the items were found to be job relevant. Two analyses of results from the knowledge estimation panel resulted in scores of 500 and 510, respectively, as potential passing marks; 500 was the recommended passing score, partly because the statistical methodology agreed with that used in setting the passing score on the NTE Core Battery. The content validity of the test was deemed acceptable. The methodology in this study could serve as a prototype for studies of other specialty area tests. Fourteen data tables and 15 appendices are included. (Author/SLD)

OREA Report

A NEW YORK CITY VALIDITY STUDY FOR THE NTE SPECIALTY AREA TEST IN EARLY CHILDHOOD EDUCATION

Office of Research, Evaluation and Assessment
Robert Tobias, Director

April 1990

A NEW YORK CITY VALIDITY STUDY FOR THE NTE SPECIALTY AREA TEST IN EARLY CHILDHOOD EDUCATION

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NEW YORK CITY BOARD OF EDUCATION

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EXECUTIVE SUMMARY

The New York City Board of Education uses the National Teacher Examinations' (NTE) Core Battery and Specialty Area Tests as part of the alternative process for teacher licensure under the New York State Decentralization Law 2590-J. Prerequisite to the use of NTE Tests, the test publisher - the Educational Testing Service (ETS) of Princeton, New Jersey - requires clients to validate each of the tests. Until now, the NTE Specialty Area Test in Early Childhood Education has not been validated for use in New York City public schools.

This study provides evidence of the validity of the NTE Early Childhood Education test as it is used by the New York City school system. In addition, based upon expert judgments provided by panels of New York City educators, a potential passmark is recommended. This passmark is an estimate of the minimum level of knowledge and skills required for competent performance by beginning Teachers of Early Childhood Education in New York City public schools.

The NTE Early Childhood Education test is designed to measure the knowledge and academic skills required by entry-level teachers of Early Childhood Education. This is a 150-item multiple choice test with a time limit of two hours. Various forms of this test are available. Consistent with ETS policy, only one form of the NTE Specialty Area Test in Early Childhood Education was reviewed in this study.

The research methods used in this study are based upon those implemented previously by ETS in studies commissioned by the New York State Education Department. Furthermore, these methods are consistent with federal "Uniform Guidelines" and psychometric standards of various professional organizations.

In this study, judgments were provided by 32 New York City public school educators with expertise in Early Childhood Education. Each individual participated in two separate professional panels. First, the Job Relevance Panel reviewed each item and responded in one of four categories indicating the extent to which the knowledge or academic skills needed to answer each item correctly is relevant to competent performance as a beginning Teacher of Early Childhood Education in New York City. Subsequently, the Knowledge Estimation Panel reviewed each item and responded in one of eight categories reflecting the difficulty of individual items for persons who have the minimum levels of knowledge and academic skills necessary for competent performance as beginning Teacher of Early Childhood Education in New York City.

Consistent with previous studies, Job Relevance Panel member responses were statistically analyzed by two methods. Depending upon the statistical method, either 96.0% or 99.3% of the items were found job relevant. Subsequently, results from the Knowledge Estimation Panel were statistically analyzed and converted to the reporting scale established by ETS. Rounded mean scaled scores of 500 and 510, respectively, resulted from the two statistical methods. Reliability estimates were obtained and reported.

The Method I mean score of 500, rather than the score of 510 derived from Method II, is recommended as a potential passmark. This recommendation is based, in part, upon the fact that the NTE Core Battery passmarks established by the New York State Education Department were obtained using Method I analyses. The potential passmark may be modified by taking into account the Standard Error of Measurement of this particular test. Modification of the passmark may be required due to "supply and demand" and other factors specified in this report.

In conclusion, based upon methods and criteria established in previous validity studies, the results of this study demonstrate the content validity of the NTE Specialty Area Test in Early Childhood Education for use as one part of the license requirements for beginning Teachers of Early Childhood Education in New York City public schools. Furthermore, an appropriate passmark was recommended. It is noted, finally, that the methodology and statistical analyses of this study could serve as a prototype for studies to assess the validity of, and establish New York City passmarks for, other NTE Specialty Area Tests.

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I. INTRODUCTION

The intent of this study is to assess the validity of the NTE Specialty Area Test in Early Childhood Education for use by the New York City school system. The two components of this study are: 1) content review of the test as it is related to the entry-level job requirements of New York City Teacher of Early Childhood Education, and 2) identification of potential criteria, standards or passmarks which reflect minimally acceptable performance by entry-level New York City Teachers of Early Childhood Education.

This study is necessary because the NTE Specialty Area Test in Early Childhood Education is required by the New York City school system. The Guidelines for Proper Use of NTE Tests (Educational Testing Service, 1985a) specify that validity and standard setting studies must be conducted as prerequisites for the use of NTE tests. However, the Early Childhood Education test has not been validated for use in New York. Consequently, the Educational Testing Service has apprised the New York City Board of Education that such a study must be conducted.

USE OF THE NTE SPECIALTY AREA TESTS IN NEW YORK CITY

A passing score obtained on the NTE Specialty Area Test in Early Childhood Education is an essential criterion in one of the routes by which an individual may become licensed to teach pre-kindergarten through grade two in some New York City public

elementary schools (New York City Board of Education, 1986; 1989a). This is an alternative route for teacher licensure, in compliance with the New York City School Decentralization Law 2590-j (McKinney's Consolidated Laws of New York - Annotated, 1981). Currently, this NTE Specialty Area Test route for licensure applies only to those New York City public elementary schools which are ranked in the bottom 45 percent on the annually administered citywide reading test (see, for ranking of schools, New York City Board of Education, 1989b).

In general, the primary route for teacher licensure in New York City includes satisfactory performance on a test administered by the Board of Examiners (see, for examination announcement; Board of Examiners, 1989). It is noted, however, that currently proposed legislation may provide the basis for NTE Specialty Area Tests to replace the written component of some Board of Examiners tests. Should this legislation be implemented, the NTE Specialty Area Tests might be used as a written component of procedures which establish pools of teacher candidates in several disciplines, including Early Childhood Education.

The New York State Education Department has demonstrated the validity of several of the NTE Specialty Area Tests (Educational Testing Service, 1985b; 1985c; 1987a). However, these studies have not included the test for Early Childhood Education. As of

this time, furthermore, none of the NTE Specialty Area Tests have been adopted for use in New York State. Consequently, New York State passmarks have not been mandated for any of these tests. It is noted, however, that the New York State Education Department has: demonstrated the validity of the NTE Core Battery (Educational Testing Service, 1983); adopted the three NTE Core Battery tests; and established NTE Core Battery passmarks for use in New York State.

The manner in which NTE passmarks are established is defined by New York State law. Specifically, under Chapter 628 of the Laws of 1989, signed by Governor Cuomo on July 21, 1989, the New York State Commissioner of Education has the responsibility of setting NTE passmark scores based upon appropriate validity studies. Where the Commissioner has not established such passmarks, the Chancellor of New York City public schools may set the passmarks based upon validity studies.

THE NTE SPECIALTY AREA TEST IN EARLY CHILDHOOD EDUCATION

The NTE Specialty Area Tests are two-hour tests designed to measure the knowledge and academic skills generally acquired by examinees in preparing for teaching careers in specific fields. These tests focus on areas covered by most teacher education and training programs. The examination in Early Childhood Education, designed for examinees who have completed their undergraduate preparation in this field, is intended to measure academic

competence in Early Childhood Education. As delineated in Educational Testing Service (1987b), this test focuses on two aspects: 1) knowledge and understanding of the nature of growth, development, and learning of young children; and 2) ability to judge the appropriateness of teaching behaviors, curriculum organization, and activities for children of ages three through eight, as related to their growth, development and learning. A more detailed description of this 150 item test is presented in Table 1.

TABLE 1

Test Content Description
Early Childhood Education

The examination in Early Childhood Education is intended primarily for candidates who have completed their undergraduate preparation in the field. In keeping with trends in the field, the examination focuses on the candidates' understanding and recognition of appropriate applications of early childhood education knowledge and theory related to the development of the whole child. Major dimensions of the examination include the following areas:

	CONTENT TOPICS	APPROXIMATE % OF TEST
I.	The nature of growth, development, and learning of young children - including aspects of cognitive development (concepts, skills, language), physical development, and personal-social development	30%
II.	Factors that influence growth and development - including biological, familial, nutritional-hygienic, and cultural factors	10%
III.	The contributions of developmental and curriculum theory to early childhood education practices - including major streams of developmental theory (e.g., cognitive, behaviorist, social-learning) and major streams of curriculum theory (e.g., Bank Street, Bereiter-Englemann, Kamii, Montessori)	12%
IV.	The planning and implementation of curriculum - including the planning, selection, and implementation of appropriate curriculum experiences; management of the physical learning environment; behavior management issues and practices; and utilization of family-community resources in the learning program	29%
V.	The evaluation and reporting of student progress - including the selection and use of formal and informal assessment instruments or procedures, the maintenance of records of a child's progress, and effective communication with parents about a child's total developmental progress	13%
VI.	Professional and legal responsibilities of the early childhood teacher - including effective teacher interaction with other adults in the learning setting and cognizance of legal regulations that impact on teaching in the early childhood setting	6%

II. OBJECTIVES AND METHODOLOGY OF THIS STUDY

The objectives of this study are:

1) To assess the validity of the content of the NTE Specialty Area Test in Early Childhood Education to relevant job requirements of entry-level Teacher of Early Childhood Education in New York City public schools, and

2) To recommend a passing score (or provide options from which policy-makers select one score) on the NTE Specialty Area Test for Early Childhood Education.

The passing score will reflect the minimum level of knowledge required by entry-level Teachers of Early Childhood Education in New York City. It is anticipated that policy-makers will use the recommendation to establish the minimum qualifying score or passmark required as one of the criteria for licensure. In addition, other policy related issues, such as "supply and demand" and affirmative action goals, may be taken into consideration.

TASKS AND METHODOLOGY

An overview of the tasks which comprise this project is presented in Table 2. No single process leading to the setting of standards for certification is generally acknowledged by professional educators and measurement specialists to be either the best or the only defensible method for conducting this type of study. The methods used in this particular study are based upon those implemented previously by the Educational Testing Service (1983; 1985b; 1985c; 1987a) in validity studies

TABLE 2

Overview of Project Tasks

Community School District Superintendents nominate teacher and supervisor candidates for professional panels
Select and confirm participation of panel members
Prepare test materials for professional panel use
Develop data collection materials including: instructions to panel members, job relevance form, knowledge estimation form, and related comment sheets
Proof-read and print panel instructions, response forms and comment sheets
Prepare background information sheets, rosters, payroll forms and site packets for panel members
Conduct Panel meetings
Perform quality control on forms
Scan forms
Analyze data from Job Relevance and Knowledge Estimation Panels
Prepare tables with panel data
Obtain nationwide performance data from Educational Testing Service for NTE Early Childhood Examinations
Relate panel judgments to actual test data
Draft report
Review report
Submit final report and executive summary

commissioned by the New York State Education Department. In addition, these methods are in accordance with accepted measurement guidelines (e.g., American Educational Research Association, et al., 1985) and federal "Uniform Guidelines" (Equal Employment Opportunity Commission, et al., 1978). A survey of selected literature dealing with content validity studies, standard setting, and validity-study related issues can be found in Educational Testing Service (1985c, Chapter II).

DIFFERENT FORMS OF THE TEST

Currently, there are three forms of the NTE Specialty Area Test in Early Childhood Education and a fourth form is being developed. In past validity studies, panels reviewed items from several forms of a given subject area test. However, the Educational Testing Service currently supplies only one form of a test for validity studies. Consequently, only one form of the Early Childhood Education test was reviewed.

