



THE
COLORADO
EDUCATION
INITIATIVE

TEACHER PERCEPTION SURVEY TECHNICAL REPORT

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Section 1: Conceptualization and Early Development

1.1 Overview

Principals in Colorado are responsible for a wide range of tasks, including instructional leadership, managing day-to-day administrative tasks in their buildings, and evaluating teachers. However, there are currently very few sources for feedback that can be used formatively by principals for professional development. In order to provide principals with input from teachers in their buildings, the Colorado Teacher Perception Survey was created to allow teachers to give feedback on their principals using a standardized instrument based on Colorado's standards for principal quality.

In order to provide specific and actionable feedback for principals, we identified standards and elements in the principal quality rubric that would be best observed by teachers who work with their principals on a daily basis. By using a small number of districts in which to conduct interviews and pilot the Colorado Teacher Perception Survey, we were able to add and change items using an iterative process so that the survey would be both valid for providing formative feedback and able to reliably identify areas of strength and improvement for principals.

1.2 Eight Elements of the Teacher Perception Survey

The Colorado Teacher Perception Survey is a 94-question instrument that asks teachers about their experiences with their school principals. Teachers are asked to rate their agreement with each of the 94 statements by indicating that they strongly agree, agree, disagree, or strongly disagree.

The survey questions are organized into eight elements, which were empirically derived from analysis of data about the underlying relationship between the items that were collected over the course of the Colorado Teacher Perception Survey pilot. The eight elements are:

1. **Distributive Leadership:** How principals share leadership, decision-making power, and accountability with teachers and staff.

This element relates to using a collaborative approach in decision-making and policymaking that allows for the sharing of ideas, leadership roles, and a shared responsibility for implementation of policies. This also includes receiving input and ideas regarding professional development opportunities, indicating an open culture and respect for ideas of the principal, staff, and other key stakeholders.

2. **Professional Growth:** How principals connect teachers with opportunities for professional development including instructional guidance, feedback, and goal-setting.

This element relates to enacting policies and procedures that facilitate the professional growth of teachers in schools. This can take a variety of forms, including feedback on teaching, assistance in setting learning goals for students, connecting teachers with relevant professional development opportunities based on their professional needs. These policies and procedures must also be supported with sufficient tools, resources, and systems to allow teachers the opportunity to grow professionally.

3. **Student Learning & Expectations:** How principals create a culture of high expectations for all students.

This element relates to cultivating student learning in school, including monitoring student progress and setting high expectations for all students. Student learning relates both to how principals consider student perspectives in making instructional decisions for their schools, as well as supporting teachers as they set goals and expectations for their classes.

4. **Problem Solving, Conflict Management, and Disciplinary Leadership:** How principals handle issues within their schools, including problem solving, conflict management, and acknowledging mistakes.

This element relates to how teachers perceive their principals' problem solving and conflict management skills, with respect to both teachers (e.g., handling conflicts between staff, acknowledging mistakes, etc.) and students (e.g., solving problems between students quickly, etc.). This element also includes perception of a principal's disciplinary leadership when handling complicated issues for students or staff.

5. **Vision & Goal Setting:** How principals develop a vision and communicate that vision to students, teachers, parents, and community members.

This element relates to communication about school vision, instructional goals, and school policies (including changes to school policies). This element also relates to the use of data to inform policies, as well as plans for communication with all stakeholders, including teachers, students, parents, and the community.

6. **Instructional Leadership:** How principals use their instructional leadership expertise to assist with implementation of research-based practices, curriculum, and academic standards in classrooms.

This element relates to principal expertise in student achievement, student growth, curriculum, academic standards, research-based instructional practices, integrating technology into classroom practice, and incorporating appropriate assessment strategies into classroom practice.

7. **School Community:** How principals create a community where student and parent differences are valued.

This element relates to how principals include diverse groups of students and families in making decisions for students and their schools. Principals are expected to involve parents and community members in decisions about their schools. With respect to individual students, principals are expected to take into account the unique set of experiences and perspectives students bring to their own education.

8. **School Culture:** How principals create a welcoming and accessible school environment for students, teachers, and parents.

This element relates to creating a welcoming and safe school climate for all students, parents, and teachers. This includes creating a welcoming school environment, creating a supportive and encouraging environment for teachers to facilitate mutual respect, as well as having a generally positive presence within the school.

See Appendix A for the complete list of items, mapped to these eight elements, that are included in the final Teacher Perception Survey.

1.3 Relationship to the Principal Quality Standards

The Colorado Teacher Perception Survey's purpose is to elicit information from teachers about how their principal is meeting the standards detailed in the Rubric for Evaluating Colorado's Principals and Assistant Principals, developed by the Colorado Department of Education¹ (CDE). The rubric outlines standards that effective principals and assistant principals should demonstrate. Each of these standards is related to multiple elements that describe, in concrete terms, what principals and assistant principals should know and do.

The Rubric for Evaluating Colorado's Principals and Assistant Principals developed by the Colorado Department of Education (2012) includes six quality standards:

¹ Available online at <http://www.cde.state.co.us/sites/default/files/RubricforColoradoPrincipals.pdf>

1. Principals Demonstrate **Strategic Leadership** (includes school vision, mission, and strategic goals; school plan; leading change; and distributive leadership).
2. Principals Demonstrate **Instructional Leadership** (includes curriculum, instruction, learning, and assessment; instructional time; implementing high-quality instruction; high expectations for all students; and instructional practices).
3. Principals Demonstrate **School Culture and Equity Leadership** (includes intentional and collaborative school culture; commitment to the whole child; equity pedagogy; and efficacy, empowerment, and a culture of continuous improvement).
4. Principals Demonstrate **Human Resource Leadership** (includes professional development/learning communities; recruiting, hiring, placing, mentoring, and dismissal of staff; and teacher and staff evaluation).
5. Principals Demonstrate **Managerial Leadership** (includes school resources and budget, conflict management and resolution, systematic communication, school-wide expectations for students and staff, supporting policies and agreements, and ensuring an orderly and supportive environment).
6. Principals Demonstrate **External Development Leadership** (includes family and community involvement and outreach, professional leadership responsibilities, and advocacy for the school).

Because not every standard and element is observable by teachers, the Colorado Teacher Perception Survey only includes questions that relate to standards and elements that are observable. The six standards outlined above are related to our eight elements in the following ways:

Distributed Leadership is related to the Strategic Leadership standard, as it measures how principals are sharing responsibility and decisions with teachers and staff in their buildings. **Vision & Goal Setting** is also related to the Strategic Leadership standard, as it relates primarily to the building and implementation of a school mission. Both **Student Learning and Expectations**, as well as **Instructional Leadership**, relate to the Instructional Leadership standard, as they both relate to creating high expectations for students and teachers. The **Professional Growth** also related to Human Resource standard, as it deals specifically with professional development and learning communities, which are key components of teacher professional growth. The **School Community** element relates to the External Development standard, as family and community outreach is a key component of both.

The **Problem Solving, Conflict Management, and Disciplinary Leadership** element is related to Managerial Leadership standard, since these are all related to resource allocation and conflict resolution. Finally, both **School Culture** and **School Community** relate primarily to School Culture and Equity Leadership, since they rely on creating a collaborative school culture focused on equity pedagogy.

Principal Quality Standard →	Strategic Leadership	Instructional Leadership	Culture & Equity Leadership	Human Resource Leadership	Managerial Leadership	External Development Leadership
Teacher Perception Survey Element						
Distributive Leadership	●					
Professional Growth				●		
Student Learning and Expectations		●				
Problem Solving, Conflict Management					●	
Vision and Goal Setting	●					
Instructional Leadership		●				
School Culture			●			●
School Community			●			

Each of these standards mentioned above were divided into multiple indicators using the elements defined in the rubric (see Appendix B for a full crosswalk including the construct development and indicator definitions used to develop items).

Multiple items were developed for each standard and element and were subjected to a rigorous validation process before being included on the final Teacher Perception Survey. Items that were ultimately determined to be ambiguous, confusing, or redundant by either a panel of teachers or researchers were removed from the survey instrument.

Section 2: Pilot Design & Development

2.1 Initial Development and Piloting

Overview

The Teacher Perception Survey was developed using an iterative process allowing for feedback in multiple forms from a variety of stakeholders. Both teacher and researcher input drove the development and testing of the items on the survey over the course of the development process. After the initial development phase, each of the items was systematically presented to expert teachers who were asked to comment on the items and suggest changes. These changes were tested in two districts during the preliminary psychometric pilot; the results of this pilot were used to make further revisions to the items on the survey. Finally, the revised list of items was presented to a second expert panel of teachers prior to the full state-wide pilot for revisions and comments before ultimately being used in spring of 2013.

Construct Definition

CEI has undertaken a rigorous instrument development process, largely informed by Wilson's (2003, 2005) Construct Modeling approach to measurement. For each of the six standards and associated elements in the Rubric for Evaluating Colorado's Principals and Assistant Principals, several items were developed in order to determine which items would be easiest for teachers to respond to. Item developers were instructed to focus on areas where teacher perceptions would be useful in evaluating principals. Over 200 items were developed for the rubric, which was cut to 103 items by a team of researchers for further input from teachers.

Item Development and Review

After drafting a pilot instrument with 103 items, CEI identified a cooperating district in which to conduct a first round of cognitive interviews, or "think alouds". These interviews rely on a research-based method for understanding how participants understand survey items so that appropriate changes can be made before a larger pilot is conducted. Specifically, researchers use these interviews to better understand language that is confusing or ambiguous, identify items where survey takers may think differently about questions than the researcher intended, and hear from participants regarding any questions or themes that might be missing from the survey overall.

The first round of cognitive interviews was conducted in Durango, CO. Four teachers from three different schools across the district were chosen to represent the different teachers that would ultimately be taking the Teacher Perception Survey: teachers from elementary, middle, and high school campuses, content specialists, special education teachers, and school counselors. Interviews were recorded so that select teacher comments could be accurately transcribed at a later date.

2.2 Think-Aloud Results

Researchers identified multiple questions that were confusing to teachers taking the survey; the majority of these items were discarded if the teachers felt that another item on the survey would be easier for participants to understand (e.g., when testing two similar questions, “My principal communicates a clear and coherent vision for my school” and “My principal shares his/her mission for our school with teachers”, teachers found the questions indistinguishable. In this case, we removed the second item, since teachers found this item to be easier to answer. Similarly, “I have opportunities to provide input into our school plan” and “I am encouraged to collaborate in our school planning process” were all too similar to respondents and only the second question was carried forward to the final survey). In some cases, there were no comparable items already present in the survey. In these cases, researchers suggested alternative wordings of the item and added them to the survey instrument to be piloted with a greater number of teachers. From these interviews, researchers also identified additional themes that would be useful additions to future iterations of the survey.

2.3 Preliminary Psychometric Pilot Overview

Pilot Design

In order to further test the properties of the Colorado Teacher Perception Survey and its questions, The Colorado Education Initiative offered cooperating districts the opportunity to pilot the instrument. Teachers were told that their responses were confidential, that the survey was still in the development stage, and were given the opportunity to provide constructive feedback about the instrument itself.

Participants

The Colorado Education Initiative worked to identify two districts that would ultimately pilot this revised survey instrument. These districts volunteered to test the Teacher Perception Survey in their schools on a schedule determined jointly by CEI and each of the districts. The two districts provided complete lists of teacher email addresses for each of their schools (total N = 483). Each teacher was sent a personalized link so as to make individual responses identifiable to the research team; however, no responses from individual teachers were given to districts in order to protect teacher confidentiality. Teachers were given two weeks to complete the survey. In District A, the response rate was 70.3 percent; in District B, the response rate was 63.0 percent. The overall pilot response rate was 70 percent.

Administration

The survey was administered over a two-week window in the beginning of the spring 2013 semester. Teachers were sent an initial email inviting them to take the survey, a reminder email

at the beginning of week two for those who had not already completed the survey, and then a final email the day before the survey closed.

Results & Instrument Revision

Based on results from the first pilot, we determined that teachers did not perceive items relating to the use and support of technology in schools to be under the control of the principal. That is, analyses showed that items relating to resource allocation, especially for technology, did not perform as expected, based on results from elements and questions in the survey. Using follow-up interviews, we determined that teachers did not seem to believe that the support and purchasing of technological resources could be attributed to principal quality and were more likely to be based on district decisions. Thus, items relating directly to the support and purchasing of technological resources or resources in general (e.g., “I have sufficient access to instructional technology, including computers, printers, software, and internet access”, “Teachers have sufficient training and support to fully utilize available instructional technology”, and “Teachers in this school have reasonable class sizes”) were eliminated from the survey.

Survey questions relating to instructional time were also difficult for teachers to answer—follow-up interviews indicated that teachers generally felt that it was not possible to give them the instructional time they wanted for each of their students. Therefore, these survey items (e.g., “Our school day is structured for maximum time for student learning”) were also excluded. Subsequent analyses and cognitive interviews demonstrated that the underlying structure and reliability of the survey were not significantly altered after excluding these items.

Cronbach’s Alpha, a measure of reliability, was exceptionally high for the Colorado Teacher Perception Survey (Alpha = .988). Moreover, p-values for the individual items ranged from 0.191 to 0.824. Seven items had a p-value of less than 0.50 and were flagged for review using both statistical methods and teacher interviews. Overall, a total of nine items were flagged for review during the think-alouds in order to better understand how teachers were answering them.

Additional Cognitive Interviews

Based on the analyses of the data from the preliminary psychometric pilot, items on the Colorado Teacher Perception Survey were flagged for further review. Using the cognitive interview process outlined above, we identified a second group of five teachers from a different district to conduct interviews. These teachers were asked to describe their thinking about the revised list of survey questions. Based on their feedback, only minor grammatical corrections and word choices were changed before the state-wide pilot administration.

2.4 Final Pilot Overview

Pilot Design

After revisions, the Teacher Perception Survey was given in schools across 14 districts in the state of Colorado using identical procedures to that of the preliminary psychometric pilot. School districts who wanted to use the Colorado Teacher Perception Survey in their districts were given the opportunity to choose their own administration window, but were given basic guidelines from The Colorado Education Initiative.

Participants

Teachers were emailed a personalized link and given three weeks to complete the survey before it closed. Within these districts, 78 principals received responses from 1,425 teachers about their leadership in their respective schools (see Table 1 for pilot district demographics). Districts and principals agreed that the pilot survey results were only to be used for formative purposes and to give feedback, rather than for any consequential evaluative purposes. Moreover, teachers were informed that individual responses would be kept confidential and not given to any district personnel.

Table 1. *District Demographics*

District	Student N	Teacher N	% FRL	% Minority	% ELL	% H.S. Grad.	Performance Category	Setting
Centennial	248	21	82%	92%	13%	53%	Improvement	Rural
Eagle County	6,181	477	44%	54%	37%	81%	Accredited	Mountain
Thompson	15,310	962	32%	23%	3%	80%	Accredited	Suburban
Archuleta	1,492	88	51%	28%	8%	80%	Accredited	Mountain/ Rural
Bayfield	1,405	92	28%	19%	2%	89%	Accredited	Mountain/ Rural
Dolores RE-2	309	22	51%	15%	0%	91%	Priority Improvement	Mountain/ Rural
Dolores RE-4	689	53	36%	14%	2%	90%	Accredited	Mountain/ Rural
Ignacio	751	67	51%	63%	5%	56%	Priority Improvement	Mountain/ Rural
Mancos	369	32	58%	26%	8%	79%	Accredited	Mountain/ Rural
Montezuma-Cortez	2,929	188	62%	46%	10%	56%	Priority Improvement	Mountain/ Rural
Silverton	65	8	72%	32%	26%	100%	Accredited	Mountain/ Rural
Salida	1070	85	41%	20%	3%	94%	Accredited	Rural
Estes Park	1159	89	33%	28%	14%	88%	Accredited	Rural
Boulder	29526	1864	18%	29%	10%	85%	Accredited	Suburban

Section 3: Survey Administration & Logistics

3.1 Operational Procedures

We recommend using the survey as it is currently written, as we are unable to compare results from surveys that have been altered from the questions presented herein.

Recommended Administration Window

The Colorado Teacher Perception Survey will give principals feedback that they can use to inform their practice. To maximize this potential, we recommend the following:

- Districts should administer the survey during a window that gives principals time to reflect on their results and apply these insights during the current school year. Ideally we believe this window should fall sometime between November and March.
- To ensure fairness and avoid potential conflicts of interest, it is recommended that teachers complete the survey before they receive their final evaluation results from their principals.
- Best practices suggest that the survey not be administered at the same time as state-wide standardized tests (e.g., TCAP) or other surveys (including school, district, and state-wide surveys like TELL).
- Teachers should be given a reasonable timeframe to answer the questions, which can ideally range between two and three weeks.
- Teachers should receive at least two reminder emails for those who have not yet responded to the survey to ensure maximum participation across schools and the voices of all teachers are heard.