III. THE JOB RELEVANCE AND KNOWLEDGE ESTIMATION PANELS

The suitability of using the NTE Specialty Area Test in Early Childhood Education was assessed by a group of 32 experienced New York City educators who specialize in Early Childhood Education. Each of these educators provided their expert judgments as members of both of the following two panels: (1) the Job Relevance Panel which judged the relevance of the content of the test questions to the job of beginning Teacher of Early Childhood Education in New York City; and (2) the Knowledge Estimation Panel which estimated the test performance required of beginning Teacher of Early Childhood Education in New York City.

ESTABLISHING THE PANELS

Several factors were taken into consideration when the size and nature of the membership of the two panels was finalized. These factors included:

(a) designation of individuals who are currently serving in New York City public schools as practicing professionals including teachers, supervisors and administrators of Early Childhood Education;

(b) representation from each New York City Community School District;

(c) representation from the Early Childhood Education Unit at headquarters of New York City public schools;

(d) reasonable representation of diverse racial and ethnic groups; and

(e) the need to obtain sufficiently reliable judgments about each question in the test.

On the basis of these considerations, it was decided to invite representatives from each of New York City's 32 decentralized Community School Districts. In addition, educators from the New York City public school headquarters' Early Childhood Education Unit were invited to participate.

In May 1989, a memorandum (see Appendix A) was sent from Dr. Dolores M. Fernandez, former Deputy Chancellor for Instruction and Development, to all New York City Community School District Superintendents. This memorandum invited each District Superintendent to assign one Early Childhood Education representative to participate as a panel member in this validity study.

Of the 32 New York City Community School Districts, 28 or 87.5 percent had representatives in this study. Only school districts 4, 8, 21 and 31 did not participate. It is noted, also, that four professional educators from the headquarters Early Childhood Education Unit also participated as panel members in this study.

All panel members were required to complete a "Background Information Sheet" (see Appendix B). In addition, panel members were requested to provide authorization for their names to be listed as panel members in the final study report (see Appendix C). It is noted that all panel members provided such

authorization. Consequently, each panel member's name and position are listed in Table 3.

DESCRIPTION OF PANEL MEMBERS

The same professional educators provided expert judgments on both panels. Of these, 28 or 87.5% were employed on a full-time basis in one of New York City's 32 decentralized Community School Districts. The additional four or 12.5% of the panel members were employed by the Early Childhood Education Unit at headquarters of the New York City public school system.

All 32 panel members were female. Panel member age and ethnicity summary data are presented in Table 4. Of the 75 percent of panel members who provided ethnicity data, the largest group (i.e., 46.9%) were white and the second largest group (i.e., 25%) of panel members were black. Furthermore, the largest group (i.e., 50%) of panel members were in the 41 to 48 year age category.

Panel members were asked their "Total years of teaching experience." Their responses to this question had a mean of approximately 21 years (with a standard deviation of 7.32) and a median of 20 years (with a range from four to 40 years). The 32 panel members reported their highest earned degrees as: doctorates (3 or 9.4%), masters (28 or 87.5%) or bachelors (1 or 3.1%) degrees.

TABLE 3

Early Childhood Education Professional Panel

ASSIGNMENT	PANEL MEMBER NAME	POSITION
District 1	Geri Appel	Early Childhood Coordinator
District 2	Sandra Yark	Early Childhood Coordinator
District 3	Etta Proshansky	Director, Early Childhood Education
District 5	Juanita Johnson	Assistant Principal Intern
District 6	Rosemarie Crownover	Early Childhood Coordinator
District 7	Bea Brown	Early Childhood Coordinator
District 9	Jacquelyn Tatum	Staff Developer, Project Child
District 10	Rachel Flores	Staff Developer, Early Childhood
District 11	Rahla Gold	Principal, Elementary School
District 12	Joan Salvatore	Early Childhood Coordinator
District 13	Carole Friedman	Program Director, NYS Pre-Kindergarten
District 14	Mary L. Driscoll	Director, Early Childhood Program
District 15	Eileen Jones	Early Childhood Coordinator
District 16	Renee Gregory	Assistant Dist. Admin. Special Education
District 17	Delores Theobald	Early Childhood Coordinator
District 18	Debra Brathwaite	Early Childhood Coordinator
District 19	Sharon Simmons	Supervisor, Early Childhood Education
District 20	Rosemarie Papa	Early Childhood Coordinator
District 22	Kathleen Lavin	Assistant Principal, Elementary School
District 23	Alice Gottlieb	Early Childhood Coordinator
District 24	Christine Sobocienska	Early Childhood Coordinator
District 25	Marilyn Wunder	Early Childhood Coordinator
District 26	Caren Hirsch	Early Childhood Coordinator
District 27	Edythe Nelson	Staff Developer, Project Child
District 28	Betty Silver	Chairperson, Early Childhood Committee
District 29	Adele Armstrong	Teacher Trainer, Early Childhood
District 30	Anne Geller	Consultant, NYS Kindergarten Program
District 32	Margaret Connolly	Supervisor, Early Childhood Education
Headquarters	Marjorie McAllister	Director, Early Childhood Education
Headquarters	Eleanor Ukoli	Assistant Director, Early Childhood
Headquarters	Toby Rusgo	Supervisor, Early Childhood Education
Headquarters	Carmela Cohen	Supervisor, Early Childhood Education

TABLE 4

Professional Panel Members' Age and Ethnicity

Age Group			Ethnicity		
Category	Number	Percent	Category	Number	Percent
18-25	0	0	American Indian	0	0
26-32	0	0	Asian	0	0
33-40	6	18.8	Black	8	25.0
41-48	16	50.0	Hispanic	1	3.1
49-56	4	12.5	White	15	46.9
57+	4	12.5	No Response	8	25.0
No Response	2	6.3			

The "Degree Major" reported by the 32 panel members is summarized as: Early Childhood Education (14 or 43.8%), Supervision and Administration (5 or 15.6%), Elementary Education (3 or 9.4%), Education, English or Reading (4 or 12.5%) and "No Response" (6 or 18.8%).

As presented earlier, Table 3 lists each panel member's name, position and assignment. The positions of panel members are summarized by category in Table 5. Review of Table 5 indicates that most panel members (53.1%) are Early Childhood Supervisors and/or Coordinators. In addition, the Board of Examiners' related licenses held by panel members are summarized in Table 5. Most panel members (a total of 56.2%) hold licenses as Supervisors or Teachers of Early Childhood Education.

ESTABLISHING THE HALF PANELS

To examine the consistency of panel judgments, responses from the Job Relevance and Knowledge Estimation Panels were each split into half panels. The results from each of the half panels were statistically analyzed. Assignment of panel members into the separate half panels was based on the following criteria:

1. Each New York City Community School District represented at the panel meeting was rank-ordered by district performance on the 1988 annual Citywide Reading Test (i.e., the Degrees of Reading Power Test).

TABLE 5

Professional Panel Members' Positions
and Related Licenses

Present Position	Number	Percent
Early Childhood Supervisor/Coordinator	17	53.1
Director	3	9.4
Staff Developer	3	9.4
Assistant Principal (A.P.) or A.P. Intern	2	6.3
NYS Kindergarten Program Staff	2	6.3
Assistant Director	1	3.1
Principal	1	3.1
Teacher Trainer	1	3.1
Assistant District Administrator	1	3.1
Chairperson, Early Childhood Committee	1	3.1

Related License	Number	Percent
Supervisor Early Childhood Education	9	28.1
Teacher Early Childhood Education	9	28.1
Teacher Common Branches	6	18.8
Teacher Elementary Education	2	6.3
Director Early Childhood Education	1	3.1
Teacher Special Education	1	3.1
Educational Administration	1	3.1
Teacher English	1	3.1
No Response	2	6.3

2. Alternate members of the rank-ordered list were assigned to each half panel.

3. The four Board of Education headquarters personnel from the Early Childhood Education Unit were randomly assigned, two each, to each of the half panels.

4. The total years of teaching experiences of each half panel were summed and compared. To make the sums approximately equal, two members were interchanged between half panels.

For each of the half panels, the number of members and their respective years of teaching experience are depicted in Table 6. For both the Job Relevance and Knowledge Estimation Panels, Half Panel 1 contained the same members. Half Panel 2, however, differed by one member. This particular member arrived late and, consequently, attended only part of the Job Relevance session and the entire Knowledge Estimation session. As such, judgments from this particular member were obtained only for the Knowledge Estimation Panel.

The reason for rank-ordering by school district standardized reading test performance was because of the possibility that panel members' expectations of a minimally knowledgeable beginning teacher may be affected by the standardized achievement test performance of the pupils in their respective school districts. In addition, panel members were rank-ordered by years of teaching experience because of the possibility that such experience might influence panel members' expectations. By

establishing half panels based upon both school district test performance and panel members' years of professional experience, more comparable or "better matched" half panels were anticipated.

TABLE 6

Characteristics of Half Panels

Job Relevance Half Panels

	Half Panel 1	Half Panel 2
Number of Members	16	15
Combined Teaching Experience (years)	324	325
Mean Teaching Experience (years)	20.25	21.67

Knowledge Estimation Half Panels

	Half Panel 1	Half Panel 2
Number of Members	16	16
Combined Teaching Experience (years)	324	341
Mean Teaching Experience (years)	20.25	21.31

IV. MEETING OF THE JOB RELEVANCE AND KNOWLEDGE ESTIMATION PANELS

On June 16, 1989, the Professional Panel met at 110 Livingston Street. The agenda for this meeting can be found in Appendix D.

WELCOME AND ORIENTATION

Panel members were welcomed by the Director of the Office of Research, Evaluation and Assessment, Mr. Robert Tobias. Subsequently, panel members were addressed by two professionals from the Board of Education's Division of Human Resources: Mr. Roberto Fuentes (Administrator) and Ms. Zenaida Tejada (Director of the Teacher Certification Unit). Mr. Fuentes and Ms. Tejada indicated the importance of the NTE route for staffing New York City public schools.

Orientation for the overall study was provided by the Project Director, Dr. Gary Kippel. He specified the objectives, nature and importance of this particular validity study. He provided, also, a brief explanation of the concept of validity. Folders containing various materials required for this study were distributed to each panel member. Panel members were told that in all instances they would make their judgments independently and that there would be no attempt to obtain a consensus of judgment.

TEST SECURITY

Test security was a primary concern. At all times, appropriate procedures were implemented to ensure optimal test security. Both the Job Relevance and Knowledge Estimation Panels reviewed a secure form (with correct answers indicated) of the NTE Specialty Area Test in Early Childhood Education. At the beginning of the meeting, all panel members were required to read and sign an "NTE Disclosure Policy and Release Form" (see Appendix E).

To insure test security, furthermore, the Educational Testing Service assigned their representative, Dr. David Goldman, to deliver and retrieve the tests and, also, to monitor all phases of the panel meetings. This ETS representative asked that no one take notes, record, copy or disclose items during the study. He requested, also, that anyone leaving the room raise their hands so that he could collect the test books before they leave the room. In effect, no opportunity was provided for anyone to copy test questions. Each test book was coded with a unique identification number for test security purposes. At the end of the study, the monitor counted all the tests and verified that each test was returned to him.

V. TEST CONTENT AND JOB RELEVANCE

The Job Relevance Panel was established to judge the extent to which knowledge or skills tested by individual questions is appropriate to the job requirements of an entry-level Teacher of Early Childhood Education in New York City. The Job Relevance Panel consisted of 31 members. One additional person arrived too late to participate in this panel. Subsequently, this individual did participate in the Knowledge Estimation Panel which was comprised of a total of 32 members.