Confidentiality of Teacher Records

Teacher confidentiality is of the utmost importance, particularly for this survey that asks teachers to provide open and honest feedback about their principals. To ensure that teacher confidentiality is maintained, teacher responses must always be presented in the aggregate and without any individually-identifying information. To this end, the principal should not be responsible for administering the survey within his or her school. This confidentiality can bolster teacher buy-in for instrument-based approaches to principal evaluation.

Section 4: Item Analyses

4.1 Final Pilot Results

The final pilot was administered to 14 school districts, yielding 1,425 teacher responses about 78 principals. After the survey administration windows closed in all participating districts, the survey data were analyzed to confirm data quality. As all teacher-level and principal-level data were consistent with district data and there were no errors pertaining to data collection; as such, no data were discarded after these analyses.

Classical Item Statistics

Classical test theory allows for computing the reliability of a given set of items and the correlations between responses on items.

The item-total correlation was also determined for each item in order to see if any of the item responses had a low correlation with the overall “score” that principals might be assigned based on the results of the survey. These correlations ranged from .41 to .84, with the majority of correlations being above .75. Two items² had p-values of less than 0.50 and were flagged for further review, as their low correlation with the total ‘score’ given to a principal may point to an item not functioning consistently with other items on the survey. See the table below for a list of all item-total correlations.

Table 2: *Item-Total Correlations*

Q2. My principal: Communicates a clear and coherent vision for our school.	0.79**
Q3. My principal: Communicates instructional goals for my school to teachers.	0.79**
Q4. My principal: Has a system in place to develop and revise our school's vision.	0.75**
Q5. My principal: Is receptive to input from teachers in forming goals for our school.	0.78**
Q6. My principal: Has a plan in place that supports improved academic achievement and outcomes for all students.	0.80**
Q7. My principal: Has a plan in place to communicate his/her vision to parents and the community.	0.79**
Q8. My principal: Monitors, evaluates, and revises school goals as necessary.	0.82**
Q9. My principal: Uses data to suggest changes in our school's goals.	0.75**
Q10. Our school's goals are aligned with my own instructional goals.	0.71**
Q11. I am encouraged to collaborate in developing a vision for our school.	0.74**
Q12. I understand my principal's vision for our school.	0.83**
Q14. Teachers and staff in my school: Have leadership roles in implementing our school's vision.	0.73**
Q15. Teachers and staff in my school: Feel a sense of responsibility for implementing our school's vision.	0.72**
Q16. Teachers and staff in my school: Are encouraged to take action when they see a problem.	0.79**

² “My principal’s most recent evaluation of my performance was conducted fairly”, and “Students in my school accept and respect students who are different than they are”.

Q17. My principal: Shares decision-making power with teachers.	0.78**
Q18. My principal: Draws on the strengths of teachers in my school.	0.84**
Q19. My principal: Asks teachers for input when he/she makes policies for our school.	0.79**
Q20. My principal: Provides opportunities for teachers to take on leadership roles within my school.	0.79**
Q21. My principal: Involves parents in decision-making conversations about school policies.	0.73**
Q22. My principal: Gives me credit when he/she uses my ideas.	0.80**
Q24. When making school policies and decisions, my principal: Incorporates input from a variety of stakeholders.	0.80**
Q25. When making school policies and decisions, my principal: Incorporates my feedback into his/her decisions.	0.80**
Q26. When making school policies and decisions, my principal: Shows consideration for the diversity of our student body.	0.79**
Q27. When making school policies and decisions, my principal: Shows consideration for the whole child.	0.80**
Q28. After making school policies and decisions, my principal: Clearly communicates changes in school policies to me.	0.81**
Q29. After making school policies and decisions, my principal: Makes him/herself available to clarify changes to school policies.	0.82**
Q30. After making school policies and decisions, my principal: Puts systems into place to keep all parents informed.	0.79**
Q31. My principal acknowledges when school policies are not working.	0.77**
Q32. My principal communicates both successes and failures in school policies.	0.79**
Q33. I understand how my input is used to guide instructional decisions in my school.	0.81**
Q34. My principal takes the challenges and experiences of individual students into account when implementing school policies.	0.81**
Q36. My principal: Recognizes diversity as an asset to the school.	0.77**
Q37. My principal: Is focused on including all families in school activities.	0.75**
Q38. My principal: Finds ways to involve parents and the community in the students' learning.	0.77**
Q39. My principal: Ensures that all students are treated with dignity and respect.	0.78**
Q40. My principal: Addresses and resolves problems quickly.	0.81**
Q41. My principal: Works to prevent potential problems.	0.81**
Q42. Students in my school accept and respect students who are different than they are.	0.50**
Q43. My principal: Creates a welcoming environment for all parents.	0.76**
Q44. My principal: Reaches out to diverse communities of parents.	0.78**
Q45. My principal: Effectively manages conflicts between students.	0.79**
Q46. My principal: Handles individual disciplinary infractions fairly.	0.78**
Q47. My principal: Maintains clear, two-way communication with the community.	0.82**
Q50. My principal demonstrates expertise in: Student achievement and student growth.	0.78**
Q51. My principal demonstrates expertise in: Curriculum.	0.76**
Q52. My principal demonstrates expertise in: Academic standards (including Colorado Academic Standards).	0.73**
Q53. My principal demonstrates expertise in: Research-based instructional practices.	0.76**
Q54. My principal demonstrates expertise in: How to integrate technology into my instruction.	0.71**
Q55. My principal demonstrates expertise in: Incorporating appropriate assessment strategies into my practice.	0.79**
Q56. My principal helps me understand how to adapt my instruction to meet the needs of all students.	0.80**
Q57. My principal helps me set my own goals for student growth.	0.79**
Q58. My principal holds teachers accountable for improving their instructional practice.	0.71**

Q59. My principal holds students accountable for their individual learning.	0.77**
Q60. My principal gives me the tools I need to meet rigorous goals for student achievement.	0.81**
Q61. My principal is interested in innovation and new ideas.	0.74**
Q62. My principal listens to teachers' feedback about scheduling decisions.	0.79**
Q63. Teachers are protected from duties that interfere with their roles as educators.	0.66**
Q65. My principal: Adds to my professional development by encouraging meaningful engagement in professional learning communities.	0.75**
Q66. My principal: Provides us with real opportunities to be members of professional learning communities.	0.73**
Q67. My principal: Encourages instructional collaboration among teachers.	0.72**
Q68. My principal: Connects me with professional development opportunities to help me improve my practice.	0.74**
Q69. My principal: Is receptive to professional development opportunities I seek out on my own.	0.68**
Q71. My principal: Has a good understanding of my instructional strengths.	0.75**
Q72. My principal: Provides coaching and feedback to help me improve my instruction.	0.80**
Q73. My principal: Helps me grow as a teaching professional.	0.85**
Q74. My principal: Helps me set rigorous but achievable goals for each of my students.	0.81**
Q75. My principal: Helps me understand how to change my teaching practice to increase student achievement.	0.82**
Q76. I understand how to use the instructional feedback that my principal gives me.	0.77**
Q77. I understand how my principal wants me to change my professional practice to increase student achievement.	0.79**
Q78. My principal visits my classroom during instructional time throughout the school year.	0.66**
Q79. My principal's most recent evaluation of my performance was conducted fairly.	0.41**
Q81. My principal: Has a positive presence within the school.	0.79**
Q82. My principal: Helps create an inclusive and welcoming school climate.	0.81**
Q83. My principal: Is easily accessible to students and staff.	0.74**
Q84. My principal: Considers the input of all teachers equally.	.82**
Q85. My principal: Considers the well-being of all students.	0.78**
Q86. My principal: Sets the expectation that all students can learn.	0.77**
Q87. My principal: Sets the expectation that all students can graduate from high school.	0.74**
Q88. My principal: Sets the expectation that all students can be college/career ready.	0.74**
Q89. My principal handles conflicts between teachers in a professional manner.	0.79**
Q90. My principal's behavior toward staff is supportive and encouraging.	0.82**
Q91. My principal's actions demonstrate interest in student progress.	0.79**
Q92. My principal implements school behavior policies fairly.	0.80**
Q93. My principal demonstrates good follow-through.	0.83**
Q94. There is an atmosphere of trust and mutual respect between teachers in my school and the principal.	0.83**
Q95. I feel comfortable raising issues and concerns that are important to me with my principal.	0.81**

Principal-Level Analyses

Responses to the Colorado Teacher Perception Survey vary systematically across principals, suggesting that the instrument is able to differentiate reliably between principals. Results can be presented in a variety of ways; here, we will present histograms of responses on each multiple choice item in order to give a sense of how teachers responded.

We also present average “response scores” for each item in order to provide a point of reference for comparing individual principal results. Teacher responses are coded into numbers, where “Strongly Disagree” = 1, “Disagree” = 2, “Agree” = 3, and “Strongly Agree” = 4. Thus, average items scores range from one to four, with four being the highest.³ Average item scores for principals for the Colorado Teacher Perception Survey range from 2.84 to 3.66. Items with a higher average score overall are indicative of higher scores overall for principals on a particular question. Items with a lower average score are indicative of areas where principals in general may need additional guidance.

Table 3: Average Principal Scores by Item

	Mean Score	Std. Deviation
Q2. My principal: Communicates a clear and coherent vision for our school.	3.14	.77
Q3. My principal: Communicates instructional goals for my school to teachers.	3.16	.72
Q4. My principal: Has a system in place to develop and revise our school's vision.	3.05	.75
Q5. My principal: Is receptive to input from teachers in forming goals for our school.	3.23	.80
Q6. My principal: Has a plan in place that supports improved academic achievement and outcomes for all students.	3.13	.73
Q7. My principal: Has a plan in place to communicate his/her vision to parents and the community.	3.02	.76
Q8. My principal: Monitors, evaluates, and revises school goals as necessary.	3.12	.74
Q9. My principal: Uses data to suggest changes in our school's goals.	3.28	.71
Q10. Our school's goals are aligned with my own instructional goals.	3.14	.69
Q11. I am encouraged to collaborate in developing a vision for our school.	3.15	.77
Q12. I understand my principal's vision for our school.	3.04	.82
Q14. Teachers and staff in my school: Have leadership roles in implementing our school's vision.	3.15	.72
Q15. Teachers and staff in my school: Feel a sense of responsibility for implementing our school's vision.	3.12	.74
Q16. Teachers and staff in my school: Are encouraged to take action when they see a problem.	3.09	.81
Q17. My principal: Shares decision-making power with teachers.	3.03	.80
Q18. My principal: Draws on the strengths of teachers in my school.	3.10	.83
Q19. My principal: Asks teachers for input when he/she makes policies for our school.	3.14	.79
Q20. My principal: Provides opportunities for teachers to take on leadership roles within my school.	3.23	.72

³ Consider this useful heuristic for interpreting the mean scores of items on Colorado's Teacher Perception Survey: A mean score of 2.5 can be thought of, generally, the point at which students are more likely to respond in the top two categories (“Agree” or “Strongly Agree”) than the bottom two categories (“Disagree” or “Strongly Disagree”).

Q21. My principal: Involves parents in decision-making conversations about school policies.	2.99	.72
Q22. My principal: Gives me credit when he/she uses my ideas.	3.13	.78
Q24. When making school policies and decisions, my principal: Incorporates input from a variety of stakeholders.	3.03	.73
Q25. When making school policies and decisions, my principal: Incorporates my feedback into his/her decisions.	2.95	.78
Q26. When making school policies and decisions, my principal: Shows consideration for the diversity of our student body.	3.25	.71
Q27. When making school policies and decisions, my principal: Shows consideration for the whole child.	3.27	.73
Q28. After making school policies and decisions, my principal: Clearly communicates changes in school policies to me.	2.98	.80
Q29. After making school policies and decisions, my principal: Makes him/herself available to clarify changes to school policies.	3.12	.76
Q30. After making school policies and decisions, my principal: Puts systems into place to keep all parents informed.	3.07	.72
Q31. My principal acknowledges when school policies are not working.	2.96	.73
Q32. My principal communicates both successes and failures in school policies.	3.01	.75
Q33. I understand how my input is used to guide instructional decisions in my school.	2.86	.79
Q34. My principal takes the challenges and experiences of individual students into account when implementing school policies.	3.08	.71
Q36. My principal: Recognizes diversity as an asset to the school.	3.29	.67
Q37. My principal: Is focused on including all families in school activities.	3.22	.71
Q38. My principal: Finds ways to involve parents and the community in the students' learning.	3.04	.72
Q39. My principal: Ensures that all students are treated with dignity and respect.	3.35	.67
Q40. My principal: Addresses and resolves problems quickly.	3.01	.89
Q41. My principal: Works to prevent potential problems.	3.07	.85
Q42. Students in my school accept and respect students who are different than they are.	2.98	.68
Q43. My principal: Creates a welcoming environment for all parents.	3.27	.63
Q44. My principal: Reaches out to diverse communities of parents.	3.10	.72
Q45. My principal: Effectively manages conflicts between students.	3.08	.79
Q46. My principal: Handles individual disciplinary infractions fairly.	3.06	.81
Q47. My principal: Maintains clear, two-way communication with the community.	3.10	.74
Q50. My principal demonstrates expertise in: Student achievement and student growth.	3.24	.70
Q51. My principal demonstrates expertise in: Curriculum.	3.07	.76
Q52. My principal demonstrates expertise in: Academic standards (including Colorado Academic Standards).	3.21	.69
Q53. My principal demonstrates expertise in: Research-based instructional practices.	3.20	.71
Q54. My principal demonstrates expertise in: How to integrate technology into my instruction.	2.87	.75
Q55. My principal demonstrates expertise in: Incorporating appropriate assessment strategies into my practice.	2.99	.74
Q56. My principal helps me understand how to adapt my instruction to meet the needs of all students.	2.90	.77

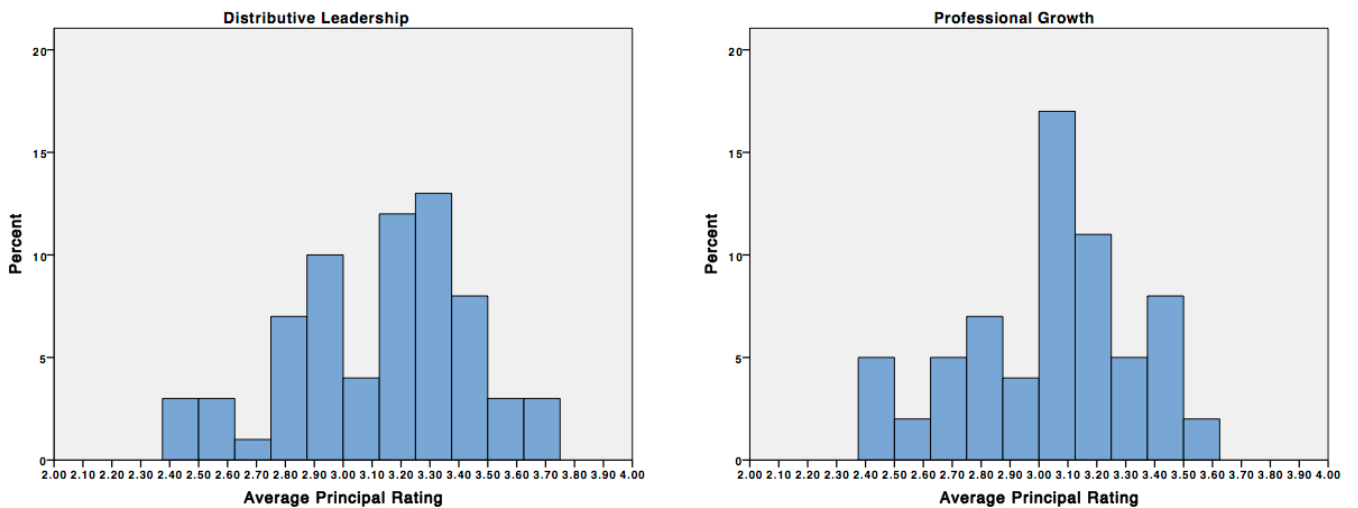
Q57. My principal helps me set my own goals for student growth.	2.98	.77
Q58. My principal holds teachers accountable for improving their instructional practice.	3.06	.77
Q59. My principal holds students accountable for their individual learning.	2.96	.77
Q60. My principal gives me the tools I need to meet rigorous goals for student achievement.	2.94	.76
Q61. My principal is interested in innovation and new ideas.	3.27	.72
Q62. My principal listens to teachers' feedback about scheduling decisions.	3.09	.83
Q63. Teachers are protected from duties that interfere with their roles as educators.	2.84	.85
Q65. My principal: Adds to my professional development by encouraging meaningful engagement in professional learning communities.	3.08	.75
Q66. My principal: Provides us with real opportunities to be members of professional learning communities.	3.07	.76
Q67. My principal: Encourages instructional collaboration among teachers.	3.25	.70
Q68. My principal: Connects me with professional development opportunities to help me improve my practice.	2.87	.80
Q69. My principal: Is receptive to professional development opportunities I seek out on my own.	3.23	.68
Q71. My principal: Has a good understanding of my instructional strengths.	3.08	.79
Q72. My principal: Provides coaching and feedback to help me improve my instruction.	2.95	.82
Q73. My principal: Helps me grow as a teaching professional.	2.99	.82
Q74. My principal: Helps me set rigorous but achievable goals for each of my students.	2.85	.81
Q75. My principal: Helps me understand how to change my teaching practice to increase student achievement.	2.88	.82
Q76. I understand how to use the instructional feedback that my principal gives me.	3.08	.71
Q77. I understand how my principal wants me to change my professional practice to increase student achievement.	2.97	.76
Q78. My principal visits my classroom during instructional time throughout the school year.	2.98	.85
Q79. My principal's most recent evaluation of my performance was conducted fairly.	3.66	.88
Q81. My principal: Has a positive presence within the school.	3.30	.77
Q82. My principal: Helps create an inclusive and welcoming school climate.	3.29	.75
Q83. My principal: Is easily accessible to students and staff.	3.21	.81
Q84. My principal: Considers the input of all teachers equally.	2.91	.91
Q85. My principal: Considers the well-being of all students.	3.37	.67
Q86. My principal: Sets the expectation that all students can learn.	3.43	.62
Q87. My principal: Sets the expectation that all students can graduate from high school.	3.37	.62
Q88. My principal: Sets the expectation that all students can be college/career ready.	3.30	.65
Q89. My principal handles conflicts between teachers in a professional manner.	3.05	.77
Q90. My principal's behavior toward staff is supportive and encouraging.	3.19	.80
Q91. My principal's actions demonstrate interest in student progress.	3.35	.63
Q92. My principal implements school behavior policies fairly.	3.11	.80