JOB RELEVANCE PANEL PROCEDURES

First, participants were familiarized with this test. Specifically, each panel member was provided with a "Test Content Description" (see Appendix F) which contained the specifications describing the NTE Specialty Area Test in Early Childhood Education. Included in the test specifications were the percentage and number of items in each of the topics covered by this test.

Second, tasks to be performed by the Job Relevance Panel were discussed. Subsequently, panel members were asked to read the "Overview of Tasks..." (see Appendix G) and "Instructions for completing the Job Relevance Form" (see Appendix H).

Next, panel members were provided the: NTE Specialty Area Test in Early Childhood Education, machine-scannable "Job Relevance Form" (see Appendix I), sharpened number two lead pencils, "Panelist's Comment Sheet" (see Appendix J), and "Test Comprehensiveness Comment Sheet" (see Appendix K). Panel members were provided an opportunity to ask questions. Finally, they were asked to provide their judgments of the test questions and, also, to complete the comment sheets. The comment sheets were intended to obtain feedback on individual test items.

Job Relevance Panel members were asked to judge whether each test item or question was relevant to competent performance required of the job of a beginning Teacher of Early Childhood Education. For item judgments, panel members were asked to select one of the following four judgment categories on the machine-scannable "Job Relevance Form" (see Appendix I): "crucial", "important", "questionable", " and "not relevant."

JOB RELEVANCE METHODOLOGY

The relevance of the content of the NTE Early Childhood Education test to the job of a beginning Teacher of Early Childhood Education in New York City public schools was assessed by the percentage of test items classified as job relevant. Each item was classified as either job relevant or job irrelevant based upon the majority of panel member judgments for that item.

The percentage of job relevant items is considered the primary evidence of job relatedness of the whole test.

In accordance with Educational Testing Service (1985c, pages V. 16-17), the relationship of the test to the job of a beginning Early Childhood Education may be summarized and described as follows: very relevant (percent of questions judged relevant greater than or equal to 90), relevant (percent of questions judged relevant less than 90 but greater than or equal to 80), of questionable relevance (percent of questions judged relevant less than 80 but greater than or equal to 65), and not relevant (percent of questions judged relevant less than 65).

In accordance with previous studies (Educational Testing Service, 1983; 1985c), two methods were used to assign test questions to the job relevant and job irrelevant categories. In both Methods I and II, to determine the relevance of individual test items, panel member responses to the machine scannable Job Relevance Form categories of both "crucial" and "important" were classified as job relevant. Furthermore, responses to the "not relevant" category were treated as job irrelevant. The difference between Methods I and II is the manner in which panel member responses to the Job Relevance Form category of "questionable" is used to categorize individual test items as job relevant or job irrelevant.

In Method I, to determine item job relevance, panel member responses to the "questionable" response category were treated as job irrelevant responses in the same manner as "not relevant." In Method II, however, when determining item job relevance, panel member responses to the "questionable" response category were distributed proportionately between job relevant and job irrelevant.

Method II was implemented as an alternate way of analyzing the data because some uncertainty exists as to why panel members chose the "questionable" category (Educational Testing Service, 1985c, p. III. 25-26). Panel members could interpret "questionable" in at least the following four different ways:

(a) The content of the question was deemed to be of questionable relevance to the job of the teacher (the intended meaning).

(b) The content of the question was deemed job relevant for only a subgroup of all teacher/practitioners, and, therefore, could not be considered "Crucial" or "Important" for all.

(c) One or more of the response options to the test question could be interpreted in several ways.

(d) The panel member had no opinion as to the degree of job relevance of the content of the question (a "Do Not Know" option was not included for this panel).

VI. RESULTS FROM THE JOB RELEVANCE PANEL

As indicated earlier, Method I is the more conservative of the two methods used to statistically analyze the Job Relevance Panel data. Using Method I, 144 items of 150 (i.e., 96.0%) were found to be job relevant. The six items judged job irrelevant were items numbered 11, 12, 30, 32, 84 and 134.

As indicated earlier, also, Method II was used to account for possible ambiguities in the Job Relevance Panel responses. Using Method II, 149 items of 150 (i.e., 99.3%) were found to be job relevant. Only item number 11 was found to be job irrelevant.

Previous studies (e.g., Educational Testing Service, 1985c, page V.15 - V.16) conducted supplementary Chi-square analyses to determine if the questions judged to be job irrelevant were distributed throughout the test or clustered in particular content topics. This was done, however, only for tests for which less than 90 percent of the items were judged to be job irrelevant. In the current study, more than 90 percent of the items were judged to be job relevant. Furthermore, review of Table 7 indicates that the irrelevant items are not clustered in any one test content topic. Therefore, Chi-square analyses for item clusters were not required.

TABLE 7

Job Relevance Judgment Analysis
By Test Content Topic*

Content Topic	Number of Items	METHOD I		METHOD II	
		No. of Irrelevant Items	Percent of Relevant Items	No. of Irrelevant Items	Percent of Relevant Items
I	46	2	95.7	0	100.0
II	15	2	86.7	0	100.0
III	18	2	88.9	1	94.4
IV	43	0	100.0	0	100.0
V	19	0	100.0	0	100.0
VI	9	0	100.0	0	100.0

*For a more detailed explanation of NTE Early Childhood Education test content topics, refer to Table 1.

CONSISTENCY OF JOB RELEVANCE RESULTS

The consistency of judgments about the job relevance of the test questions was assessed by comparing the extent to which the two half panels agreed. Description of the manner in which the half panels were established was presented earlier. The results from the two Job Relevance half panels are depicted in Table 8.

For Methods I and II, a substantial proportion of the items were judged job relevant by both half panels. These findings are consistent with results obtained for the full panel. For Method I, 96.0% and 97.3% of the items were judged as job relevant by Half Panel 1 and Half Panel 2, respectively. Using Method I, the full panel judged 96.0% of the items as job relevant. For Method II, Half Panels 1 and 2 both judged 99.3% of the items as job relevant. This finding was identical to that obtained for the full panel.

Most of the specific items judged job irrelevant by the full panel were judged job irrelevant by the half panels for Methods I and II. Specifically, for Method I, four of the six items judged job irrelevant by the full panel were judged job irrelevant by both of the half panels. For Method II, the one item found job irrelevant by the full panel was also judged job irrelevant by both of the half panels.

TABLE 8

Job Relevance Judgment
Analysis By Half Panels

	METHOD I		METHOD II	
	Item Nos. of Irrelevant Items	Percent of Relevant Items	Item Nos. of Irrelevant Items	Percent of Relevant Items
Half Panel 1	11,12,32, 84,115,134	96.0	11	99.3
Half Panel 2	11,12,32, 134	97.3	11	99.3
Full Panel	11,12,30, 32,84,134	96.0	11	99.3

DISTRIBUTION OF PANEL MEMBER JUDGMENTS

The item level data were analyzed, also, for each of the panel members who provided judgments, in a manner similar to that reported in Educational Testing Service (1987a).* In this Method 1 analysis, responses of "crucial" or "important" were considered job relevant responses. Responses of "questionable" or "not relevant" were considered job irrelevant. Each item was considered either as job relevant or job irrelevant for each panel member. The percentage of job relevant items was then calculated for each panel member. These steps were repeated for Method II. A distribution of the panel member percentages was obtained and ranked. Table 9 presents the maximum, minimum and quartile points of the distribution for both Methods I and II.

TABLE 9

Distribution of Percentage of Items
Judged Job Relevant by the Job Relevance Panel

	Maximum	75 %ile	Median	25 %ile	Minimum
Method I	98.7%	92.7%	86.0%	80.0%	66.4%
Method II	100.0%	99.3%	98.0%	96.6%	82.6%

*These procedures are optional in the sense that they are not required by the Guidelines for Proper Use of NTE Tests (Educational Testing Service, 1985a).

Review of Table 9 indicates that, using Method I, the highest ranked person identified 98.7% of the items in the NTE Early Childhood Examination test as job relevant. In contrast, the lowest ranked person judged 66.4% of the items as job relevant. The person at the median or fiftieth percentile judged 86.0% of the items as job relevant. The corresponding percentages for Method II are also presented in Table 9.

For both Methods I and II, the ranges of the percentages of items judged job relevant reflected the fact that individual panel members judged most items to be job relevant. For both methods, the distributions of percentages were towards the higher end of the percentage scale. In fact, the lowest percentage was the Method I minimum of 66.4%. The range for Method I (i.e., 32.3) was greater than the range for Method II (i.e., 17.4). The percentages derived from Method II were higher on the percentage scale than those from Method I. Distributions from both Methods I and II were negatively skewed. In other words, both distributions bunch towards the upper ends of their respective ranges, with relatively few scores towards the lower ends.

VII. DISCUSSION OF JOB RELEVANCE PANEL RESULTS

It appears that the NTE Early Childhood Education test may be characterized as "Very Relevant" to the job of beginning Teacher of Early Childhood Education in New York City schools. To determine the meaningfulness of the results of the Job Relevance Analysis, two considerations are noted.

First, previous studies (i.e., Educational Testing Service, 1985c, pages V.16-17) indicate that the relevance of the NTE tests to the job of beginning teacher may be described as "Very Relevant" if the percent of questions judged job relevant is greater than or equal to 90%. In the current study, both Methods I and II yielded relevant judgments greater than 90%. Consequently, the relevance of the NTE Specialty Area Test in Early Childhood Education to the job of beginning Teacher of Early Childhood Education in New York City public schools may be described as "Very Relevant."

Second, the NTE Early Childhood Education test has been judged as having a percent of job relevant items among the highest of all NTE Specialty Area Tests previously validated for New York State. Specifically, using Method I, the percentage of job relevant items for other NTE Specialty Area Tests has ranged from 79.2% to 96.7% as demonstrated in other validity studies (Educational Testing Service, 1985c, Table III.14, p. 36). As

indicated above, in the current study, Method I resulted in 96.0% of the items judged job relevant.

Using Method II, the percentage of job relevant items for other NTE Specialty Area Tests has ranged from 91.3% to 100.0% as demonstrated in other validity studies (Educational Testing Service, 1985c, Table III.19A, p. 49). As indicated earlier, in the current study, Method II resulted in 99.3% of the items judged job relevant.

Consistency of the percentage of items judged job relevant by the Job Relevance Panel was demonstrated by assessment of results based upon half panels. There is a substantial consistency of percentage of items judged job relevant by the half panels both with each other and with the full panel. Most of the specific items judged either job relevant or job irrelevant were consistently judged so by both of the half panels and by the full panel.

VIII. KNOWLEDGE ESTIMATION

The Knowledge Estimation Panel was established to provide data which serves as the basis for identifying a minimum qualifying score or passmark. This passmark will serve as the minimum qualifying score which estimates the minimum level of knowledge and skills required for competent performance by entry-level New York City Teachers of Early Childhood Education. The Knowledge Estimation Panel was comprised of 32 members including those 31 individuals who had served previously on the Job Relevance Panel.

KNOWLEDGE ESTIMATION PANEL PROCEDURES

When the Knowledge Estimation Panel met, the tasks to be performed were discussed. Subsequently, panel members were asked to read the "Overview of Tasks..." (see Appendix L) and "Instructions for Completing the Knowledge Estimation Form" (see Appendix M). In addition, panel members were presented the machine-scannable "Knowledge Estimation Form" (see Appendix N) and a Panelist's Comment Sheet (see Appendix J). Next, panel members were presented with a brief exercise in standard-setting (see Appendix O).

Knowledge Estimation Panel members estimated the proportion of minimally knowledgeable entry-level teachers who would know the answer to each test question. In making their estimates,

panel members were instructed to assume that the beginning teachers would not guess blindly if they did not know the answer. Furthermore, panel members were instructed to estimate the percentage who would know the answer without considering the possibility that some additional teachers might pick the answer purely as a lucky guess (see Appendix M for "Instructions for Completing the Knowledge Estimation Form"). To provide their estimates, Knowledge Estimation Panel members used an eight-category scale (see Appendix N), as follows: "2%", "10%", "25%", "40%", "60%", "80%", "98%", and "DNK" (Do Not Know).

KNOWLEDGE ESTIMATION METHODOLOGY

The abovementioned instructions were given to the panel because candidates are discouraged from guessing blindly when they are administered this NTE Specialty Area Test. It is noted that the NTE Bulletin of Information (Educational Testing Service, 1987c, page 21) states that: "Your score on a Specialty Area Test is based on the number of scored questions you answer correctly minus a fraction of the number you answer incorrectly. You should know that you will lose one-fourth of a point for each five-choice question you answer incorrectly." This "formula-scoring" encompasses a correction for guessing. Therefore, the panel judgment data collected and statistically analyzed in this study do not require a correction for guessing.

Data from the Knowledge Estimation Panel judgments were included only for those items previously characterized as job relevant, based upon judgments by the Job Relevance Panel. Calculations were based upon aggregates of both 144 and 149 items identified as job relevant by Method I and II, respectively, of the Job Relevance Panel statistical analyses. The study-derived minimum passing average or mean raw score was estimated by calculating a weighted mean of "item percentage" judgments (converted to proportions) from the 32 Knowledge Estimation Panel members to all job relevant items in this test. The weighted mean was required because 18 invalid multiple responses were eliminated from the total of 4,800 possible responses.

More specifically, to derive the mean raw score for Method I, a score was obtained for each panel member by summing that panel member's responses across the 144 job relevant items. This process was repeated for Method II, where 149 items were included. Where there were invalid (i.e., missing or multiple) responses, the sum was increased by a factor proportional to the number of valid responses (i.e., 144 divided by the number of valid responses) provided by that panel member. Subsequently, the scores of each of the 32 panel members were summed and divided by 32. The result is the estimated mean raw score expected of minimally knowledgeable beginning teachers by the panel of experts. Subsequently, this score is converted to a mean scaled score using an NTE score conversion table and

equation provided by the Educational Testing Service (1988a). This mean scaled score is the frame of reference for setting the passmark.

This mean scaled score is rounded to the nearest "10" to match the manner in which the Educational Testing Service reports individual scores. This is in accordance with Educational Testing Service (1985c, pages IV.3 and IV.4 and Table IV.1 on page 60) which states: "...state officials are advised to select as the standards for certification three-digit scores that end in zero." Consequently, the rounded mean scaled scores are three digit scores that end in zero.

Ratings were assessed for each of the 32 Knowledge Estimation Panel members in order to review the distribution of scores. The rating of each of the 32 panel members considered separately was obtained by summing the response category percentages (converted to proportions) selected by each panel member for all job relevant items for each method (i.e., 144 for Method I and 149 for Method II).

Knowledge Estimation Panel member judgments were reviewed, also, for each of the job relevant items. The mean difficulty of each item considered separately was obtained by summing the response category percentages (converted to proportions) selected by the 32 panel members for each item and dividing by the total

number of judgments (i.e., usually 32) for that particular item. Subsequently, the mean item difficulties were aggregated to obtain the mean raw score for each of the six Content Topics of the NTE Specialty Area Test in Early Childhood Education.

The consistency of panel judgments was assessed by demonstrating the degree of similarity between the judgments of the half panels. The manner in which the half panels was established was discussed earlier in the section entitled: "Establishing the Half Panels."

IX. RESULTS FROM THE KNOWLEDGE ESTIMATION PANEL

Results for both Method I and Method II were obtained, as both raw scores and converted or scaled scores, for the full panel. In addition, results for Knowledge Estimation half panels were statistically analyzed to estimate the consistency or reliability of results.

For the full Knowledge Estimation Panel, a minimum passing average or mean raw score and corresponding scaled score were obtained for both Methods I and II. As indicated in Table 10, for Method I (144 items) the mean raw score was 64.2 (with a standard deviation of 19.6). For Method II (149 items), the mean was 66.4 (with a standard deviation of 20.3).

Table 10 presents, also, the mean difficulty levels for the entire test and for each of the six NTE Early Childhood Education Test Content Topics for both Methods I and II. Overall, there appears to be no meaningful difference between Methods I and II for the full test. As indicated earlier in Table 7, two items were eliminated as job irrelevant from each of Content Topics I, II and III. No items were deleted as job irrelevant from Content Topics IV, V and VI. Consequently, Table 10 reveals that there are no differences between Methods I and II for Content Topics IV, V and VI.

TABLE 10

Knowledge Estimation Judgment Analysis
By Test Content Topic*

Content Topic	Method I			Method II		
	No. of Items	Mean	Standard Deviation	No. of Items	Mean	Standard Deviation
I	44	18.9	6.1	46	19.7	6.4
II	13	6.0	1.7	15	7.1	2.0
III	16	5.9	2.7	17	6.1	2.9
IV	43	20.4	6.1	43	20.4	6.1
V	19	8.8	2.7	19	8.8	2.7
VI	9	4.1	1.5	9	4.1	1.5
Test	144	64.2	19.6	149	66.4	20.3

*For a more detailed explanation of NTE Early Childhood Education test content topics, refer to Table 1.

CONVERTED SCORE RESULTS

To be consistent with the scale on which the NTE Specialty Area Test in Early Childhood Education is reported, the mean raw scores derived from Knowledge Estimation Panel judgments were converted using a table and equation provided for this purpose by the Educational Testing Service (1988a). The converted or scaled scores for the NTE Early Childhood Education test are obtained by multiplying the mean raw score by 3.9016 and adding a constant of 254.1795. Subsequently, the converted scores are rounded to the nearest multiple of ten. For this equation, the possible scaled score range for the Early Childhood Education test with all 150 items is 250 to 840. Applying these steps to the mean raw scores resulted in scaled scores of 504.5 (with a standard deviation of 76.4) for Method I and 513.1 (with a standard deviation of 79.2) for Method II. The corresponding rounded scaled scores are 500 and 510, for Methods I and II, respectively.

As indicated earlier, ratings were assessed for each of the 32 Knowledge Estimation Panel members in order to review the distribution of scores. Table 11 presents the raw and scaled score points corresponding to various positions in the distribution of Knowledge Estimation Panel judgments of the score a minimally qualified beginning teacher would receive (see, for distributions of three other NTE Specialty Area Tests, Educational Testing Service, 1987a, p. 27).

TABLE 11

Distribution of Knowledge Estimation Panel Judgments

	Mean of Panel Judgments	Distribution of Panel Judgments				
		Max.	75 %ile	Median	25 %ile	Min.
Method I						
Raw Score	64.2	111.4	77.5	61.6	51.0	28.8
Scaled Score	504.5	688.8	556.5	494.3	453.1	366.4
Method II						
Raw Score	66.4	114.8	80.0	64.1	52.7	29.8
Scaled Score	513.1	702.0	566.4	504.1	460.0	370.4

In Table 11, the minimum and maximum, respectively, represent the lowest and highest ratings made by some panel member to all job relevant items. Specifically, Table 11 indicates that the scaled scores ranged from 366.4 to 688.8 for Method I and 370.4 to 702.0 for Method II. The column headed "Median" presents the scores of the panel member at the fiftieth percentile. Review of Table 11 indicates that the median was 494.3 for Method I and 504.1 for Method II. In addition, the columns headed 75 %ile and 25 %ile, respectively, present the scores of the panel members who were at the 75th and 25th percentiles. It is noted that the distributic from both Methods I and II were positively skewed. In other words, both distributions bunch towards the lower ends of their respective ranges, with fewer scores at the higher ends.

Compared with results of other NTE Specialty Area Tests, the rounded mean scaled scores obtained in this study for the Early Childhood Education test appear relatively low. However, although scores on the various NTE Specialty Area Tests appear comparable, scores on the different tests should not be compared (Educational Testing Service, 1987c, page 22). For informational purposes, it is noted that the rounded mean scaled scores based upon the judgments of New York City educators were 500 for Method I and 510 for Method II. Other validity studies conducted by the New York State Education Department for 16 other NTE Specialty Area Tests have found the scaled scores to fall within the ranges

of 550 to 682 for Method I, and 566 to 714 for Method II (see Educational Testing Service, 1985c, Table V.9, page 74).

CONSISTENCY OF KNOWLEDGE ESTIMATION RESULTS

Summary statistics of the judgments for each of the two half panels for Methods I and II are presented in Table 12. For each method, comparison of the size of the difference in judgments between the half panels reflects the degree of consistency. The mean raw score difference between half panels is approximately .9 for Method I and 1.2 for Method II.

When compared with results from other studies for other NTE Specialty Area Tests (see Educational Testing Service, 1985c, pages III.30 and III.31), results from this study's Knowledge Estimation Panel appear to be more consistent. Specifically, for Method I the scaled score difference between the half panels was approximately 3.8. Other studies report corresponding differences for other NTE Specialty Area Tests as ranging from 4 to 72. Similarly, for Method II the difference was approximately 4.7 compared with a range of 6 to 72 reported elsewhere.

In addition to the analyses for consistency at the test level, the degree of consistency at the item level was analyzed in accordance with the analysis conducted in Educational Testing Service (1985c, page III.31). This involved finding the item means for all the job relevant items for each half panel.

TABLE 12

Knowledge Estimation Panel Judgments
By Half Panels

	METHOD I		METHOD II	
	Mean	Standard Deviation	Mean	Standard Deviation
Half Panel 1				
Raw Score	64.6	20.9	67.0	21.4
Scaled Score	506.4	81.4	515.5	83.7
Half Panel 2				
Raw Score	63.7	18.9	65.8	19.8
Scaled Score	502.6	73.8	510.8	77.2

The item mean is calculated by summing the half panel responses for an item and dividing the derived sum by the number of valid responses. Subsequently, the absolute values of the differences between the corresponding item means of the half panels were summed. This resulted in values 7.611 for Method I (144 items) and 7.923 for Method II (149 items). The values of this statistic have ranged from 6 to 16, for 16 other NTE Specialty Area Tests in studies conducted for the New York State Education Department (Educational Testing Service, 1985c, page III.32).

For further evidence of consistency, the degree of relative correspondence between the estimates of the half panels for individual test items, as represented by the correlation between them, was examined. This resulted in a correlation coefficient of .7952 for 144 items and .7766 for 149 items. The values of these correlation coefficients have ranged from .37 to .90 for 16 other NTE Specialty Area Tests in studies conducted for the New York State Education Department (Educational Testing Service, 1985c, page III.32).

To the extent that the half panels are equivalent, the correlation between their judgments can be interpreted as half-length reliability coefficients. The reliability of the percentage judgments for the full panel can be estimated by application of the Spearman Brown Formula (Educational Testing Service, 1985c, page III.32).

Comparability of half panel member teaching experience is demonstrated by data presented in Table 6. Applying the abovementioned correlation coefficients, the Spearman-Brown full test reliability estimates are .88592 for Method I and .87425 for Method II. These indices provide evidence of the reliability of Knowledge Estimation Panel judgments. It is noted, also, that Tables 8 and 12 depict the similarity of half panel member judgments. For informational purposes, it is noted that Spearman-Brown reliability estimates have ranged from .59 to .94 for 16 other NTE Specialty Area Tests in studies conducted for the New York State Education Department (see, Educational Testing Service, 1985c, page III.32).

X. SETTING THE PASSMARK

Based upon expert judgments provided in this study by the panels of New York City professional educators, and additional considerations specified below, the recommended passing score for the NTE Specialty Area Test in Early Childhood Education is 500. This score can be considered an estimate of the minimum entry-level performance expected of new Teachers of Early Childhood Education in New York City public schools.