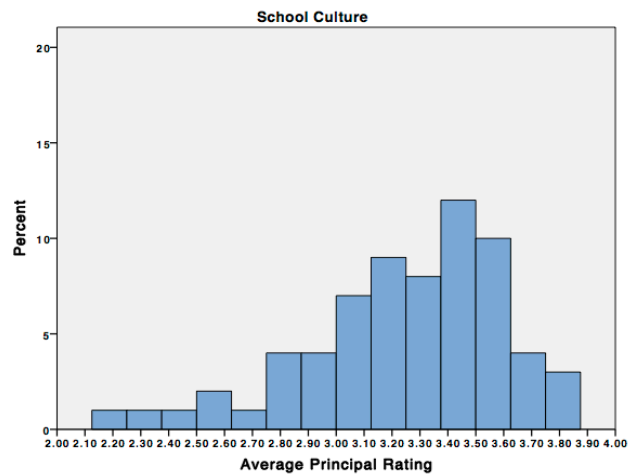
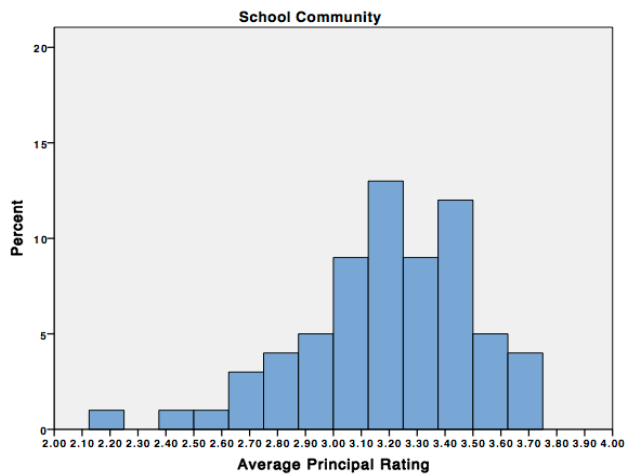
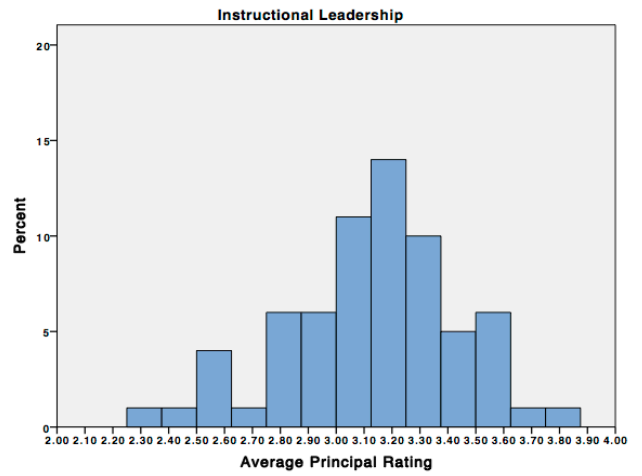
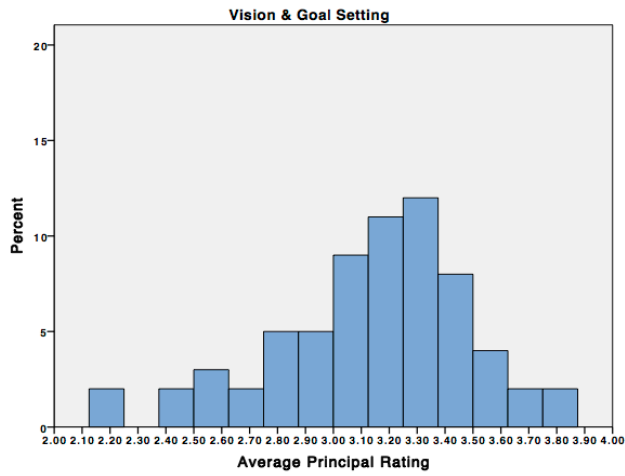
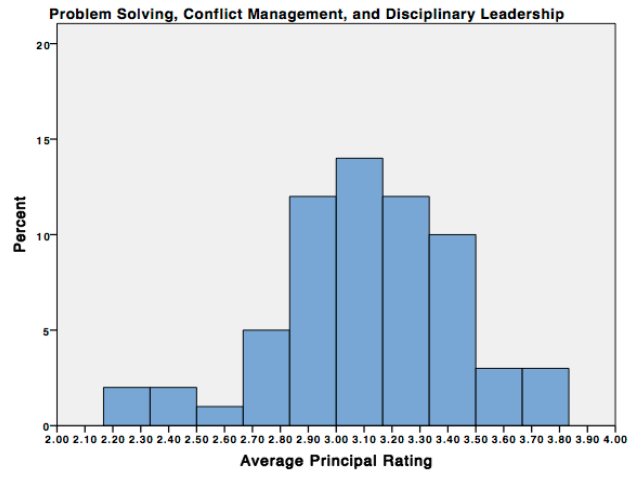
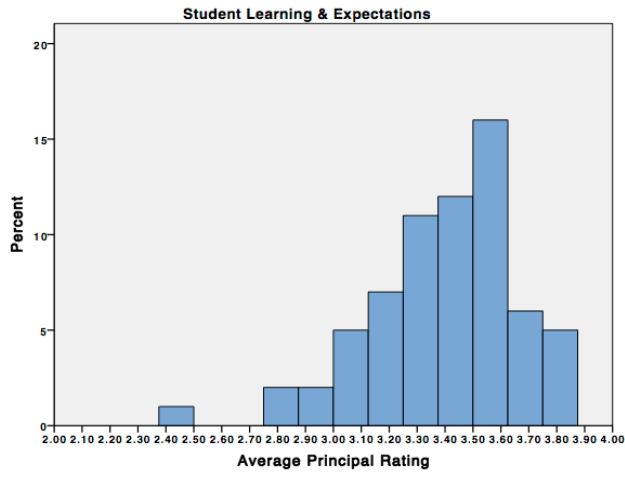
Q93. My principal demonstrates good follow-through.	2.99	.87
Q94. There is an atmosphere of trust and mutual respect between teachers in my school and the principal.	2.93	.93
Q95. I feel comfortable raising issues and concerns that are important to me with my principal.	3.12	.91

Analyzing the distribution of responses on each of the multiple-choice items allowed us to examine that there is, indeed, variability across items responses. This suggests that the instrument is able to discriminate between principals. See Appendix D for histograms of item responses for all survey items.

It is also important that aggregating item scores to the element level also yields scores that are able to differentiate between principals. Figure 1 (below) shows the variability of average principal scores on each of the eight elements. This is further evidence that the Colorado Teacher Perception Survey is able to differentiate between principals.

Figure 1: *Distribution of Principal Scores by Element*





4.2 Item Response Theory

Overview of the IRT Model

Item-response theory (IRT) is a model-based approach to measuring latent traits. To further examine the properties of the student perception survey, we applied the Rasch Partial Credit Model (PCM; Masters, 1982) to estimate teacher perceptions of their principals. IRT models are particularly useful because they model the probability of a given item response as a function of both a respondent's attitudes (represented by the common psychometric convention, θ) and the item's "difficulty." In PCM, this is calculated with the following equation.

$$P_{ix}(\theta) = \frac{\exp \left[\sum_{j=1}^x (\theta - \delta_{ij}) \right]}{\sum_{r=0}^{m_i} \left[\exp \sum_{j=1}^r (\theta - \delta_{ij}) \right]}$$

where

$$\sum_{j=1}^x (\theta - \delta_{ij}) \equiv 0$$

and δ_{ij} represents the step difficulty for each score category j .

Item difficulty estimates are derived empirically, and in a traditional testing context, an item's difficulty estimate is easy to interpret. Simply put, difficult items are those that very few people answer correctly while easy items are those that most people get right. Similar principles apply in a survey of perceptions, where few people respond positively to hard items, and many people respond positively to easy ones.

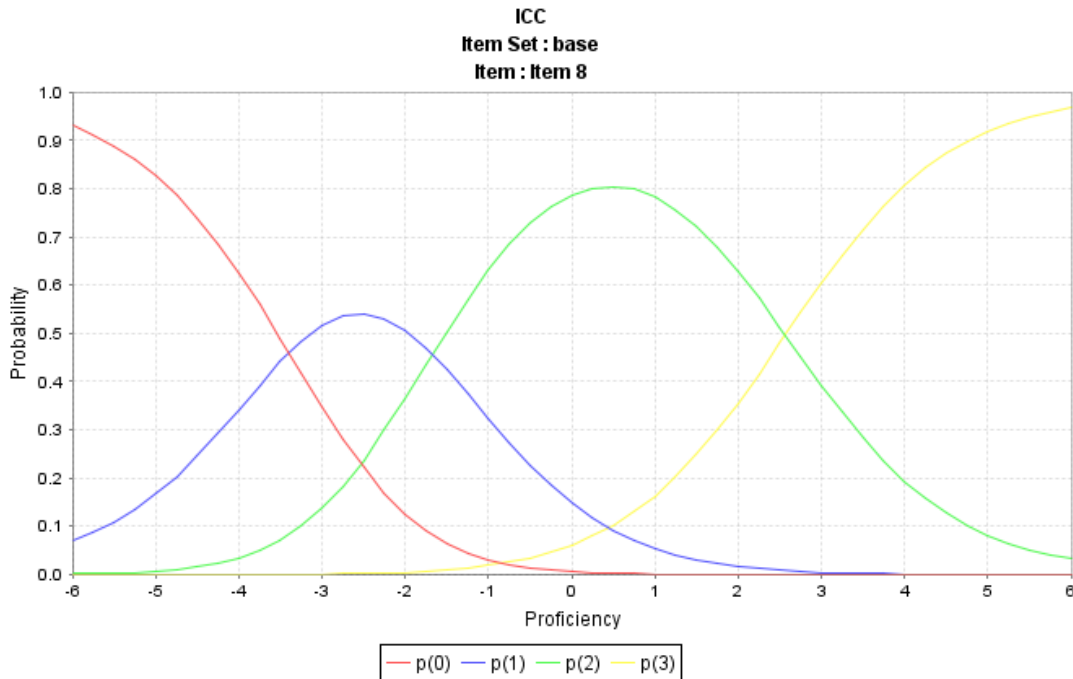
Item Analyses

Estimates of item difficulty from the Rasch model are useful because they can help us assess the degree to which teachers report various leadership behaviors on the part of principals. Table X (below) gives difficulty estimates for all of the multiple choice items in the Colorado Teacher Perception Survey.

Item characteristic curves also allow us to represent item responses graphically. Item characteristic curves represent how likely a teacher is to give a certain response to a question, based on the types of responses the teacher has given before. Moreover, we examine survey questions to determine whether some of them are too easy or too difficult for respondents to agree with. In such cases, further investigation of the item is necessary to determine whether it

should remain as part of the survey. Below is a single item characteristic curve from the survey; the remaining graphs can be found in Appendix E.

Figure 2: *Item Characteristic Curve*



Here, we are able to graphically display the probability of answering survey questions in a particular way, given the ‘ability’ that has been estimated for the respondent. Again, in this case, ability is not to be interpreted in the same manner as it would be on a test. In item characteristic curves, we typically look for four distinct peaks across the range of proficiency (x-axis). For example, give a proficiency of approximately 2.5, we can estimate that a given respondent will be less likely to answer ‘Agree’ (3), and more likely to answer ‘Strongly Agree’ (4). Similarly, given a proficiency of -3.2, we see the probability of answering ‘Strongly Disagree’ (4) become less than the probability of answering ‘Disagree’ (3). A full list of item characteristic curves is available in the appendix.

4.3 Analyses of Dimensionality

A factor analysis was conducted to examine the underlying structure of the survey to determine whether teachers’ responses aligned with the theory underlying the survey’s development. A principal components analysis reveals that a single factor can account for 59.6 percent of the total variance in responses across principals. However, using the generally-accepted rule of retaining factors with eigenvalues greater than 1.0, an exploratory factor analysis suggests a total of eight underlying dimensions in the Teacher Perception Survey. A table of factor loadings can be found in Appendix C.

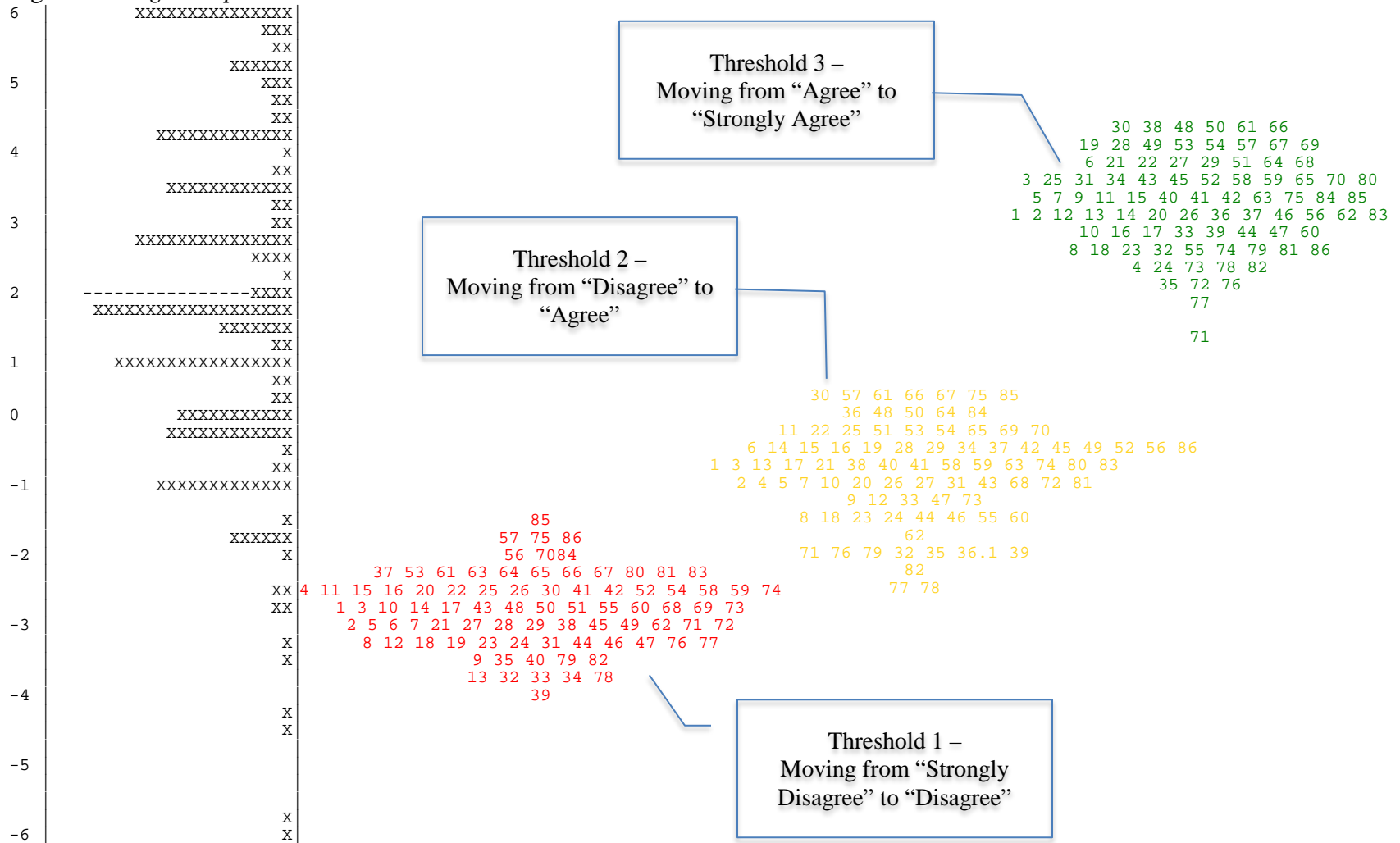
Further examination of the factors yields eight distinct elements in the survey (see list above). These elements are aligned with the theory underlying the development of the survey; thus, the results of the factor analysis support the theoretical basis of the survey development process.