The Method I rounded mean scaled score of 500, rather than the score of 510 derived from Method II, is recommended, in part, because the NTE Core Battery passmarks established by the New York State Education Department were based upon Method I analyses. It is anticipated that the actual decision on which specific passmark to select will be made by New York City Board of Education policy-makers.

Policy-makers may decide, however, to modify the recommended passmark based upon various considerations. For example, when establishing passmarks, the standard error of measurement(SEM) must be taken into consideration. Previous studies by the Educational Testing Service have reported results in tables which include the mean and additional scores which are one and two SEMs below and above the mean. Consequently, Table 13a presents these scores for Methods I and II, respectively.

Table 13b presents the corresponding rounded scaled scores. The "rounding" is the last step in establishing passmarks. Any of the scores in Table 13b might be potential passmarks, under certain circumstances.

In a statistical sense, compared with other scores presented in Table 13b, the mean scores are most reflective of the estimates obtained from Knowledge Estimation Panel members in this study. If passmarks which are one or two SEMs below the rounded mean scaled scores are instituted, however, there is less risk of incorrectly rejecting potentially qualified candidates than if the mean score had been instituted as the passmark. In effect, using a lower passmark results in a greater proportion of potentially eligible teachers being selected than would occur if higher passmarks were used. Consequently, a relatively large selection pool of potential teachers can be established. This may be necessary to meet anticipated personnel needs.

It is important to note, however, that by establishing lower passmarks, there is an increased risk of accepting potentially unqualified candidates. Therefore, the risks of certifying unqualified applicants compared to the risks of not certifying qualified applicants must be carefully considered (see, for discussion, Educational Testing Service, 1985c, chapter IV).

TABLE 13

Knowledge Estimation Panel Judgments and Standard Error of Measurement

Table 13a. Calculated Scaled Scores

	Below Mean			Above Mean	
	-2 SEM*	-1 SEM	Mean	+1 SEM	+2 SEM
Method I	450.5	477.5	504.5	531.5	558.5
Method II	459.1	486.1	513.1	540.1	567.1

Table 13b. Corresponding Rounded Scaled Scores

	Below Mean			Above Mean	
	-2 SEM	-1 SEM	Mean	+1 SEM	+2 SEM
Method I	450	480	500	530	560
Method II	460	490	510	540	570

*"SEM" means "Standard Error of Measurement." In this Table the "Standard Error of Measurement" is 27, based upon Educational Testing Service, 1988b.

In addition to taking into account the Standard Error of Measurement for the Early Childhood Education test, other factors must be considered when establishing passmarks. These factors may include, for example, the: need for adequate numbers of qualified new teachers, supply of new teachers, need to maintain an adequate pool of teachers from all segments of the New York City population, and existence of other factors as prerec sites for licensure.

To provide a frame of reference, nationwide NTE Early Childhood Education test performance data are presented in Table 14. More detailed test score distributions can be found in Educational Testing Service (1986, 1987d, 1988b). Review of Table 14 indicates that the rounded mean scaled scores of 500 and 510, respectively, correspond to percentiles of 16 and 17 for the 1985-88 nationwide test score distribution (Educational Testing Service, 1988b). In other words, the rounded mean scaled scores of 500 and 510, respectively, are exceeded by 84 and 83 percent of the candidates nationwide. Consequently, if either of these scores were adopted, without modification, a relatively large potential selection pool of candidates may be established.

TABLE 14

Nationwide Test Data For The NTE Specialty Area Test in Early Childhood Education*

	1983-86	1984-87	1985-88
Mean Scaled Score	586	591	599
Standard Deviation	102	100	98
Number of Examinees	11,643	12,379	13,152
Percentile Corresponding To score of 500	19	18	16
Percentile Corresponding To score of 510	21	20	17

*Examinees were Seniors or held a Bachelor's degree and were tested within three year intervals. For example, the column headed "1983-86" includes test scores obtained within the interval beginning October, 1983 and ending July, 1986. Sources of test data are: Educational Testing Service (1986; 1987d; 1988b).

In conclusion, federal "Uniform Guidelines" (Equal Employment Opportunity Commission, et al., 1978, Section 5.H., page 38298) indicate that: "where cutoff scores [i.e., passmarks] are used, they should normally be set so as to be reasonable and consistent with normal expectations of acceptable proficiency within the work force." This study has provided information which is necessary for establishing such cutoff scores for entry-level New York City Teachers of Early Childhood Education.

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APPENDICES

BOARD OF EDUCATION
OF THE CITY OF NEW YORK
110 LIVINGSTON STREET
BROOKLYN, N Y 11201

DOLORES M. FERNÁNDEZ, PH D
DEPUTY CHANCELLOR
FOR INSTRUCTION AND DEVELOPMENT

MEMORANDUM

May 19, 1989

TO: COMMUNITY DISTRICT SUPERINTENDENTS

FROM: Dolores M. Fernandez

RE: NTE Specialty Area Test in Early Childhood Education

I would appreciate your assistance in arranging for the participation of one of your staff in a one-day validity study of the NTE Specialty Area Test in Early Childhood Education.

Specifically, I would appreciate your assigning either your Early Childhood Education representative or some other designee who is particularly knowledgeable of our Early Childhood Education curriculum and instruction. We are including one such representative from each Community School District.

This individual will participate in a professional panel which will meet on Friday, June 16, 1989 at 9:00 a.m. in room 525 of 110 Livingston Street, Brooklyn, New York. The session will last approximately six hours including a lunch break.

This study is absolutely essential for New York City to comply with NTE Guidelines. Without this validity study, we have been apprised that we will not be able to use the NTE Early Childhood Education test to hire teachers. As you know, we have been using the NTE tests to hire teachers under the alternate route provided for by decentralization law 2590-j.

Would you please call the Project Director, Dr. Gary M. Kippel, at (718) 935-2303 to inform him of your nominee and to ask any questions which may arise. I have appended a sample letter which you might consider sending to the nominee. Please note that the nominee must contact the Project Director immediately.

Thank you, in advance, for considering this request.

DMF:cw
Enclosure

SAMPLE LETTER FROM COMMUNITY SUPERINTENDENT
TO PANEL MEMBER NOMINEE

Dear ___(Nominee)___,

I would like to invite you to represent our district in a very important study.

Specifically, you are being asked to serve on a one-day panel which is part of a New York City school system validity study of the NTE Specialty Area Test in Early Childhood Education. This panel will meet on ___(date)___, 1989 at ___(time)___ a.m. at ___(location)___. The session will last approximately six hours including a lunch break.

You are being invited to represent our district because you are recognized as an expert in Early Childhood Education. I hope your schedule will permit you to participate in this project. You will be asked to make judgments about the relevance of this test to the knowledge needed by a beginning teacher. In addition, you will be asked to estimate test performance required of minimally knowledgeable applicants for certification.

If you are able to participate, please call the Project Director, Dr. Gary M. Kippel, at (718) 935-2303. He will: answer any questions which may arise, send you the necessary forms and keep me apprised of your participation.

If you are unable to participate, please immediately call ___(name)___ in my office so that we may recommend an alternate panel member to represent our school district.

Thank you, in advance, for considering this request.

Sincerely,

_____
Community Superintendent

GMK:cw

Appendix B

BACKGROUND INFORMATION SHEET

1. **Name:** _____

   Position / Title: _____

2. **Social Security Number** _____-_____-_____

3. Addresses and Telephone Numbers

		Home
School/District	_____	
No., Street	_____	_____
City, State Zip	_____	_____
Telephone NO.( )	_____	( )_____

4. Professional Experience

Total Years of Teaching Experience _____

Employer(last 5 years)	Position (Department, Subject)	Dates
_____	_____	_____
_____	_____	_____
_____	_____	_____

5. Demographics

A) __Male __Female
B) Highest degree: __Bachelors __Masters __Doctorate

Major:_____

C) Age Range: __18-25, __26-32, __33-40, __41-48, __49-56, __57 and over
D) (OPTIONAL) ____White, ____Black, ____Hispanic, ____American Indi , __Alaskan Native, __Pacific Islander, __Asian, __Other

6. Certification/Licenses Held

	Subject/Discipline
A. __Board of Examiners Regular License	_____
__National Teacher Examination	_____
__Regular Temporary Per Diem Certificate (TPD)	_____
__TPD Via New York State Certification	_____

B. Form: ___Provisional, ___Permanent, _____OTHER (EXPLAIN)

Appendix C

PERMISSION TO BE LISTED AS A PARTICIPANT

IN THE VALIDITY STUDY OF THE

NTE SPECIALTY AREA TEST

IN EARLY CHILDHOOD EDUCATION

☐ I AGREE TO HAVE MY NAME LISTED AS A PANELIST IN THE FINAL STUDY REPORT.

☐ I DO NOT WISH TO HAVE MY NAME LISTED AS A PANELIST IN THE FINAL STUDY REPORT.

_____

(Signature)

_____

NAME (Please Print)

Appendix D

VALIDATION OF THE NTE SPECIALTY AREA TEST IN
EARLY CHILDHOOD EDUCATION

PROFESSIONAL PANEL MEETING

June 16, 1989
9 A.M.
110 Livingston Street, Room 525
Brooklyn, NY 11201

AGENDA

Registration and Coffee

Welcome and Introductions

Discuss Agenda and Objectives
Complete Non-Disclosure/Confidentiality Form
Complete Background Information Sheet
Complete "Permission To Be Listed..." Form

Orientation of Job Relevance Panel
Discuss and Read Test Content Description
Distribute NTE Test Booklets
Discuss and Read: Overview of Tasks To Be Prepared
by the Job Relevance Panel
Discuss and Read: Instructions for Completing the Job
Relevance Form
Discuss: Machine Scannable Job Relevance Form
Discuss: Panelist's Comment Sheet
Discuss: Test Comprehensiveness Comment Sheet
Answer Panel Member Questions

Job Relevance Panel Provides Judgments of Questions
Job Relevance Panel Completes Comment Sheets
Discussion

Break

Orientation of Knowledge Estimation Panel
Discussion of Standard-Setting Issues
Discuss and Read: Overview of Tasks to be Performed
by Members of the Knowledge Estimation Panel
Discuss and Read: Instruction for Completing the
Knowledge Estimation Form
Standard-Setting Exercise: Examinee Knowledge...
Discuss: Panelist's Comment Sheet
Answer Panel Member Questions

Knowledge Estimation Panel Provides Judgments
Knowledge Estimation Panel Completes Comment Sheet
Discussion

test name Early Childhood Education

form _____

NTE DISCLOSURE POLICY and RELEASE FORM

I understand the importance of protecting the security of the NTE Core Battery and Specialty Area tests. I accept responsibility for the proper safeguarding of these confidential tests and agree to the following conditions:

1. All copies of the tests will remain in full view of the ETS representative during the entire inspection period.

2. My copy of the test will be returned to the ETS agent each time I leave the meeting room, and at the end of the inspection period.

3. I will not take an NTE test for a period of one year following the workshop without requesting permission from ETS in writing at least six weeks prior to a scheduled test date.

4. I will not take notes, or otherwise record, copy, or disclose items or responses during or after the workshop.

5. If for any reason the ETS representative must leave the meeting room, all test copies will be gathered and returned to the ETS agent.

signed _____

name (please print) _____

title _____

institution/agency New York City Board of Education

address _____

_____

_____

TEST CONTENT DESCRIPTION

Introductory Statement
NTE Early Childhood Education Specifications

The Early Childhood Education Examination is based on a teaching approach that emphasizes the involvement of young children in a variety of child-centered activities. Play is used to encourage children's active involvement in learning. Activities should allow children opportunities for choices, decision-making, and discovery. The curriculum should reflect a concern for the development of the whole child, including the child's physical, cognitive, social, and language development.