The majority of the survey items related to only a single factor (with a factor loading of .300 or higher), allowing us to group items based on how they vary together across respondents. Two of the items⁴, however, could be grouped into one of two factors. Ultimately, these items were determined to be “good items” by other indicators, and were assigned to one of the eight elements based on substantive understandings of principal leadership and alignment with the state model system; these assignments were then tested empirically through analyses of reliability and inter-item correlations to ensure the items functioned well within each element. A list of all eight elements and the items that map to them can be found in the appendix.

All items were also placed on a Wright map, which allows respondent scores for their principals and items to be placed on the same scale and interpreted graphically. By placing these on the same scale, we are able to determine whether there is sufficient variability of responses across items to ensure that the survey instrument is able to produce results for a wide range of principals across the state. An analysis of the Wright map reveals that the relatively ‘difficulty’ of the items is bimodally distributed—there are items clustered at points both below and above the mean item difficulty (marked as “-----”). Though some respondents marked their principals as much higher or much lower than the relatively location difficulty of the items available to them, the majority of respondents rated their principals in ways that the range of items can be used to describe.

⁴ These items were: “After making school policies and decisions, my principal puts systems into place to keep all parents informed” and “I am encouraged to collaborate in developing a vision for our school.”

Figure 3: *Wright Map*



Section 5: Reliability

5.1 Analyses of Reliability and Errors of Measurement

Teacher-Level Reliability

Cronbach's alpha, a measure of reliability, is 0.992 for the survey overall at the teacher level, which suggests that the survey is measuring teacher perceptions reliably across items. Removing any single item would not significantly increase the reliability of the instrument; thus, no items were flagged for removal based on this criterion.

Results of the Eight Elements

By dividing each of the elements into separate and distinct groups of survey questions, we were able to analyze the extent to which each group of survey items reliably measures the element. The Cronbach's Alpha figures given below suggest that each element of the survey is internally consistent and meets the generally-accepted standard for reliability.

Table 4: *Reliability of Elements*

Element	Alpha
1: Distributive Leadership	.97
2: Professional Growth	.97
3: Student Learning and Expectations	.94
4: Problem Solving, Conflict Management, & Disciplinary Leadership	.95
5: Vision & Goal Setting	.96
6: Instructional Leadership	.94
7: School Community	.95
8: School Culture	.93

Relying on the individual teacher-level scores produced by the analysis above, we were able to calculate the correlation between responses on each of the elements at the individual level. Table 5 (below) shows the correlation between the individual factor scores for each teacher by element.

Table 5: Individual Factor Score Correlations by Element

Element	Distributive Leadership	Professional Growth	Student Learning	Problem Solving	Vision & Goal Setting	Instructional Leadership	School Community	School Culture
Distributive Leadership	1.00	0.79**	0.75**	0.99**	0.84**	0.85**	0.82**	0.80**
Professional Growth	0.79**	1.00	0.83**	0.81**	0.82**	0.86**	0.83**	0.99**
Student Learning	0.75**	0.81**	1.00	0.76**	0.77**	0.78**	0.82**	0.81**
Problem Solving	0.99**	0.81**	0.76**	1.00	0.85**	0.87**	0.84**	0.82**
Vision & Goal Setting	0.84**	0.82**	0.77**	0.85**	1.00	0.88**	0.86**	0.83**
Instructional Leadership	0.85**	0.86**	0.78**	0.87**	0.88**	1.00	0.87**	0.87**
School Community	0.82**	0.83**	0.82**	0.84**	0.86**	0.87**	1.00	0.84**
School Culture	0.80**	0.99**	0.81**	0.82**	0.83**	0.87**	0.84**	1.00

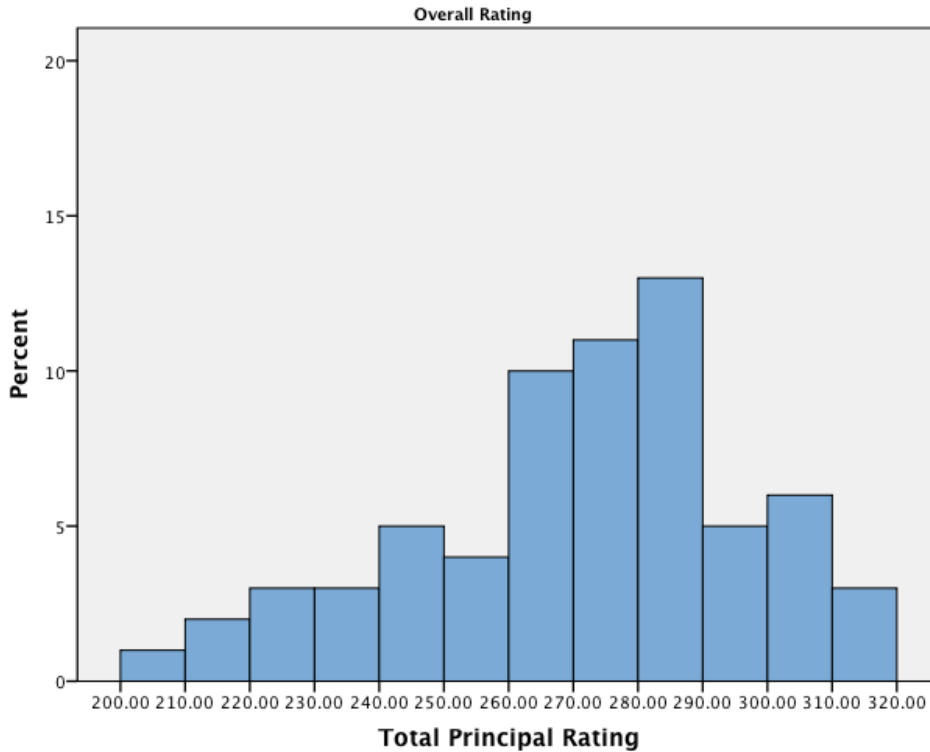
** . Correlation is significant at the 0.01 level (2-tailed).

Principal-Level Reliability

However, in order determine how reliable the survey is both for individual teachers and for principals, additional reliability analyses were conducted. Since some principals had only a small number of respondents and could have large fluctuations in scores based on the responses of a single teacher, principals with fewer than ten teachers responding in their buildings were excluded from this portion of the analysis.

At the principal level, additional analyses can aid interpretation of the survey results presented herein. The histogram below (Figure 3) shows the distribution of total scores on the survey instrument. These figures were calculated by taking the mean of all principal scores on a particular item and aggregating them by principal.

Figure 4: *Histogram of Principal Scores*



Looking at individual items, we are able to calculate the variability of average scores on a per-question basis for each principal (See Appendix D for frequency of item responses on a per-item basis).

Results for the Eight Elements

We also examined the reliability of the overall principal scores. Cronbach’s Alpha, a measure of internal consistency, was .966 for principals. See Table 6 (below) for the reliability of the elements when aggregated to the principal level.

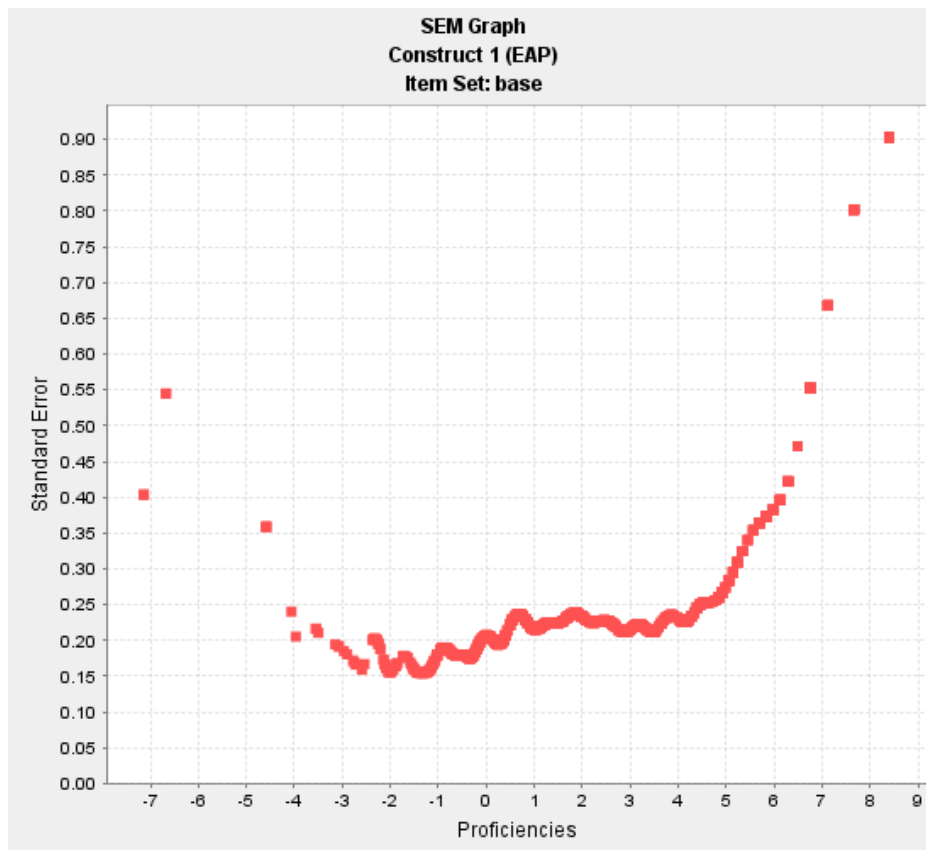
Table 6: *Reliability of Elements at the Principal Level*

Element	Alpha
1: Distributive Leadership	.99
2: Professional Growth	.99
3: Student Learning and Expectations	.98
4: Problem Solving, Conflict Management, & Disciplinary Leadership	.99
5: Vision & Goal Setting	.99
6: Instructional Leadership	.98
7: School Community	.98
8: School Culture	.97

5.2 Standard Error of Measurement

Having modeled the Colorado Teacher Perception Survey data using the partial credit model, we can now estimate the level of error associated with estimating teacher perceptions of their principals (θ). These Standard Errors of Measurement (SEM) show the likely range of an item's location given an infinite number of sample populations and the likely range of a teacher's ability given an infinite number of item combinations and test sessions.

Figure 5: *Standard Error of Measurement*



Item Fit

Item fit is a measure of information-weighted fit. In the Teacher Perception Survey, nearly all items are within the acceptable bounds for infit. For items 38 and 84, the infit was beyond the generally-accepted bounds for these items. However, since this is only one metric of item fit and these two items meet other criteria for inclusion in the survey, they were not discarded. See Appendix F for a complete list of infit graphs.

5.3 Validity Argument

Correlations with Other Measures

To determine the extent to which Colorado’s Teacher Perception Survey is measuring similar principal attributes to the measures used as part of principal evaluation, we examined the relationship between overall principals scores on the Teacher Perception Survey and (a) results from each principal’s Colorado State Model Evaluation System ratings and (b) teacher ratings from the State Model Evaluation System within each principal’s school.

State Model Evaluation System Ratings. To assess the extent to which results from the Teacher Perception Survey are related to results from the principal evaluation system, we tested correlations between overall principal-level survey results (both overall and for the eight scales previously discussed) with the Principal Performance Ratings on the Colorado State Model Evaluation System. In the 2012-2013 school year, principals across 27 districts participated in the pilot of the State Model Evaluation System and were rated on the first five Principal Quality Standards:

- Standard I: Principals Demonstrate Strategic Leadership
- Standard II: Principals Demonstrate Instructional Leadership
- Standard III: Principals Demonstrate School Culture and Equity Leadership.
- Standard IV: Principals Demonstrate Human Resource Leadership
- Standard V: Principals Managerial Leadership
- Standard VI: Principals Demonstrate External Development Leadership

Performance on these Standards was measured using the state-developed rubric that identifies the practices necessary to achieve the standards. From these rubrics, principals are assigned a performance rating level for each Standard. These ratings are then aggregated to assign an overall performance rating.

Generally speaking, there is a significant positive correlation between the results of the Colorado Teacher Perception Survey and principal performance ratings on the state model evaluation system. However, since these measures reflect various aspects of principals’ duties and responsibilities, mild to moderate correlations are to be expected. The tables below present the results of the correlational analysis for both the overall scores and the individual standards.

Table 7. Correlation Between TPS Survey Overall Score, Overall Ratings from 2012-2013 School Year, and Overall Rating from the 2011-2012 School Year (Previous System)

	Overall TPS Score	Overall 2012-13 Rating	Overall 2011-12 Rating (Previous System)
Overall TPS Score	-	.35**	.34*

** Significant at the 0.01 level (2-tailed) *Significant at the 0.05 level (2-tailed)

As demonstrated in Table 7, the total average score on the Teacher Perception Survey has a strong, positive, and statistically significant correlation with the overall evaluation rating for principals, as well as overall ratings from the previous academic year. This correlation indicates

that while the proficiency ratings and teacher perception survey are measuring different principal attributes, the attributes are related to each other and vary together.

Table 8. *Correlation of Teacher Perception Survey Results at the Element Level with Principal Proficiency Standards Score*

	Standard I	Standard II	Standard III	Standard IV	Standard V	Standard VI	Overall Prof.
Overall TPS	.40*	.42*	.22	.29*	.35**	.17	.35**
Distributed Leadership	.41**	.41**	.23	.31*	.36**	.15	.34**
Professional Growth	.38**	.38**	.18	.26	.30*	.18	.33*
Student Learning	.35**	.37**	.18	.29*	.29*	.11	.24*
Problem Solving	.37**	.42**	.26*	.31*	.42**	.24	.40**
Vision	.46**	.44**	.25	.30*	.36**	.18	.36**
Instructional Leadership	.34**	.30*	.12	.13	.24	.12	.21
Community Leadership	.23*	.32*	.08	.25	.26	.08	.37**
Culture Leadership	.26*	.32*	.08	.25	.26	.08	.24

Table 8 presents results from correlational analysis of the Colorado Teacher Perception Survey and principal evaluation ratings on individual standards. Overall, each of the eight elements of the Teacher Perception Survey have a positive and statistically significant relationship with Standard I and Standard II. The majority of the survey elements also have a positive and statistically significant relationship with scores in Standard IV and Standard VI. Most importantly, all but two of the eight survey elements have a strong, positive, and statistically significant relationship with the overall rating given to principals as part of their in-district evaluation. This suggests that each of those six elements is strongly correlated with the same underlying traits the observation measures are capturing. Moreover, the two elements that are not statistically significant are still positively correlated, although the relationship cannot be meaningfully differentiated from zero. Further data collection is necessary to determine whether these two elements will ultimately be more strongly correlated to the overall principal effectiveness score in future administrations of the Teacher Perception Survey, and as both the survey and evaluation system begin to be implemented with increased ease and fidelity..

Measures of Teacher Performance.

To determine the extent to which the results from the Teacher Perception Survey are related to teacher ratings within their schools, we tested the correlations between overall principal-level survey results and teacher ratings from the State Model Evaluation within schools. Table 9 presents the results of the correlational analyses for the Teacher Perception Survey.