Practices should be based on proven research and should involve the family, school, and community as resources. Practitioners in this field should be knowledgeable about such things as the effects of positive self-concept, multicultural influences, and racial/sexual discrimination on children's development. A multisensory approach to instruction is advocated with a particular emphasis on concrete experiences. Early childhood teachers should be able to understand curriculum and developmental theory and be able to apply that knowledge in the early childhood education setting.

Insofar as possible, questions for this examination are focused on testing the examinee's understanding and recognition of appropriate applications of early childhood education knowledge and theory. The majority of questions are based on children ages 3 through 8 although some questions may require knowledge of development at earlier and later ages to test the examinee's understanding of the full developmental range within which children in early childhood education settings can be found.

OVERVIEW OF TEST CONTENT

EARLY CHILDHOOD EDUCATION

The examination in Early Childhood Education is intended primarily for candidates who have completed their undergraduate preparation in the field. In keeping with trends in the field, the examination focuses on the candidates' understanding and recognition of appropriate applications of early childhood education knowledge and theory related to the development of the whole child. Major dimensions of the examination include the following areas:

	CONTENT TOPICS	APPROXIMATE % OF TEST
I.	The nature of growth, development, and learning of young children - including aspects of cognitive development (concepts, skills, language), physical development, and personal-social development	30%
II.	Factors that influence growth and development - including biological, familial, nutritional-hygienic, and cultural factors	10%
III.	The contributions of developmental and curriculum theory to early childhood education practices - including major streams of developmental theory (e.g., cognitive, behaviorist, social-learning) and major streams of curriculum theory (e.g., Bank Street, Bereiter-Englemann, Kamii, Montessori)	12%
IV.	The planning and implementation of curriculum - including the planning, selection, and implementation of appropriate curriculum experiences; management of the physical learning environment; behavior management issues and practices; and utilization of family-community resources in the learning program	29%
V.	The evaluation and reporting of student progress - including the selection and use of formal and informal assessment instruments or procedures, the maintenance of records of a child's progress, and effective communication with parents about a child's total developmental progress	13%
VI.	Professional and legal responsibilities of the early childhood teacher - including effective teacher interaction with other adults in the learning setting and cognizance of legal regulations that impact on teaching in the early childhood setting	6%

DETAILS OF TEST CONTENT

NTE EARLY CHILDHOOD EDUCATION
Ages 3 through 8

150 Questions

Approximate # of Items	
(46)	I. Understanding the Nature of the Growth, Development, and Learning of Young Children
(28)	A. Cognitive
(7)	1. Concept development [e.g., the physical, social, and biological world, relevant causal relationships, signing in all communication systems (mathematics, language, art, music, and drama)]
(7)	2. Skill development [e.g., manipulative, perceptual, symbol recognition and representation, logical reasoning, mathematics, reading]
(14)	3. Language development
(7)	a. Oral [e.g., listening comprehension, speaking (expressing ideas, storytelling, dramatizing, bilingual skills), developing vocabulary, understanding the systems of language]
(7)	b. Written [e.g., expressing ideas in writing, receiving ideas from print, becoming aware of different modes of writing, of inventive and conventional spelling, and of conventions of writing]
(9)	B. Physical [e.g., typical and atypical growth and development, principles of physical development, fine and gross motor development, symptoms of illness, health and safety]
(9)	C. Personal-social [e.g., self-concept, learning style, locus of control, dependency/independence, temperament, stages of social behavior, gender role, sex, physical attractiveness, effects of discrimination, stereotypes, aggression]

Approximate # of Items	
(15)	II. Recognizing Factors that Influence Growth and Development
(3)	A. Biological [e.g., the effect of genetic maturational factors]
(5)	B. Familial [e.g., the impact of family relationships, parental child-rearing attitudes, sibling relationship, birth order]
(3)	C. Nutritional/Hygenic [e.g., the effects of diet and eating behaviors, sleep patterns, exercise, immunization, environmental conditions]
(4)	D. Cultural [e.g., the effects of the dominant cultural values, the role of the primary transmitters of the culture (the family, schools, mass media), the effects of economic, political, and dominant minority cultural influences (regional, ethnic, and religious)]
(18)	III. Recognizing Appropriate and Inappropriate Applications of Developmental and Curriculum Theory
(9)	A. Understanding the contributions of major streams of developmental theory to early childhood education practices [e.g., psychoanalytic, cognitive, social-learning, behaviorist]
(9)	B. Understanding major streams of early childhood curriculum theory [e.g., Bank Street, Bereiter/Engelmann, Comenius, Froebel, Montessori, Kamii, Weikert]

Approximate # of Items	
(43)	IV. Planning and Implementing Curriculum
(24)	A. Selecting and implementing appropriate curriculum experiences
(4)	1. Whole language, language experience, and basal approaches
(4)	2. Mathematics manipulatives
(4)	3. Inquiry and discovery in science
(4)	4. Physical/motor experiences
(4)	5. Aesthetic and affective experiences
(4)	6. Social experiences
(5)	B. Organizing the physical learning environment [e.g., indoor and outdoor space, materials and equipment]
(5)	C. Utilizing outside resources in curriculum planning and implementation [e.g., family, community]
(9)	D. Managing the classroom
(5)	1. Helping young children learn to manage their own behavior
(4)	2. Recognizing how the teacher's behavior and attitudes affect the learning and development of young children
(19)	V. Evaluating and Reporting Progress
(7)	A. Selecting and using formal and informal assessment instruments for evaluating
(4)	1. developmental progress
(3)	2. effectiveness of curriculum experiences
(5)	B. Maintaining useful records of a child's development and progress in learning
(7)	C. Communicating effectively with parents about a child's total developmental progress
(9)	VI. Understanding Professional and Legal Responsibilities
(4)	A. Maintaining effective interactions with other adults who function within the learning setting
(5)	B. Being cognizant of legal responsibilities and regulations that impact on teaching

OV
TEJR

OVERVIEW OF TASKS TO BE PERFORMED BY MEMBERS OF THE JOB RELEVANCE PANEL

The study in which you have been asked to participate is being conducted to determine the validity of the NTE Specialty Area Test in Early Childhood Education. One purpose of the study is to evaluate the content of this NTE Specialty Area Tests in relation to the knowledge and academic skills which are relevant to professional practice in the public schools of New York City.

You have been selected to serve on the **Job Relevance Panel.** As a member of this panel, you will examine individual test questions and judge the extent to which the knowledge or academic skills needed to answer the question correctly are relevant to competent performance as a beginning teacher of Early Childhood Education in New York City.

School personnel from throughout the city are being assembled to make their judgments. The judgments, however, will be made individually and independently. Members of the panel will not confer as a group, nor will they be informed of the judgments made by other members. The judgments of all members of a panel will be combined statistically to arrive at a summary judgment for the panel about each test question. The summary results for the test questions also will be combined, and the final summary results will be published in a report describing the study and its findings.

Several items are intended to help you prepare for your tasks. If, in studying the materials, you find that you have questions about the tasks, be sure they are answered during the orientation session.

1. The Test Content Description identifies the major groups of topics covered by the test and indicates the relative emphasis given to each topic. This sheet is provided to help you become more familiar with the general content of the test you are to review: you will not be asked to make judgments about the topics and relative emphases. However, a Panelist's Comment Sheet is provided for your use.

2. The Job Relevance Form will be used by panelists to record their judgments about test questions. Please study the instructions for completing this form.

(continued)

OV
TEJR

You have been asked to participate in this study because you are familiar with the knowledge and academic skills needed for competent performance as a beginning teacher of Early Childhood Education in New York City. Your qualifications to participate in this study are an important part of the study methodology. In order that the final report is as informative as possible, we are asking for your permission to identify you in the report. A consent form is enclosed and will be collected. In the final report, your name will not be associated with your individual judgments.

INST
TEJR

INSTRUCTIONS FOR COMPLETING THE JOB RELEVANCE FORM

Please print your full name and darken the corresponding ovals. The other information is NOT necessary.

Your task is to make judgments about the extent to which the knowledge and academic skills tested by individual questions are relevant to competent performance as a beginning teacher in the schools of New York City.

As you read each test question and its underlined answer, judge the extent to which the knowledge or academic skill tested in the question is relevant to competent performance as a beginning teacher of Early Childhood Education in New York City schools. There are four response categories:

1. Crucial
2. Important
3. Questionable
4. Not Relevant

When you have made your judgment, locate the column on the **Job Relevance Form** with the appropriate heading and fill in the corresponding oval (C, I, Q, N) with a heavy, dark mark so that you cannot see the letter in the oval. (Please use the pencil given to you by the project staff.) Before you mark a space, please make sure that the number on the form matches the number of the question in the question booklet. If you wish to change a response, erase your first choice completely so that your final judgment will be the only one picked up by the scanning machine.

In making your judgments you are not to be concerned about how many questions you are assigning to each category; your responsibility is to apply your best judgment in evaluating each question individually.

After you have finished making your judgments about the questions on a page, and again when you have finished the entire question booklet, please look over the questions and your responses to be sure that you are satisfied with your judgments. Also, check that the number of the last question for which you have recorded a judgment on the form corresponds to the number of the last question in the question booklet. Because the same form is being used for all tests, there may be more questions listed on the form than there are in the question booklet with which you are working.

JOB RELEVANCE FORM

SIDE 1

PANEL MEMBER

Last Name | First Name | M.

I.D. NUMBER

ETS USE ONLY

EXAM NO.

INSTRUCTIONAL LEVEL

- ○ GRADES K – 6
- ○ GRADES 7 – 12
- ○ HIGHER ED.
- ○ OTHER

SEX

MALE ○

FEMALE ○

ETHNIC BACKGROUND

- ○ American Indian/Eskimo/Aleut
- ○ Black/Afro-American
- ○ Mexican American/Chicano
- ○ Oriental/Asian American
- ○ Puerto Rican
- ○ Other Hispanic or Latin American
- ○ White
- ○ Other

DATA COLLECTION DATE

MONTH	DAY	YEAR
JAN ○		
FEB ○		
MAR ○		
APR ○		
MAY ○		
JUN ○		
JUL ○		
AUG ○		
SEP ○		
OCT ○		
NOV ○		
DEC ○		

GRIDDING INSTRUCTIONS

- USE A NO. 2 PENCIL ONLY.
- MAKE EACH MARK DARK AND COMPLETELY FILL THE OVAL.
- DO NOT EXTEND MARKS OUTSIDE THE OVALS.
- USE A CLEAN SOFT ERASER. ERASE COMPLETELY ANY CHANGES YOU WISH TO MAKE.
- MAKE NO STRAY MARKS ON THIS SHEET.

EXAMPLE

WRONG ✓ ● ●

WRONG ● ✗ ●

WRONG ● ● ●

RIGHT ● ● ●

QUESTION: _____

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
1	○	○	○	○
2	○	○	○	○
3	○	○	○	○
4	○	○	○	○
5	○	○	○	○
6	○	○	○	○
7	○	○	○	○
8	○	○	○	○
9	○	○	○	○
10	○	○	○	○
11	○	○	○	○
12	○	○	○	○
13	○	○	○	○
14	○	○	○	○
15	○	○	○	○
16	○	○	○	○
17	○	○	○	○
18	○	○	○	○
19	○	○	○	○
20	○	○	○	○
21	○	○	○	○
22	○	○	○	○
23	○	○	○	○
24	○	○	○	○
25	○	○	○	○
26	○	○	○	○
27	○	○	○	○
28	○	○	○	○
29	○	○	○	○
30	○	○	○	○

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
31.	○	○	○	○
32.	○	○	○	○
33.	○	○	○	○
34.	○	○	○	○
35.	○	○	○	○
36.	○	○	○	○
37.	○	○	○	○
38.	○	○	○	○
39	○	○	○	○
40	○	○	○	○
41	○	○	○	○
42.	○	○	○	○
43.	○	○	○	○
44.	○	○	○	○
45.	○	○	○	○
46.	○	○	○	○
47	○	○	○	○
48	○	○	○	○
49	○	○	○	○
50	○	○	○	○
51.	○	○	○	○
52.	○	○	○	○
53	○	○	○	○
54.	○	○	○	○
55.	○	○	○	○
56	○	○	○	○
57	○	○	○	○
58	○	○	○	○
59	○	○	○	○
60	○	○	○	○

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
61.	○	○	○	○
62.	○	○	○	○
63.	○	○	○	○
64.	○	○	○	○
65.	○	○	○	○
66.	○	○	○	○
67.	○	○	○	○
68.	○	○	○	○
69	○	○	○	○
70	○	○	○	○
71	○	○	○	○
72.	○	○	○	○
73.	○	○	○	○
74.	○	○	○	○
75.	○	○	○	○
76	○	○	○	○
77	○	○	○	○
78	○	○	○	○
79	○	○	○	○
80	○	○	○	○
81.	○	○	○	○
82	○	○	○	○
83	○	○	○	○
84.	○	○	○	○
85	○	○	○	○
86	○	○	○	○
87.	○	○	○	○
88	○	○	○	○
89	○	○	○	○
90	○	○	○	○

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
91.	○	○	○	○
92.	○	○	○	○
93.	○	○	○	○
94	○	○	○	○
95.	○	○	○	○
96	○	○	○	○
97	○	○	○	○
98	○	○	○	○
99	○	○	○	○
100	○	○	○	○
101.	○	○	○	○
102.	○	○	○	○
103.	○	○	○	○
104	○	○	○	○
105.	○	○	○	○
106	○	○	○	○
107.	○	○	○	○
108	○	○	○	○
109	○	○	○	○
110	○	○	○	○
111	○	○	○	○
112	○	○	○	○
113	○	○	○	○
114	○	○	○	○
115	○	○	○	○
116	○	○	○	○
117	○	○	○	○
118	○	○	○	○
119	○	○	○	○
120	○	○	○	○

YOU MAY FIND MORE ANSWER SPACES THAN YOU NEED. IF SO, PLEASE LEAVE THEM BLANK.

SIDE 2

JOB RELEVANCE FORM

QUESTION: _____

USE A NO. 2 PENCIL ONLY. ERASE COMPLETELY ANY CHANGES YOU WISH TO MAKE.

YOU MAY FIND MORE ANSWER SPACES THAN YOU NEED. IF SO, PLEASE LEAVE THEM BLANK.

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
121.	A	B	C	D
122.	A	B	C	D
123.	A	B	C	D
124.	A	B	C	D
125.	A	B	C	D
126.	A	B	C	D
127.	A	B	C	D
128.	A	B	C	D
129.	A	B	C	D
130.	A	B	C	D
131.	A	B	C	D
132.	A	B	C	D
133.	A	B	C	D
134.	A	B	C	D
135.	A	B	C	D
136.	A	B	C	D
137.	A	B	C	D
138.	A	B	C	D
139.	A	B	C	D
140.	A	B	C	D
141.	A	B	C	D
142.	A	B	C	D
143.	A	B	C	D
144.	A	B	C	D
145.	A	B	C	D
146.	A	B	C	D
147.	A	B	C	D
148.	A	B	C	D
149.	A	B	C	D
150.	A	B	C	D
151.	A	B	C	D
152.	A	B	C	D
153.	A	B	C	D
154.	A	B	C	D
155.	A	B	C	D
156.	A	B	C	D
157.	A	B	C	D
158.	A	B	C	D
159.	A	B	C	D
160.	A	B	C	D

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
161.	A	B	C	D
162.	A	B	C	D
163.	A	B	C	D
164.	A	B	C	D
165.	A	B	C	D
166.	A	B	C	D
167.	A	B	C	D
168.	A	B	C	D
169.	A	B	C	D
170.	A	B	C	D
171.	A	B	C	D
172.	A	B	C	D
173.	A	B	C	D
174.	A	B	C	D
175.	A	B	C	D
176.	A	B	C	D
177.	A	B	C	D
178.	A	B	C	D
179.	A	B	C	D
180.	A	B	C	D
181.	A	B	C	D
182.	A	B	C	D
183.	A	B	C	D
184.	A	B	C	D
185.	A	B	C	D
186.	A	B	C	D
187.	A	B	C	D
188.	A	B	C	D
189.	A	B	C	D
190.	A	B	C	D
191.	A	B	C	D
192.	A	B	C	D
193.	A	B	C	D
194.	A	B	C	D
195.	A	B	C	D
196.	A	B	C	D
197.	A	B	C	D
198.	A	B	C	D
199.	A	B	C	D
200.	A	B	C	D

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
201.	A	B	C	D
202.	A	B	C	D
203.	A	B	C	D
204.	A	B	C	D
205.	A	B	C	D
206.	A	B	C	D
207.	A	B	C	D
208.	A	B	C	D
209.	A	B	C	D
210.	A	B	C	D
211.	A	B	C	D
212.	A	B	C	D
213.	A	B	C	D
214.	A	B	C	D
215.	A	B	C	D
216.	A	B	C	D
217.	A	B	C	D
218.	A	B	C	D
219.	A	B	C	D
220.	A	B	C	D
221.	A	B	C	D
222.	A	B	C	D
223.	A	B	C	D
224.	A	B	C	D
225.	A	B	C	D
226.	A	B	C	D
227.	A	B	C	D
228.	A	B	C	D
229.	A	B	C	D
230.	A	B	C	D
231.	A	B	C	D
232.	A	B	C	D
233.	A	B	C	D
234.	A	B	C	D
235.	A	B	C	D
236.	A	B	C	D
237.	A	B	C	D
238.	A	B	C	D
239.	A	B	C	D
240.	A	B	C	D

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
241.	A	B	C	D
242.	A	B	C	D
243.	A	B	C	D
244.	A	B	C	D
245.	A	B	C	D
246.	A	B	C	D
247.	A	B	C	D
248.	A	B	C	D
249.	A	B	C	D
250.	A	B	C	D
251.	A	B	C	D
252.	A	B	C	D
253.	A	B	C	D
254.	A	B	C	D
255.	A	B	C	D
256.	A	B	C	D
257.	A	B	C	D
258.	A	B	C	D
259.	A	B	C	D
260.	A	B	C	D
261.	A	B	C	D
262.	A	B	C	D
263.	A	B	C	D
264.	A	B	C	D
265.	A	B	C	D
266.	A	B	C	D
267.	A	B	C	D
268.	A	B	C	D
269.	A	B	C	D
270.	A	B	C	D
271.	A	B	C	D
272.	A	B	C	D
273.	A	B	C	D
274.	A	B	C	D
275.	A	B	C	D
276.	A	B	C	D
277.	A	B	C	D
278.	A	B	C	D
279.	A	B	C	D
280.	A	B	C	D

	CRUCIAL	IMPORTANT	QUESTIONABLE	NOT RELEVANT
281.	A	B	C	D
282.	A	B	C	D
283.	A	B	C	D
284.	A	B	C	D
285.	A	B	C	D
286.	A	B	C	D
287.	A	B	C	D
288.	A	B	C	D
289.	A	B	C	D
290.	A	B	C	D
291.	A	B	C	D
292.	A	B	C	D
293.	A	B	C	D
294.	A	B	C	D
295.	A	B	C	D
296.	A	B	C	D
297.	A	B	C	D
298.	A	B	C	D
299.	A	B	C	D
300.	A	B	C	D
301.	A	B	C	D
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303.	A	B	C	D
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305.	A	B	C	D
306.	A	B	C	D
307.	A	B	C	D
308.	A	B	C	D
309.	A	B	C	D
310.	A	B	C	D
311.	A	B	C	D
312.	A	B	C	D
313.	A	B	C	D
314.	A	B	C	D
315.	A	B	C	D
316.	A	B	C	D
317.	A	B	C	D
318.	A	B	C	D
319.	A	B	C	D
320.	A	B	C	D

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Appendix J

PANELIST'S COMMENT SHEET

NTE Specialty Area Test in Early Childhood Education

NAME_____ DATE_____

SCHOOL/DISTRICT/COLLEGE_____

PANEL_____

ITEM #	REMARKS

GENERAL:

TEST COMPREHENSIVENESS COMMENT SHEET

NTE Specialty Area Test In Early Childhood Education

Use the space below to list any major content topics in your institution's teacher preparation sequence that do not appear to be covered in the Test Content Description. Please note that the topics you write in should be of approximately the level of specificity as those listed. Do not list topics that may be subsumed under one of the categories listed. If you are uncertain whether to list a topic here, please wait until you have examined the packet of test questions.

Date

Panel Member Signature

OV
TEKE

OVERVIEW OF TASKS TO BE PERFORMED BY MEMBERS OF THE KNOWLEDGE ESTIMATION PANEL

The study in which you have been asked to participate is being conducted to determine the validity of the NTE Specialty Area Test in Early Childhood Education. One purpose of the study is to estimate the test performance of minimally knowledgeable candidates for certification as beginning teachers in the public schools of New York City.

You have been selected to serve on the **Knowledge Estimation Panel**. Your task, as a member of this panel, will be to make judgments about the difficulty of individual test questions for persons who have the minimum levels of knowledge and academic skills necessary for competent performance as a beginning teacher in New York City. Your judgments will be combined with judgments made by other panel members to derive an estimate of the probable test performance of this group of persons.

School and college personnel from throughout the City are being assembled to make their judgments. The judgments, however, will be made individually and independently. Members of the same panel will not confer as a group, nor will they be informed of the judgments made by other members. The judgments of all members of a panel will be combined statistically to arrive at a summary judgment for the panel about each test question. The summary results for the test questions also will be combined, and the final summary results will be published in a report describing the study and its findings.

Several items are intended to help you prepare for your tasks:

1. The Test Content Description identifies the major groups of topics covered by the test and indicates the relative emphasis given to each topic. It is provided to familiarize you with the general content of the test before you see the test questions themselves.

2. The Knowledge Estimation Form is to be used to record your judgments about the test questions. Please study the instructions for completing the form.

(continued)

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3. The exercise entitled "Examinee Knowledge About Illustrative NTE Test Questions" will be used at the panel meeting. This exercise will provide you with some experience in making judgments about the knowledge that characterizes defined groups of examinees for questions that differ in difficulty.

4. A Panelist's Comment Sheet for your use is also included.

You have been asked to participate in this study because you are familiar with the knowledge and academic skills needed for competent performance as a beginning teacher of Early Childhood Education in New York City. Your qualifications to participate in this study are an important part of the study methodology. In order that the final report is as informative as possible, we are asking for your permission to identify you in the report. A consent form is enclosed and will be collected. In the final report, your name will not be associated with your individual judgments.

INST
TEKE

INSTRUCTIONS FOR COMPLETING THE KNOWLEDGE ESTIMATION FORM

Please print your full name and darken the corresponding ovals. The other information is NOT necessary.

Your task is to make judgments about the difficulty of individual test questions for minimally knowledgeable teachers of Early Childhood Education. You will be asked to draw upon your own experience to construct a hypothetical group of persons, each of whom, in your judgment, has the minimum levels of knowledge and academic skills necessary for competent performance as a beginning teacher of Early Childhood Education in New York City.

In drawing upon your experience, you will probably identify at least three types of persons for whom different levels of achievement would represent minimum levels of knowledge and academic skill: (1) those who will pursue non-school related careers after graduation; (2) those who will pursue careers in elementary schools; and (3) those who will pursue graduate study full-time. This study is concerned only with persons who will pursue careers in Early Childhood Education. Your assessments with respect to minimally knowledgeable persons should be made with only group "(2)" in mind.