Table 9. *Correlation between Teacher Perception Survey and Percent of Teachers Ranked at or Above 'Proficient' for Each Standard.*

	Standard I	Standard II	Standard III	Standard IV	Standard V	Proficient Overall
TPS Overall Score	.01	.10	.10	.10	.14	.10
Distributive Leadership	.01	.12	.09	.07	.06	.10
Professional Growth	.07	.17	.17	.17	.20	.17
Student Learning	-.01	.07	.06	.08	.15	.08
Problem Solving	-.03	.03	.05	.07	.13	.04
Vision Leadership	.03	.10	.11	.14	.14	.11
Instructional Leadership	.05	.15	.16	.16	.25	.13
Community Leadership	.03	.10	.11	.11	.15	.10
Cultural Leadership	-.13	-.08	-.09	-.09	-.01	-.08

Overall, Colorado’s Teacher Perception Survey results are more strongly correlated to principal evaluation ratings than to measures of teacher proficiency across standards. Though we would expect there to be some correlation between the measures, teacher performance and principal performance measures are not intended to capture the same ideas. With the further implementation of high-quality measures of educator effectiveness that are able to provide constructive and actionable feedback for educators, we expect that these two measures may become more closely aligned over time. Notably, Instructional Leadership is most highly correlated with the Teacher Leadership standard (Standard V). Moreover, the Professional Growth element of the Teacher Perception Survey has the strongest relationship with each of the teacher standards; this correlation may suggest that principals rated highly on this element are more likely to have a direct and immediate impact on teacher effectiveness. Of course, these relationships will require additional analysis in the future to determine if these trends persist across a larger survey administration with more principals involved.

Analyses of Open-Ended Responses

In addition to rating their principals on a variety of factors associated with instructional leadership, teachers were also given the opportunity to provide additional feedback in the form of open response questions. There was one open response question given for each of the pages in the survey in order to collect the most salient comments from teachers regarding the topics covered by survey questions on the page. Thus, the comments are grouped by the themes written into the survey:

Vision and Goal Setting: It is difficult for teachers to keep track of rapidly-changing goals and visions, especially when there are additional communication challenges in a building. There are also concerns around a lack of change in school vision, though many teachers acknowledge that progress is being made slowly. Many mention that they were unaware that there was a school vision or set of goals at all.

Shared Leadership: Teachers consistently mentioned being confused about or unaware of their principal's decision-making process.

Technology, Resources, and Scheduling: Teachers consistently mentioned being overwhelmed with scheduling and resource allocation, specifically around engaging learners in ways that are most fitted toward their individual needs. Large class sizes and the constraints they put on instruction were also consistently mentioned.

School Policies and Decision Making: Teachers mentioned being confused about the processes used to create school policies or unaware of changes policies. Often, teachers felt that their principal does not make any policy decisions and that all policies are dictated by district administration.

Community Involvement and Diversity: Respondents were divided into two main categories: those that have very active principals communicating with the community, and those that were not necessarily aware of any attempts at communication with parents or the community. These responses corresponded with higher and lower scores (respectively) in this category.

Instructional Leadership: Principals who received responses indicating that they engaged in the practice of reading research, gave good instructional feedback, and had strong instructional goals scored higher on this construct than those who did not have these skills or were too new for teachers to be able to comment on these skills.

Professional Development: Teachers who mention strong Professional Learning Communities and that they are used correctly as part of their schools have higher-rated principals than those who have PLCs with limited functionality or where they are not used correctly.

Principal Feedback: Teachers often mention that their principals have not visited their classrooms with enough frequency or duration to allow them to meaningfully comment on a teacher's instructional practice. Principals in these schools received slightly lower scores than those whose teachers mention strong and actionable instructional feedback.

School Climate: Principals who have comments about their strength as leaders, their strong professionalism, and having an 'open door' policy consistently score higher than those whose teachers mention neutral or negative instructional climate and/or practices.

Taken together, the open-response statements support and enhance the findings from the multiple choice survey questions. Even when respondents did not provide additional feedback in any of

the open-response items, principals with more positive comments generally scored higher overall than those with a greater number of negative comments. Thus, we find that the additional information provided through these items only further supports the general findings from the survey.

Conclusion

Based on these analyses, we find overwhelming evidence for the internal consistency of the Teacher Perception Survey. As the survey has moved past the initial piloted phase, we recommend that it be used as one method of collecting feedback to provide useful information to principals from their colleagues in their buildings. As a formative tool to guide conversations about instructional leadership and practice, the Teacher Perception Survey has the reliability necessary to inform conversations about principal effectiveness both on a holistic level and on an element level.

It is important to note, however, that the results of the survey should be analyzed over time for each school district based on their needs and data availability. Though we were careful to choose districts of varying sizes and with a variety of student and teacher populations, it is considered best practice within the field to conduct ongoing analyses and work with thought partners to ensure that district results are consistent over time.

Appendix A
Elements and Items of the Colorado Teacher Perception Survey

1. **Distributive Leadership:** How principals share leadership, decision-making power, and accountability with teachers and staff.

This element relates to using a collaborative approach in decision-making and policymaking that allows for the sharing of ideas, leadership roles, and a shared responsibility for implementation of policies. This also includes receiving input and ideas regarding professional development opportunities, indicating an open culture and respect for ideas of the principal, staff, and other key stakeholders.

- a. Q5. My principal: Is receptive to input from teachers in forming goals for our school.
- b. Q11. I am encouraged to collaborate in developing a vision for our school.
- c. Q14. Teachers and staff in my school: Have leadership roles in implementing our school's vision.
- d. Q15. Teachers and staff in my school: Feel a sense of responsibility for implementing our school's vision.
- e. Q16. Teachers and staff in my school: Are encouraged to take action when they see a problem.
- f. Q17. My principal: Shares decision-making power with teachers.
- g. Q18. My principal: Draws on the strengths of teachers in my school.
- h. Q19. My principal: Asks teachers for input when he/she makes policies for our school.
- i. Q20. My principal: Provides opportunities for teachers to take on leadership roles within my school.
- j. Q22. My principal: Gives me credit when he/she uses my ideas.
- k. Q24. When making school policies and decisions, my principal: Incorporates input from a variety of stakeholders.
- l. Q25. When making school policies and decisions, my principal: Incorporates my feedback into his/her decisions.
- m. Q33. I understand how my input is used to guide instructional decisions in my school.
- n. Q62. My principal listens to teachers' feedback about scheduling decisions.
- o. Q67. My principal: Encourages instructional collaboration among teachers.
- p. Q69. My principal: Is receptive to professional development opportunities I seek out on my own.
- q. Q84. My principal: Considers the input of all teachers equally.

2. **Professional Growth:** How principals connect teachers with opportunities for professional development including instructional guidance, feedback, and goal-setting.

This element relates to enacting policies and procedures that facilitate the professional growth of teachers in schools. This can take a variety of forms, including feedback on teaching, assistance in setting learning goals for students, connecting teachers with relevant professional development opportunities based on their professional needs.

These policies and procedures must also be supported with sufficient tools, resources, and systems to allow teachers the opportunity to grow professionally.

- a. Q56. My principal helps me understand how to adapt my instruction to meet the needs of all students.
- b. Q57. My principal helps me set my own goals for student growth.
- c. Q58. My principal holds teachers accountable for improving their instructional practice.
- d. Q60. My principal gives me the tools I need to meet rigorous goals for student achievement.
- e. Q61. My principal is interested in innovation and new ideas.
- f. Q63. Teachers are protected from duties that interfere with their roles as educators.
- g. Q65. My principal: Adds to my professional development by encouraging meaningful engagement in professional learning communities.
- h. Q66. My principal: Provides us with real opportunities to be members of professional learning communities.
- i. Q68. My principal: Connects me with professional development opportunities to help me improve my practice.
- j. Q71. My principal: Has a good understanding of my instructional strengths.
- k. Q72. My principal: Provides coaching and feedback to help me improve my instruction.
- l. Q73. My principal: Helps me grow as a teaching professional.
- m. Q74. My principal: Helps me set rigorous but achievable goals for each of my students.
- n. Q75. My principal: Helps me understand how to change my teaching practice to increase student achievement.
- o. Q76. I understand how to use the instructional feedback that my principal gives me.
- p. Q77. I understand how my principal wants me to change my professional practice to increase student achievement.
- q. Q78. My principal visits my classroom during instructional time throughout the school year.

3. **Student Learning & Expectations:** How principals create a culture of high expectations for all students.

This element relates to cultivating student learning in school, including monitoring student progress and setting high expectations for all students. Student learning relates both to how principals consider student perspectives in making instructional decisions for their schools, as well as supporting teachers as they set goals and expectations for their classes.

- a. Q85. My principal: Considers the well-being of all students.
 - b. Q86. My principal: Sets the expectation that all students can learn.
 - c. Q87. My principal: Sets the expectation that all students can graduate from high school.
 - d. Q88. My principal: Sets the expectation that all students can be college/career ready.
 - e. Q91. My principal's actions demonstrate interest in student progress.
4. **Problem Solving, Conflict Management, and Disciplinary Leadership:** How principals handle issues within their schools, including problem solving, conflict management, and acknowledging mistakes.

This element relates to how teachers perceive their principals' problem solving and conflict management skills, with respect to both teachers (e.g., handling conflicts between staff, acknowledging mistakes, etc.) and students (e.g., solving problems between students quickly, etc.). This element also includes perception of a principal's disciplinary leadership when handling complicated issues for students or staff.

- a. Q31. My principal acknowledges when school policies are not working.
 - b. Q32. My principal communicates both successes and failures in school policies.
 - c. Q40. My principal: Addresses and resolves problems quickly.
 - d. Q41. My principal: Works to prevent potential problems.
 - e. Q45. My principal: Effectively manages conflicts between students.
 - f. Q46. My principal: Handles individual disciplinary infractions fairly.
 - g. Q59. My principal holds students accountable for their individual learning.
 - h. Q92. My principal implements school behavior policies fairly.
 - i. Q93. My principal demonstrates good follow-through.
5. **Vision & Goal Setting:** How principals develop a vision and communicate that vision to students, teachers, parents, and community members.

This element relates to communication about school vision, instructional goals, and school policies (including changes to school policies). This element also relates to the use of data to inform policies, as well as plans for communication with all stakeholders, including teachers, students, parents, and the community.

- a. Q2. My principal: Communicates a clear and coherent vision for our school.
 - b. Q3. My principal: Communicates instructional goals for my school to teachers.
 - c. Q4. My principal: Has a system in place to develop and revise our school's vision.
 - d. Q6. My principal: Has a plan in place that supports improved academic achievement and outcomes for all students.
 - e. Q7. My principal: Has a plan in place to communicate his/her vision to parents and the community.
 - f. Q8. My principal: Monitors, evaluates, and revises school goals as necessary.
 - g. Q9. My principal: Uses data to suggest changes in our school's goals.
 - h. Q10. Our school's goals are aligned with my own instructional goals.
 - i. Q12. I understand my principal's vision for our school.
 - j. Q28. After making school policies and decisions, my principal: Clearly communicates changes in school policies to me.
 - k. Q29. After making school policies and decisions, my principal: Makes him/herself available to clarify changes to school policies.
 - l. Q30. After making school policies and decisions, my principal: Puts systems into place to keep all parents informed.
6. **Instructional Leadership:** How principals use their instructional leadership expertise to assist with implementation of research-based practices, curriculum, and academic standards in classrooms.

This element relates to principal expertise in student achievement, student growth, curriculum, academic standards, research-based instructional practices, integrating technology into classroom practice, and incorporating appropriate assessment strategies into classroom practice.

- a. Q50. My principal demonstrates expertise in: Student achievement and student growth.
- b. Q51. My principal demonstrates expertise in: Curriculum.
- c. Q52. My principal demonstrates expertise in: Academic standards (including Colorado Academic Standards).
- d. Q53. My principal demonstrates expertise in: Research-based instructional practices.

- e. Q54. My principal demonstrates expertise in: How to integrate technology into my instruction.
 - f. Q55. My principal demonstrates expertise in: Incorporating appropriate assessment strategies into my practice.
7. **School Community:** How principals create a community where student and parent differences are valued.

This element relates to how principals include diverse groups of students and families in making decisions for students and their schools. Principals are expected to involve parents and community members in decisions about their schools. With respect to individual students, principals are expected to take into account the unique set of experiences and perspectives students bring to their own education.

- a. Q21. My principal: Involves parents in decision-making conversations about school policies.
 - b. Q26. When making school policies and decisions, my principal: Shows consideration for the diversity of our student body.
 - c. Q27. When making school policies and decisions, my principal: Shows consideration for the whole child.
 - d. Q34. My principal takes the challenges and experiences of individual students into account when implementing school policies.
 - e. Q36. My principal: Recognizes diversity as an asset to the school.
 - f. Q37. My principal: Is focused on including all families in school activities.
 - g. Q38. My principal: Finds ways to involve parents and the community in the students' learning.
 - h. Q39. My principal: Ensures that all students are treated with dignity and respect.
 - i. Q42. Students in my school accept and respect students who are different than they are.
 - j. Q43. My principal: Creates a welcoming environment for all parents.
 - k. Q44. My principal: Reaches out to diverse communities of parents.
 - l. Q47. My principal: Maintains clear, two-way communication with the community.
8. **School Culture:** How principals create a welcoming and accessible school environment for students, teachers, and parents.

This element relates to creating a welcoming and safe school climate for all students, parents, and teachers. This includes creating a welcoming school environment, creating

a supportive and encouraging environment for teachers to facilitate mutual respect, as well as having a generally positive presence within the school.

- a. Q79. My principal's most recent evaluation of my performance was conducted fairly.
- b. Q81. My principal: Has a positive presence within the school.
- c. Q82. My principal: Helps create an inclusive and welcoming school climate.
- d. Q83. My principal: Is easily accessible to students and staff.
- e. Q89. My principal handles conflicts between teachers in a professional manner.
- f. Q90. My principal's behavior toward staff is supportive and encouraging.
- g. Q94. There is an atmosphere of trust and mutual respect between teachers in my school and the principal.
- h. Q95. I feel comfortable raising issues and concerns that are important to me with my principal.

Appendix B
Crosswalk of Construct, Items, and Indicators

STANDARD I: PRINCIPALS DEMONSTRATE STRATEGIC LEADERSHIP⁵

Element	Definition and Indicators	Teacher Perception Survey Items
A: School Vision, Mission and Strategic Goals <i>Principals collaboratively develop the vision, mission, values, expectations and goals of the school, collaboratively determine the processes used to establish these foundations, and facilitate their integration into the life of the school community.</i>	Develop the vision, mission, values, beliefs, and goals of the school.	My principal communicates a clear and coherent vision for our school. My principal communicates instructional goals for my school to teachers.
	Collaboratively determine processes used to establish attributes of vision/mission/etc.	My principal has a system in place to develop and revise our school’s vision. I am encouraged to collaborate in developing a vision for our school. Our school’s goals are aligned with my own instructional goals.
	Facilitate the integration of vision into the school community	I understand my principal’s vision for our school. My principal has a plan in place to communicate his/her vision to parents and the community. Teachers and staff in my school have leadership roles in implementing our school’s vision. [Also related to Element I.D: Distributive Leadership] Teachers and staff in my school feel a sense of responsibility for implementing our school’s vision.
B: School Plan <i>Principals ensure that a plan is in place that supports improved academic achievement and developmental outcomes for all students, and provides for data-based progress monitoring.</i>	Plan supports improved developmental outcomes for all students.	My principal has a plan in place that supports improved academic achievement and outcomes for all students. My principal monitors, evaluates, and revises school goals as necessary. My principal uses data to suggest changes in our school’s goals.
C: Leading Change <i>Principals solicit input and collaborate with staff and their school community to implement strategies for change and improvements that result in improved achievement and developmental outcomes.</i>	Collaboratively develop a vision and implementation strategies for improvements and changes.	My principal is receptive to input from teachers in forming goals for our school. When making school policies and decisions, my principal incorporates input from a variety of stakeholders. My principal demonstrates good follow-through.
D: Distributive Leadership	Principals create processes to	My principal shares decision-making power with teachers.

⁵ All standards and elements are from the [Rubric for Evaluating Colorado’s Principals and Assistant Principals](#)

Element	Definition and Indicators	Teacher Perception Survey Items
<i>Principals create and utilize processes to distribute leadership and support collaborative efforts throughout the school among Teachers and Administrators.</i>	distribute leadership throughout school.	Teachers and staff in my school are encouraged to take action when they see a problem. My principal draws on the strengths of teachers in my school.
	Principals involve staff, parents, guardians, and students in decisions about the school.	My principal asks teachers for input when he/she makes policies for our school. My principal involves parents in decision-making conversations about school policies. I feel comfortable raising issues and concerns that are important to me with my principal.
	Principals build capacity by creating internal opportunities for staff to demonstrate leadership.	My principal provides opportunities for teachers to take on leadership roles within my school. My principal gives me credit when he/she uses my ideas.