As you read each test question and its underlined answer, think of this group. Judge what percentage of the students in the group would be able to identify or arrive at the answer to the question. If there were 100 minimally knowledgeable students, how many of them would know the answer? In making your estimate, assume that the students would not guess blindly if they did not know the answer. You should estimate the percentage who would know the answer without considering the possibility that some additional students might pick the answer purely as a lucky guess.

When you have made your estimate, locate the column on the Knowledge Estimation form with the percentage heading that is closest to your estimate and fill in the corresponding space on the form with a heavy, dark mark so that you cannot see the letter in the oval. (Please use the pencil given to you by project staff.) Before you mark an oval, please make sure that the number on the form matches the number of the question in the question booklet. If you wish to change a response, erase your first choice completely so that your final judgment will be the only one picked up by the scanning machine.

(continued)

INST
TEKE

If you feel that your experience provides you with no basis for making an estimate about a question, you may fill in the corresponding oval labeled DNK (for "Do Not Know"). The DNK category is not to be used simply because you have difficulty in deciding upon a percentage estimate; you are to make a decision even if it is a difficult one. The DNK category is to be used only when you have no basis for making an estimate.

In making your judgments you are not to be concerned about how many questions you are assigning to each category; your responsibility is to apply your best judgment in evaluating each question individually.

After you have finished making your judgments about the questions on a page, and again when you have finished the entire question booklet, please look over the questions and your responses to be sure that you are satisfied with your judgments. Also, check that the number of the last question for which you have recorded a judgment on the form corresponds to the number of the last question in the question booklet. Because the same form is being used for all tests, there may be more questions listed on the form than there are in the question booklet with which you are working.

KNOWLEDGE ESTIMATION FORM

SIDE 1

PANEL MEMBER

Last Name | First Name | M.

GRIDDING INSTRUCTIONS

- USE A NO. 2 PENCIL ONLY.
- MAKE EACH MARK DARK AND COMPLETELY FILL THE OVAL.
- DO NOT EXTEND MARKS OUTSIDE THE OVALS.
- USE A CLEAN SOFT ERASER. ERASE COMPLETELY ANY CHANGES YOU WISH TO MAKE.
- MAKE NO STRAY MARKS ON THIS SHEET.

EXAMPLE

WRONG

WRONG

WRONG

RIGHT

I.D. NUMBER

ETS USE ONLY

EXAM NO.

INSTRUCTIONAL LEVEL

- GRADES K – 6
- GRADES 7 – 12
- HIGHER ED
- OTHER

SEX

- MALE
- FEMALE

DATA COLLECTION DATE

MONTH	DAY	YEAR
JAN		
FEB		
MAR		
APR		
MAY		
JUN		
JUL		
AUG		
SEP		
OCT		
NOV		
DEC		

ETHNIC BACKGROUND

- American Indian/Eskimo/Aleut
- Black/Afro American
- Mexican American/Chicano
- Oriental/Asian American
- Puerto Rican
- Other Hispanic or Latin American
- White
- Other

QUESTION: _____

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SIDE 2

QUESTION: _____

KNOWLEDGE ESTIMATION FORM

YOU MAY FIND MORE ANSWER SPACES THAN YOU NEED. IF SO, PLEASE LEAVE THEM BLANK.

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	2%	10%	25%	40%	60%	80%	90%	DNK
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EXAMINEE KNOWLEDGE ABOUT ILLUSTRATIVE NTE TEST QUESTIONS

An EXERCISE for Members of the Knowledge Estimation Panel

As a member of a **Knowledge Estimation Panel**, you will be asked to draw upon your experience to construct a hypothetical group of persons, each of whom, in your judgment has the minimum levels of knowledge and academic skills for competent performance as a beginning teacher in New York City. To help you prepare for your task, you will be asked to participate in an exercise in which you will estimate the performance of a national sample of NTE examinees on a series of test questions. The questions (to which you will be given the answers) are drawn from the Core Battery tests, which are taken by most NTE examinees regardless of the fields in which they plan to teach. For each test question, you will be asked to estimate the percentage of examinees in two categories who knew the answer.

The first category of examinees include those whose scores, while not the lowest, were below the average for the total group (between the 20th and 40th percentiles). The second category contains examinees whose scores were above average for the total group (between the 60th and 80th percentiles). After you have made your estimates for the two groups, you will be given the "actual" percentages of those who selected the correct answers.

You will also be asked to estimate the performance of the hypothetical group of persons you have constructed for this task-- those who have the minimum levels of knowledge and academic skills for competent performance as a beginning teacher in New York City.

You may record your estimates on the form provided for this purpose. When you have made your estimate, locate the column on the form with the percentage heading that is closest to your estimate and fill in the corresponding oval on the form. Since the questions represent a variety of subject matter fields, your teaching experience may give you little or no basis for estimating student knowledge about some of the test questions. If you feel you have no basis for making an estimate about a question, fill in the corresponding oval labeled DNK (for "Do Not Know").

The exercise is not intended to help you formulate your conception of the minimally knowledgeable student; rather, it is designed to give you some experience in making consistent judgments about the knowledge demonstrated by defined groups of examinees for questions that differ in difficulty.

1. THE NEW REGULATIONS REQUIRE THAT IN RAINY WEATHER STUDENT CROSSING-GUARDS WEAR RAINCOATS, HATS, AND BOOTS PONCHOS MAY BE SUBSTITUTED FOR RAINCOATS AND HATS. IN THE EVENT OF SNOW, THESE STUDENTS MUST WEAR GLOVES IN ADDITION TO THE OUTERWEAR REQUIRED ABOVE.

ON A SNOWY DAY, WHICH OF THE FOLLOWING COMBINATION OF OUTERWEAR WOULD MEET THE NEW REGULATIONS?

I. RAINCOATS, HATS, BOOTS, AND GLOVES

II. PONCHOS, GLOVES, AND BOOTS

III. PONCHOS, HATS, AND GLOVES

(A) I ONLY
(B) II ONLY
(C) III ONLY
(D) I AND II ONLY
(E) I, II, AND III

2. MANY STUDENTS WHO WERE OUTSTANDING IN THEIR HIGH SCHOOL STUDIES FIND IT MORE DIFFICULT TO ADJUST TO COLLEGE THAN DO THOSE WHO WERE ACADEMICALLY AVERAGE OR THOSE WHO DID POORLY IN HIGH SCHOOL; THE REASON IS THAT MANY OF THESE FORMERLY OUTSTANDING STUDENTS FIND IN COLLEGE NOT ONLY THAT THERE ARE ANY NUMBER OF STUDENTS WHO ARE AS OUTSTANDING ACADEMICALLY AS THEY ARE, BUT ALSO THAT THERE ARE A LARGE NUMBER WHO ARE EVEN MORE GIFTED.

WHICH OF THE FOLLOWING BEST SUMMARIZES THE MAIN IDEA OF THIS STATEMENT?

(A) SOME STUDENTS WHO WORKED HARD AND WHO WERE ACADEMICALLY OUTSTANDING IN HIGH SCHOOL DO NOT WORK AS HARD IN COLLEGE.

(B) SOME STUDENTS WHO SHOWED THEMSELVES TO BE OF AVERAGE OR LOW ABILITY IN THEIR HIGH SCHOOL WORK ARE HAPPIER IN COLLEGE THAN THEY WERE IN HIGH SCHOOL.

(C) MANY STUDENTS WHO DID WELL IN HIGH SCHOOL DO NOT SEEM TO LEARN AS MUCH ONCE THEY GET TO COLLEGE.

(D) MANY STUDENTS DO NOT DO AS WELL IN COLLEGE AS THEY DID IN HIGH SCHOOL BECAUSE THEY ARE UPSET BY THE LARGE NUMBERS OF STUDENTS IN THEIR CLASSES.

(E) MANY OUTSTANDING STUDENTS FIND THAT, BECAUSE OF THE HIGH LEVEL OF ACADEMIC COMPETITION, IT IS MORE DIFFICULT TO DO WELL IN COLLEGE THAN IT WAS IN HIGH SCHOOL.

3. SENTENCE 1: I RECENTLY TOOK MY DAUGHTER TO THE VIRGIN ISLANDS ON VACATION.

SENTENCE 2: THAT PART OF THE WORLD IS SURELY ONE OF THE MOST BEAUTIFUL.

SENTENCE 3: THE DAY WE ARRIVED WAS SUNNY, THE TEMPERATURE WAS 82 DEGREES.

SENTENCE 4: I DON'T THINK THAT MY DAUGHTER, WHO IS ONLY 5 YEARS OLD, HAS EVER BEEN MORE EXCITED.

SENTENCE 5: SHE SAID THAT SHE WANTED TO GO STRAIGHT TO THE OCEAN FOR A SWIM.

IF THE WRITER IS NOT INTENDING TO DECEIVE HIS OR HER AUDIENCE, WHICH OF THE FOLLOWING DESCRIPTIONS OF THESE SENTENCES IS ACCURATE?

(A) ONLY SENTENCES 1 AND 3 STATE FACTS.

(B) SENTENCES 1, 3, 4, AND 5 STATE FACTS ONLY.

(C) SENTENCES 2 AND 4 STATE OPINIONS AND NOT FACTS.

(D) SENTENCE 4 STATES BOTH FACT AND OPINION.

(E) SENTENCE 5 STATES BOTH FACT AND OPINION.

4 - FOR A WRITER, THE RAREST (A) PRIVILEGE IS NOT MERELY (B)

TO DESCRIBE (C) HER COUNTRY AND TIME BUT TO HELP

SHAPE IT. (D) NO ERROR (E)

5 - **THE AGENT, PASSING THROUGH THE CROWD WITHOUT BEING NOTICED BY HARDLY ANYONE.**

(A) THE AGENT, PASSING THROUGH THE CROWD WITHOUT BEING NOTICED BY HARDLY ANYONE.

(B) THE AGENT PASSED THROUGH THE CROWD WITHOUT HARDLY BEING NOTICED BY ANYONE.

(C) THE AGENT'S PASSING THROUGH THE CROWD WAS NOT HARDLY NOTICED BY ANYONE.

(D) NO ONE HARDLY NOTICED HOW THE AGENT PASSED THROUGH THE CROWD.

(E) THE AGENT WAS HARDLY NOTICED AS SHE PASSED THROUGH THE CROWD.

Estimates of Percentages of Examinees in Two Score Categories Who Knew the Answer to Illustrative Questions

Below Average (20th to 40th Percentile)	2%	10%	25%	40%	60%	80%	98%	DNK	Actual Data
1.	A	B	C	D	E	F	G	H	_____
2.	A	B	C	D	E	F	G	H	_____
3.	A	B	C	D	E	F	G	H	_____
4.	A	B	C	D	E	F	G	H	_____
5.	A	B	C	D	E	F	G	H	_____

Above Average (60th to 80th Percentile)	2%	10%	25%	40%	60%	80%	98%	DNK	Actual Data
1.	A	B	C	D	E	F	G	H	_____
2.	A	B	C	D	E	F	G	H	_____
3.	A	B	C	D	E	F	G	H	_____
4.	A	B	C	D	E	F	G	H	_____
5.	A	B	C	D	E	F	G	H	_____

Estimated Percentage of Minimally Knowledgeable Candidates	2%	10%	25%	40%	60%	80%	98%	DNK	Actual Data
1.	A	B	C	D	E	F	G	H	
2.	A	B	C	D	E	F	G	H	
3.	A	B	C	D	E	F	G	H	
4.	A	B	C	D	E	F	G	H	
5.	A	B	C	D	E	F	G	H	