STANDARD II: PRINCIPALS DEMONSTRATE INSTRUCTIONAL LEADERSHIP

Element	Definition and Indicators	Teacher Perception Survey Items
A: Curriculum, Instruction, Learning and Assessment <i>Principals promote school-wide efforts to establish, implement and refine appropriate expectations for curriculum, instructional practices, assessment and use of data on student learning based on scientific research and evidence-based practices that result in student academic achievement.</i>	Principals enable conversation about standards for curriculum, instruction, assessment, and data.	My principal demonstrates expertise in incorporating appropriate assessment strategies into my practice.
	Conversations are based on research and best practices.	My principal demonstrates expertise in research-based instructional practices.
	Ideas developed as part of school-wide conversations are integrated into school curriculum and instructional approaches.	When making school policies, my principal incorporates my feedback into his/her decisions. I understand how my input is used to guide instructional decisions in my school.
B: Instructional Time <i>Principals create processes and schedules which maximize instructional, collaborative and preparation time.</i>	Maximize instructional, collaborative, and preparation time.	My principal listens to teachers' feedback about scheduling decisions. Teachers are protected from duties that interfere with their roles as educators.

<p>C: Implementing High-Quality Instruction <i>Principals support teachers through ongoing, actionable feedback and needs-based professional development to ensure that rigorous, relevant and evidence-based instruction and authentic learning experiences meet the needs of all students and are aligned across P-20.</i></p>	<p>Principals support teachers through feedback and appropriate professional development.</p>	<p>My principal connects me with professional development opportunities to help me improve my practice.</p> <p>My principal is receptive to professional development opportunities I seek out on my own.</p> <p>My principal helps me grow as a teaching professional.</p> <p>My principal provides coaching and feedback to help me improve my instruction.</p> <p>I understand how to use the instructional feedback that my principal gives me.</p>
<p>D: High Expectations for all Students <i>Principals hold all staff accountable for setting and achieving rigorous performance goals for all students, and empower staff to achieve these goals across content areas.</i></p>	<p>Principals hold staff accountable for setting and achieving rigorous performance goals for all students.</p>	<p>My principal helps me set rigorous but achievable goals for each of my students.</p> <p>My principal helps me understand how to change my teaching practice to increase student achievement.</p> <p>My principal helps me understand how to adapt my instruction to meet the needs of all students.</p> <p>My principal holds teachers accountable for improving their instructional practice.</p> <p>My principal holds students accountable for their individual learning.</p>
	<p>Principals empower staff to achieve ambitious student outcomes.</p>	<p>I understand how my principal wants me to change my professional practice to increase student achievement.</p> <p>My principal helps me set my own goals for student growth.</p> <p>My principal gives me the tools I need to meet rigorous goals for student achievement.</p>
<p>E: Instructional Practices <i>Principals demonstrate a rich knowledge of effective instructional practices, as identified by research on best practices, in order to support and guide Teachers in data-based decision making regarding effective practices to maximize student success.</i></p>	<p>---</p>	<p>My principal demonstrates expertise in:</p> <ul style="list-style-type: none"> • Student achievement and student growth. • Curriculum • Academic standards (including Colorado Academic Standards). • How to integrate technology into my instruction.

STANDARD III: PRINCIPALS DEMONSTRATE SCHOOL CULTURE AND EQUITY LEADERSHIP

Element	Definition and Indicators	Teacher Perception Survey Items
A: Intentional and Collaborative School Culture <i>Principals articulate, model and positively reinforce a clear vision and values of the school's culture, and involve students, families and staff in creating an inclusive and welcoming climate that supports it.</i>	Principals articulate and model a clear vision for school culture.	My principal helps create an inclusive and welcoming school climate. My principal has a positive presence within the school. After making school policies and decisions, my principal: Puts systems into place to keep all parents informed
	Principals involve students, families, and staff in creating a climate that supports a positive school culture.	My principal is focused on including all families in school activities.
B: Commitment to the Whole Child <i>Principals promote the cognitive, physical, social and emotional health, growth and skill development of every student.</i>	Principals value the cognitive, physical, mental, social, and emotional health and growth of every student.	When making school policies, my principal shows consideration for the whole child.
C: Equity Pedagogy <i>Principals demonstrate a commitment to a diverse population of students by creating an inclusive and positive school culture, and provide instruction in meeting the needs of diverse students, talents, experiences and challenges in support of student achievement.</i>	Principals demonstrate a commitment to a diverse population of students.	My principal considers the well-being of all students. My principal sets the expectation that all students can learn. My principal sets the expectation that all students can graduate from high school. My principal sets the expectation that all students can be college/career ready.
	Principals provide direction in meeting the needs of diverse student talents, experiences, and challenges.	When making school policies, my principal shows consideration for the diversity of our student body. My principal takes the challenges and experiences of individual students into account when implementing school policies. My principal recognizes diversity as an asset to the school.
D: Efficacy, Empowerment and a Culture of Continuous Improvement <i>Principals and their leadership team foster a school culture that encourages continual improvement through reliance on research, innovation, prudent risk-taking, high</i>	Principals foster a school culture that encourages continual improvement through innovation.	My principal is interested in innovation and new ideas.
	Principals honestly assess outcomes of implementation	My principal acknowledges when school policies are not working.

<i>expectations for all students and Teachers, and a valid assessment of outcomes.</i>	plan.	My principal communicates both successes and failures in school policies.
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STANDARD IV: PRINCIPALS DEMONSTRATE HUMAN RESOURCE LEADERSHIP

Element	Definition and Indicators	Teacher Perception Survey Items
A: Professional Development/Learning Communities <i>Principals ensure that the school is a professional learning community that provides opportunities for collaboration, fosters Teacher learning and develops Teacher leaders in a manner that is consistent with local structures, contracts, policies and strategic plans.</i>	Ensure that the school is a professional learning community.	My principal adds to my professional development by encouraging meaningful engagement in professional learning communities. My principal provides us with real opportunities to be members of professional learning communities.
	The school learning community provides opportunities for collaboration and teacher learning.	My principal encourages instructional collaboration among teachers. My principal considers the input of all teachers equally. My principal's behavior toward staff is supportive and encouraging.
B: Recruiting, Hiring, Placing, Mentoring, and Dismissal of Staff <i>Principals establish and effectively manage processes and systems that ensure a knowledgeable, high-quality, high-performing staff.</i>	---	*** As this is difficult for teachers to observe directly, the Teacher Perception Survey does not include any items pertaining to this element.
C: Teacher and Staff Evaluation <i>Principals evaluate staff performance using the District's Educator evaluation system in order to ensure that Teachers and staff are evaluated in a fair and equitable manner with a focus on improving Teacher and staff performance and, thus, student achievement.</i>	Principals evaluate staff in a fair and equitable manner.	My principal's most recent evaluation of my performance was conducted fairly. My principal visits my classroom during instructional time throughout the school year. My principal has a good understanding of my instructional strengths.
	Evaluations focus on improving performance and student achievement.	My principal's actions demonstrate interest in student progress.

STANDARD V: PRINCIPALS DEMONSTRATE MANAGERIAL LEADERSHIP

Element	Definition and Indicators	Teacher Perception Survey Items
<p>A: School Resources and Budget <i>Principals establish systems for marshaling all available school resources to facilitate the work that needs to be done to improve student learning, academic achievement and overall healthy development for all students.</i></p>	---	<p>*** As this is difficult for teachers to observe directly, the Teacher Perception Survey does not include any items pertaining to this element</p>
<p>B: Conflict Management and Resolution <i>Principals proactively and efficiently manage the complexity of human interactions and relationships, including those among and between parents/guardians, students and staff.</i></p>	<p>Principals effectively and efficiently manage the complexity of human interactions and relationships, including those among and between parents/guardians, students, and staff.</p>	<p>My principal addresses and resolves problems quickly.</p> <p>My principal works to prevent potential problems.</p> <p>My principal handles conflicts between teachers in a professional manner.</p> <p>My principal effectively manages conflicts between students.</p> <p>My principal handles individual disciplinary infractions fairly.</p>
<p>C: Systematic Communication <i>Principals facilitate the design and utilization of various forms of formal and informal communication with all school stakeholders.</i></p>	<p>Principals facilitate the design and utilization of various forms of formal and informal communication with all school stakeholders.</p>	<p>After making school policies, my principal clearly communicates changes in school policies to me.</p> <p>After making school policies, my principal makes him/herself available to clarify changes to school policies.</p> <p>My principal is easily accessible to students and staff.</p>
<p>D: School-Wide Expectations for Students and Staff <i>Principals ensure that clear expectations, structures, rules and procedures are established for students and staff.</i></p>	---	<p>My principal implements school behavior policies fairly. <i>[Additional items are covered in other sections pertaining to establishing processes and policies, communicating those policies, etc.]</i></p>
<p>E: Supporting Policies and Agreements <i>Principals regularly update their knowledge of federal and state laws, and School District and board policies, including negotiated agreements, if applicable, and establish processes to ensure that these policies, laws and agreements are consistently met and implemented.</i></p>	---	<p>*** As this is difficult for teachers to observe directly, the Teacher Perception Survey does not include any items pertaining to this element</p>
<p>F: Ensuring an Orderly and Supportive</p>		<p>There is an atmosphere of trust and mutual respect between teachers in my school and the</p>

Element	Definition and Indicators	Teacher Perception Survey Items
Environment <i>Principals ensure that the school provides an orderly and supportive environment that fosters a climate of safety, respect, and well-being.</i>	---	principal. My principal ensures that all students are treated with dignity and respect. Students in my school accept and respect students who are different than they are.

STANDARD VI: PRINCIPALS DEMONSTRATE EXTERNAL DEVELOPMENT LEADERSHIP

Element	Definition and Indicators	Teacher Perception Survey Items
<p>A: Family and Community Involvement and Outreach</p> <p><i>Principals design and/or utilize structures and processes which result in family and community engagement, support and ownership for the school.</i></p>	---	<p>My principal is focused on including <i>all</i> families in school activities.</p> <p>My principal finds ways to involve parents and the community in the students' learning.</p> <p>My principal creates a welcoming environment for all parents.</p> <p>My principal maintains clear, <i>two-way</i> communication with the community.</p> <p>My principal reaches out to diverse communities of parents.</p>
<p>B: Professional Leadership Responsibilities</p> <p><i>Principals strive to improve the profession by collaborating with their colleagues, School District leadership and other stakeholders to drive the development and successful implementation of initiatives that better serve students, Teachers and schools at all levels of the education system. They ensure that these initiatives are consistent with federal and state laws, School District and board policies, and negotiated agreements where applicable.</i></p>	---	<p>*** As this is difficult for teachers to observe directly, the Teacher Perception Survey does not include any items pertaining to this element</p>
<p>C: Advocacy for the School</p> <p><i>Principals develop systems and relationships to leverage the School District and community resources available to them both within and outside of the school in order to maximize the school's ability to serve the best interest of students and families.</i></p>	---	<p>*** As this is difficult for teachers to observe directly, the Teacher Perception Survey does not include any items pertaining to this element</p>

Appendix C
Factor Loadings for Teacher Perception Survey

Note that values less than 0.10 are omitted in this table to ease interpretation

Question	1	2	3	4	5	6	7	8
Q2. My principal: Communicates a clear and coherent vision for our school.					.581	-.133		-.109
Q3. My principal: Communicates instructional goals for my school to teachers.					.508	-.206		
Q4. My principal: Has a system in place to develop and revise our school's vision.					.573			
Q5. My principal: Is receptive to input from teachers in forming goals for our school.	.447				.219			-.224
Q6. My principal: Has a plan in place that supports improved academic achievement and outcomes for all students.			-.126	-.106	.523			
Q7. My principal: Has a plan in place to communicate his/her vision to parents and the community.					.597		.234	
Q8. My principal: Monitors, evaluates, and revises school goals as necessary.	.109				.501			
Q9. My principal: Uses data to suggest changes in our school's goals.					.479	-.209		
Q10. Our school's goals are aligned with my own instructional goals.	.237		-.223		.374			
Q11. I am encouraged to collaborate in developing a vision for our school.	.487		-.127		.315			
Q12. I understand my principal's vision for our school.	.154	.138			.520			
Q14. Teachers and staff in my school: Have leadership roles in implementing our school's vision.	.542		-.112		.205			

Q15. Teachers and staff in my school: Feel a sense of responsibility for implementing our school's vision.	.396		-.140	-.103	.244			
Q16. Teachers and staff in my school: Are encouraged to take action when they see a problem.	.507			-.216				
Q17. My principal: Shares decision-making power with teachers.	.598					.106		
Q18. My principal: Draws on the strengths of teachers in my school.	.441	.109				.111	-.149	
Q19. My principal: Asks teachers for input when he/she makes policies for our school.	.543					.157		
Q20. My principal: Provides opportunities for teachers to take on leadership roles within my school.	.531				-.133			
Q21. My principal: Involves parents in decision-making conversations about school policies.	.228	.107			.197	.326		
Q22. My principal: Gives me credit when he/she uses my ideas.	.371	.178		-.155			-.141	
Q24. When making school policies and decisions, my principal: Incorporates input from a variety of stakeholders.	.471			-.101	.104	-.110	.164	
Q25. When making school policies and decisions, my principal: Incorporates my feedback into his/her decisions.	.531	.154				.139	-.103	
Q26. When making school policies and decisions, my principal: Shows consideration for the diversity of our student body.	.218		-.120			-.135	.416	
Q27. When making school policies and decisions, my principal: Shows consideration for the whole child.	.219		-.116			-.186	.346	
Q28. After making school policies and decisions, my principal: Clearly communicates changes in school policies to me.	.173	.116		-.157	.346		.111	
Q29. After making school policies and decisions, my principal: Makes him/herself available to clarify changes to school policies.	.114	.218		-.174	.199		.145	-.161

Q61. My principal is interested in innovation and new ideas.	.216	.223	-.126		-.216
Q62. My principal listens to teachers' feedback about scheduling decisions.	.385	.178	-.126	-.124	-.158
Q63. Teachers are protected from duties that interfere with their roles as educators.	.110	.241	-.142	-.113	.137
Q65. My principal: Adds to my professional development by encouraging meaningful engagement in professional learning communities.	.218	.357	-.115		-.137
Q66. My principal: Provides us with real opportunities to be members of professional learning communities.	.240	.284	-.134		-.120
Q67. My principal: Encourages instructional collaboration among teachers.	.246	.191	-.215		-.149
Q68. My principal: Connects me with professional development opportunities to help me improve my practice.	.202	.414			-.129
Q69. My principal: Is receptive to professional development opportunities I seek out on my own.	.268	.252	-.187		
Q71. My principal: Has a good understanding of my instructional strengths.	.112	.693			-.104
Q72. My principal: Provides coaching and feedback to help me improve my instruction.		.901			
Q73. My principal: Helps me grow as a teaching professional.		.792			
Q74. My principal: Helps me set rigorous but achievable goals for each of my students.		.755			
Q75. My principal: Helps me understand how to change my teaching practice to increase student achievement.		.902			
Q76. I understand how to use the instructional feedback that my principal gives me.		.731			

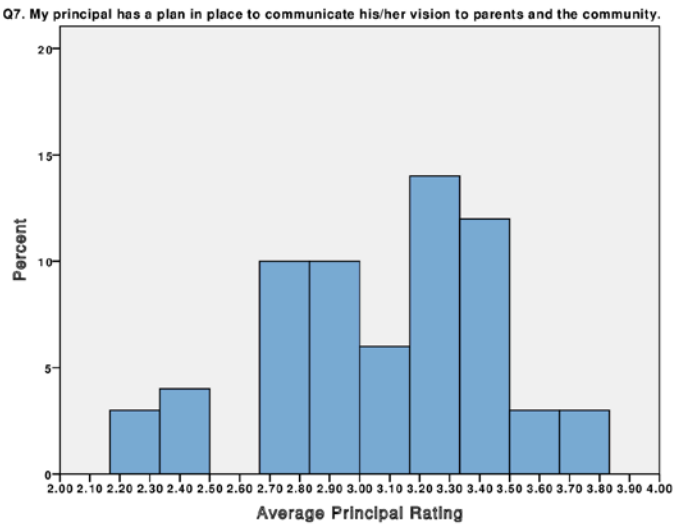
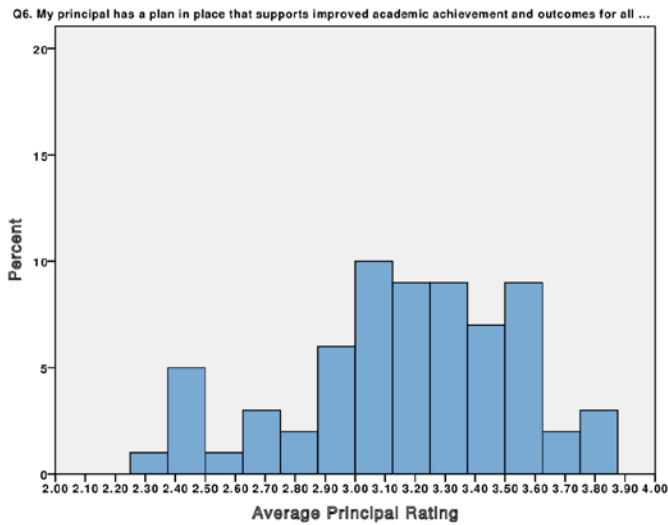
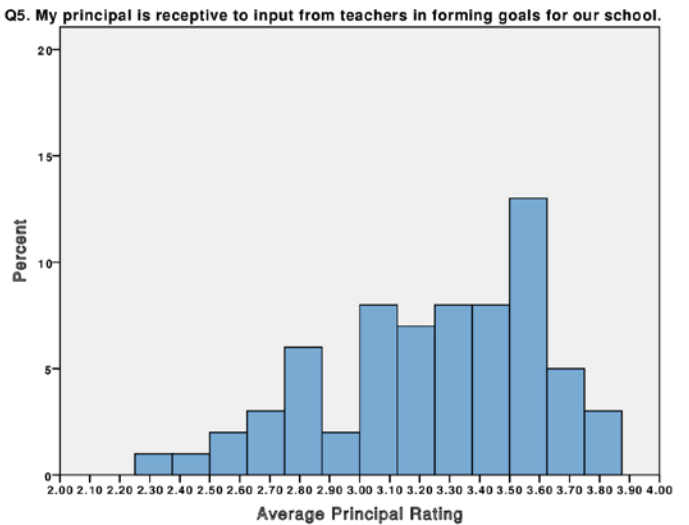
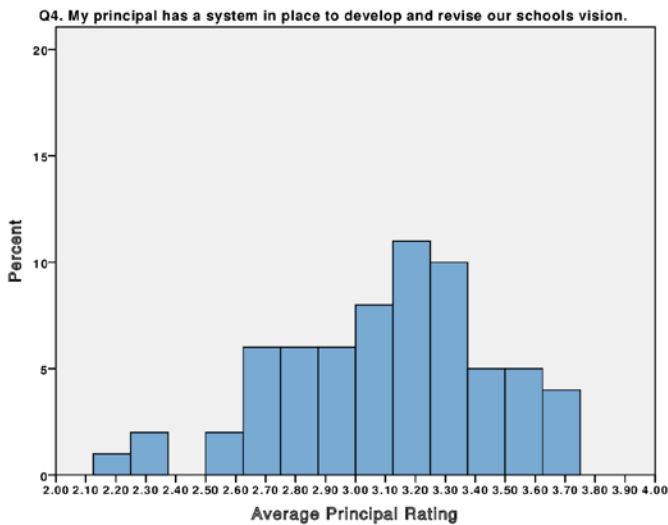
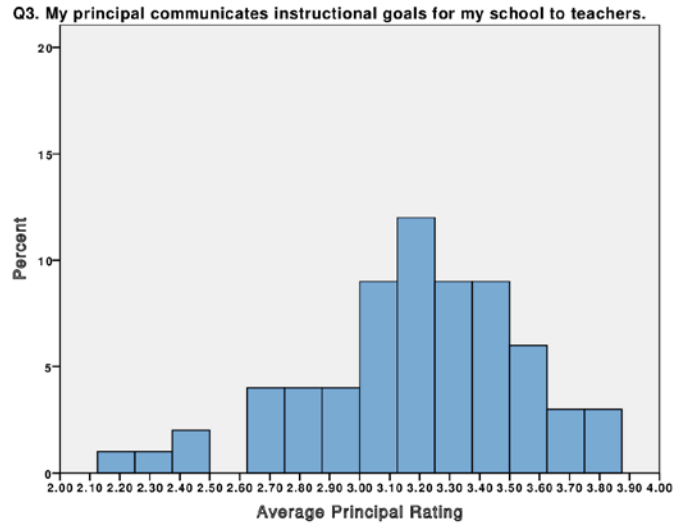
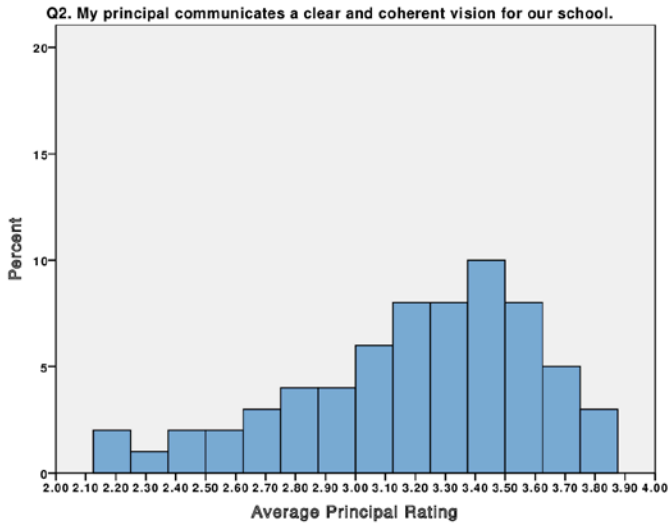
Q77. I understand how my principal wants me to change my professional practice to increase student achievement.		.762				
Q78. My principal visits my classroom during instructional time throughout the school year.		.503				
Q79. My principal's most recent evaluation of my performance was conducted fairly.	.162		-.104			-.154
Q81. My principal: Has a positive presence within the school.			-.182	-.106	.158	.179
Q82. My principal: Helps create an inclusive and welcoming school climate.			-.215		.122	.225
Q83. My principal: Is easily accessible to students and staff.		.162	-.160	-.171		.158
Q84. My principal: Considers the input of all teachers equally.	.302	.181	-.107	-.190		-.286
Q85. My principal: Considers the well-being of all students.			-.416	-.196		.193
Q86. My principal: Sets the expectation that all students can learn.			-.682			-.100
Q87. My principal: Sets the expectation that all students can graduate from high school.			-.935			
Q88. My principal: Sets the expectation that all students can be college/career ready.			-.876			
Q89. My principal handles conflicts between teachers in a professional manner.	.157	.171		-.261		-.285
Q90. My principal's behavior toward staff is supportive and encouraging.	.194		-.140	-.180		-.431
Q91. My principal's actions demonstrate interest in student progress.			-.344	-.180	-.225	-.157

Q92. My principal implements school behavior policies fairly.			-.157	-.678		
Q93. My principal demonstrates good follow-through.				-.510	.153	-.187
Q94. There is an atmosphere of trust and mutual respect between teachers in my school and the principal.	.189	.146		-.244	.148	-.375
Q95. I feel comfortable raising issues and concerns that are important to me with my principal.	.300	.164		-.182		-.372

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Appendix D: Distribution of Item Responses

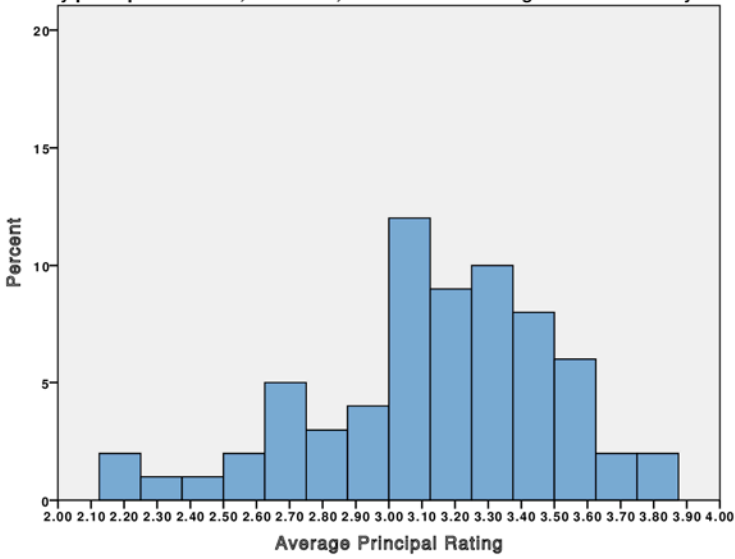
Note that the text of each item is listed as the title of each histogram



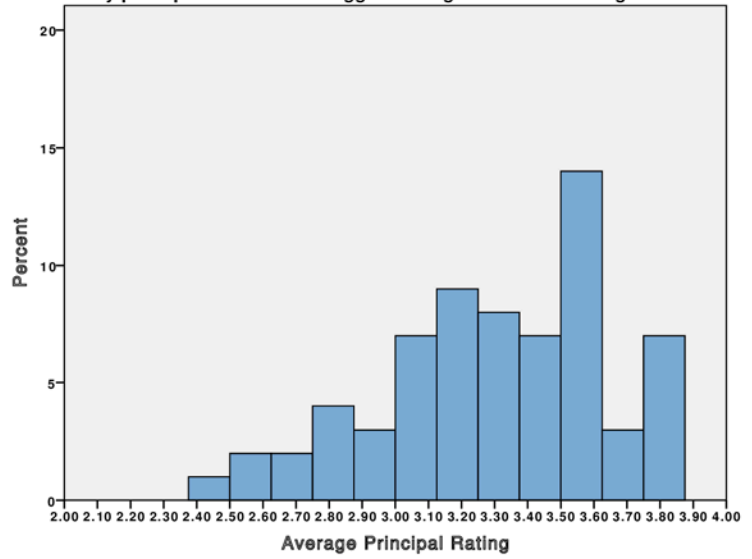
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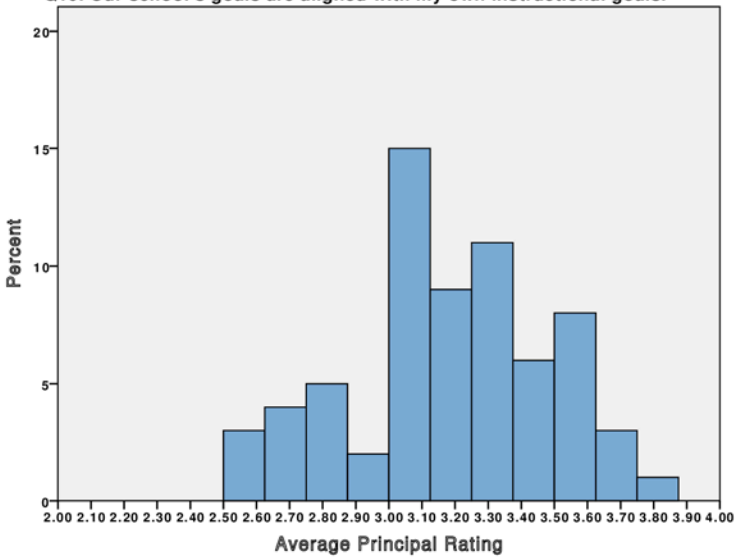
Q8. My principal monitors, evaluates, and revises school goals as necessary.



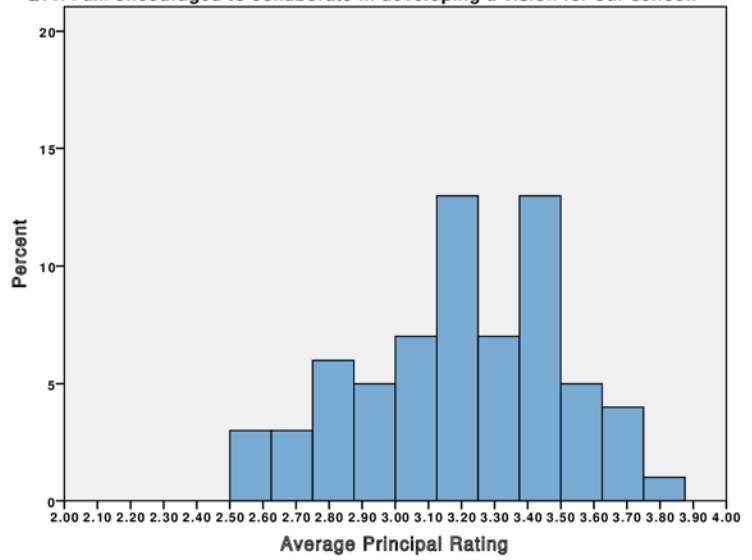
Q9. My principal uses data to suggest changes in our schools goals.



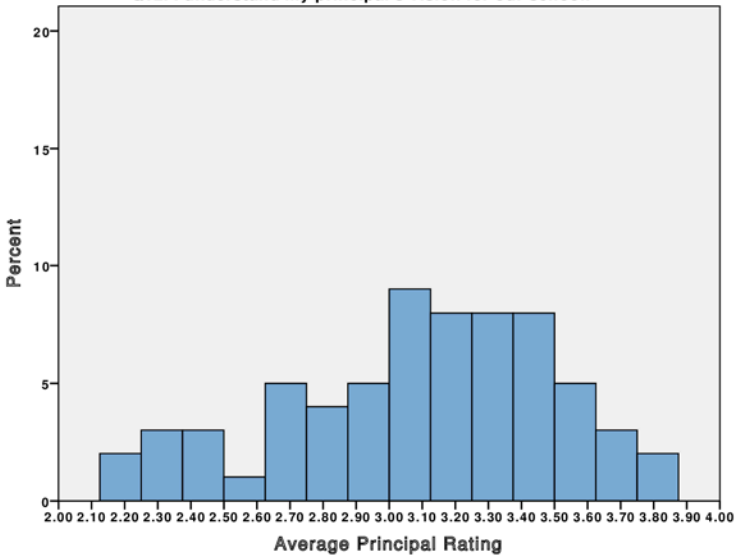
Q10. Our school's goals are aligned with my own instructional goals.



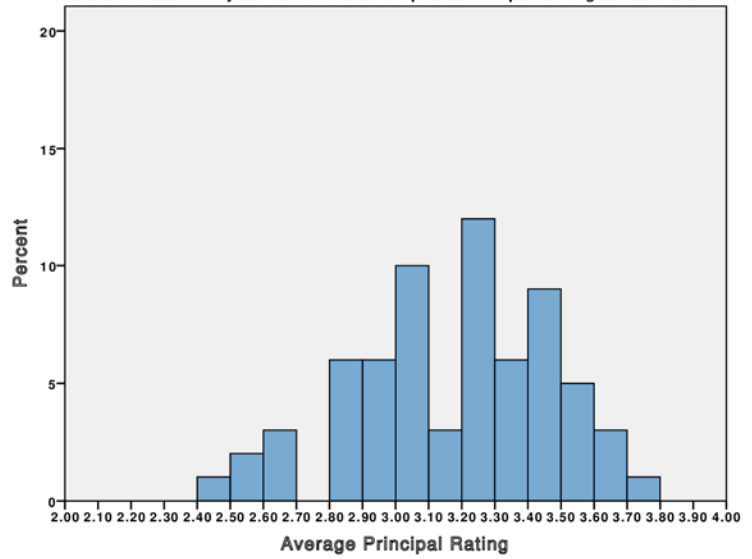
Q11. I am encouraged to collaborate in developing a vision for our school.



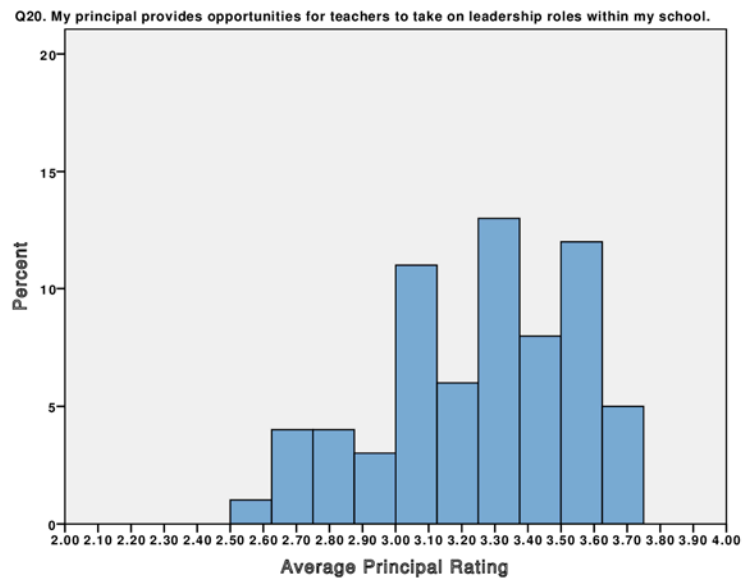
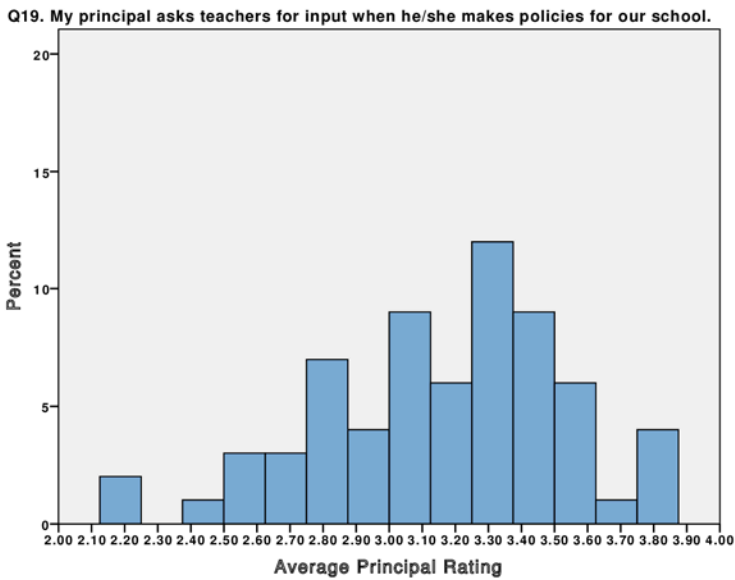
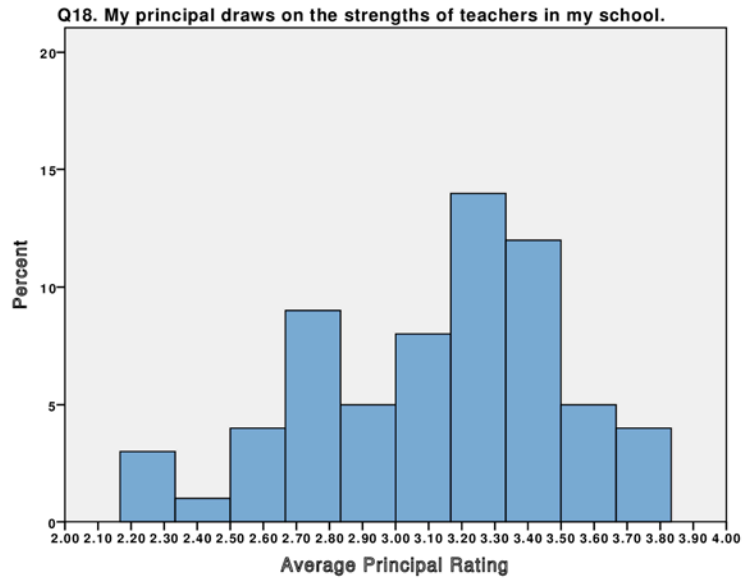
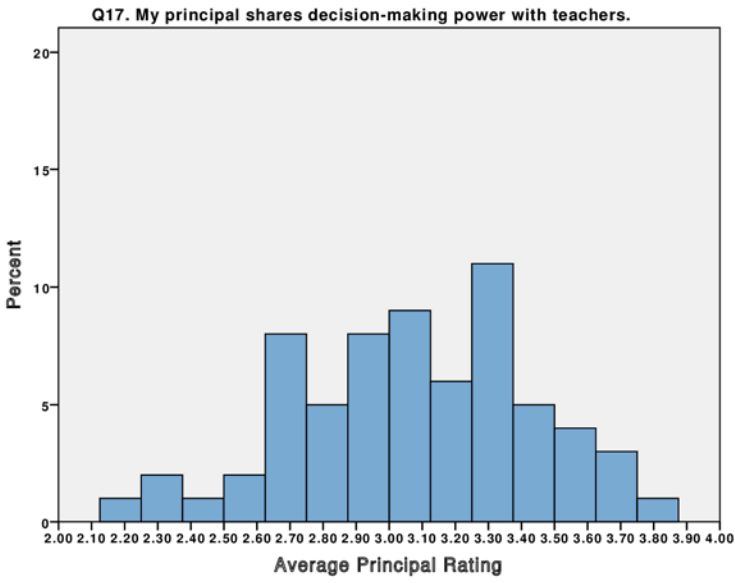
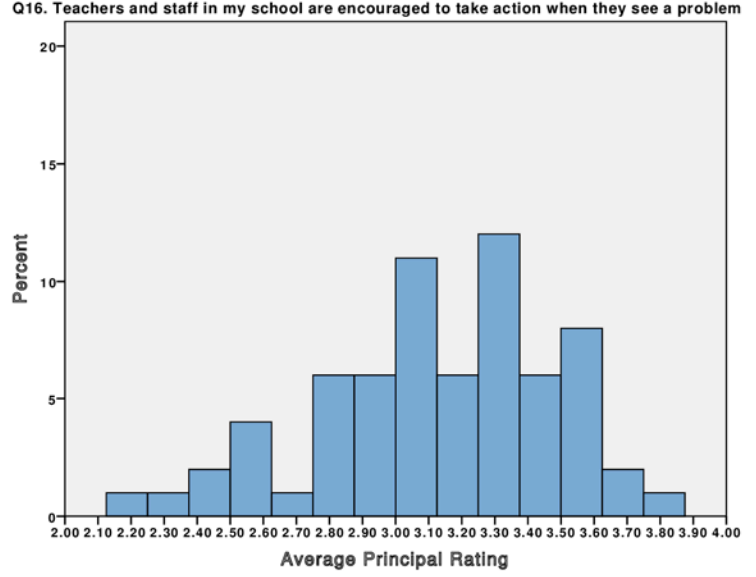
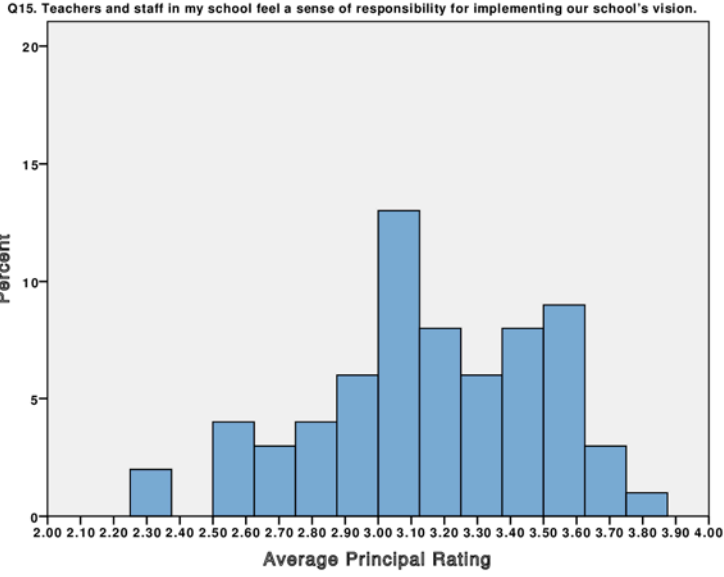
Q12. I understand my principal's vision for our school.



Q14. Teachers and staff in my school have leadership roles in implementing our school's vision.

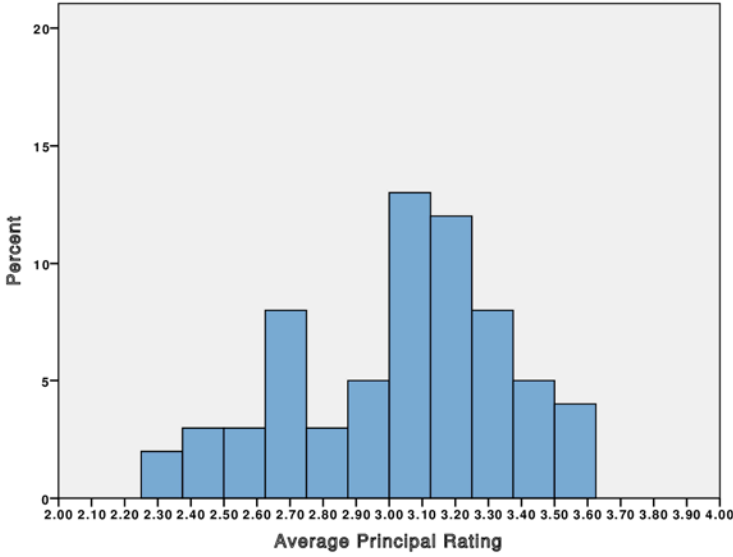


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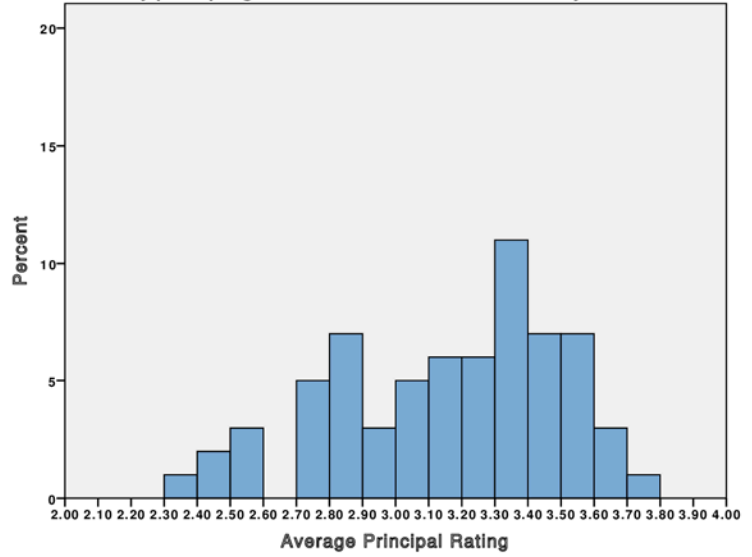


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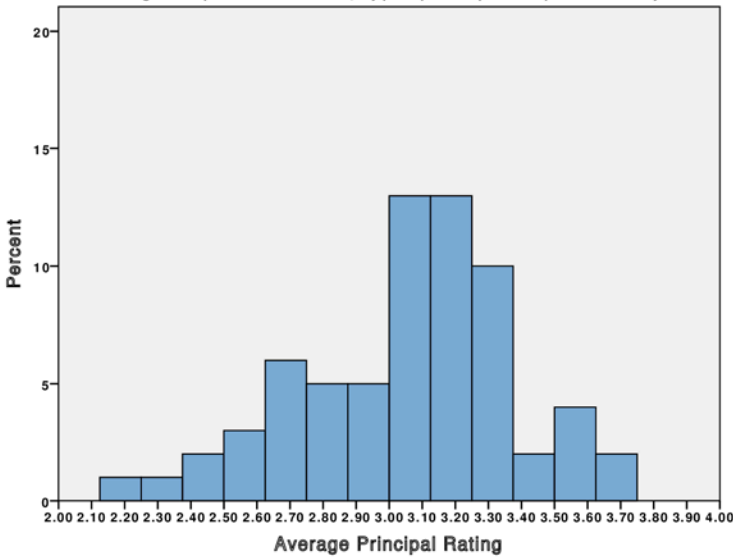
Q21. My principal involves parents in decision-making conversations about school policies.



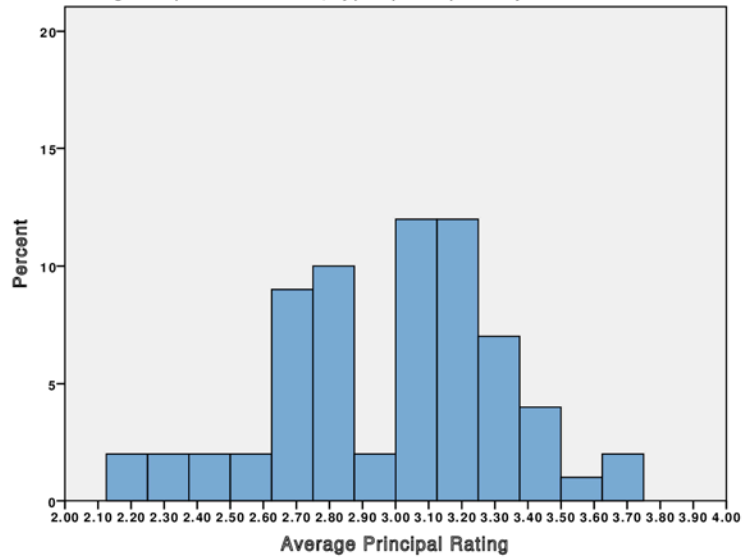
Q22. My principal gives me credit when he/she uses my ideas.



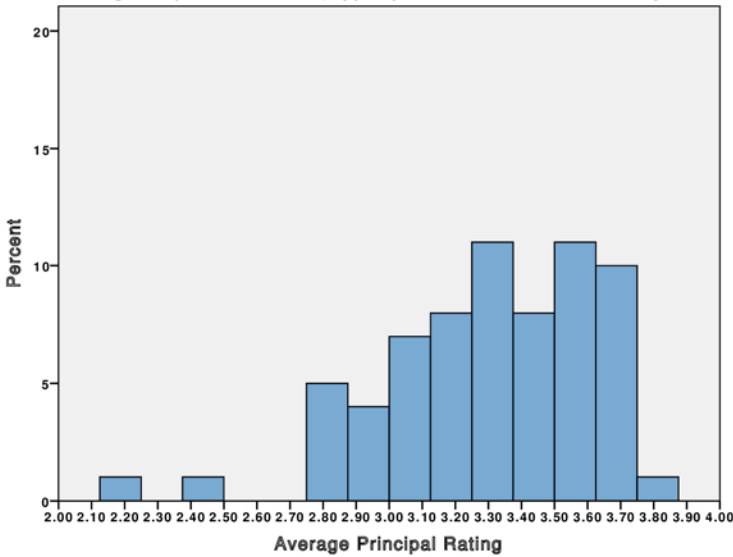
Q24. When making school policies and decisions, my principal incorporates input from a variety of ...



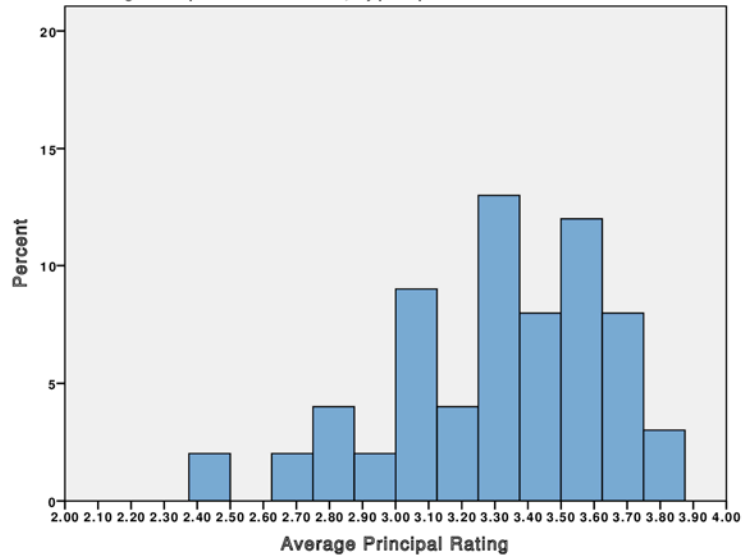
Q25. When making school policies and decisions, my principal incorporates my feedback into his/her decisions.



Q26. When making school policies and decisions, my principal shows consideration for the diversity of our ...

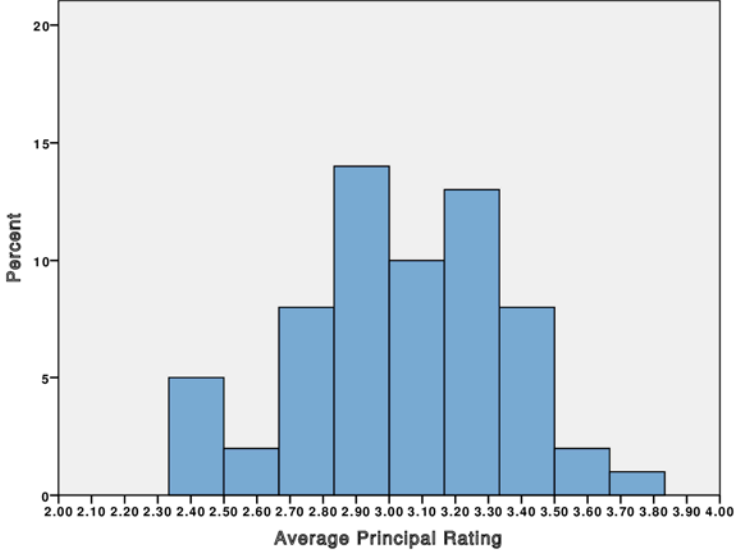


Q27. When making school policies and decisions, my principal shows consideration for the whole child.

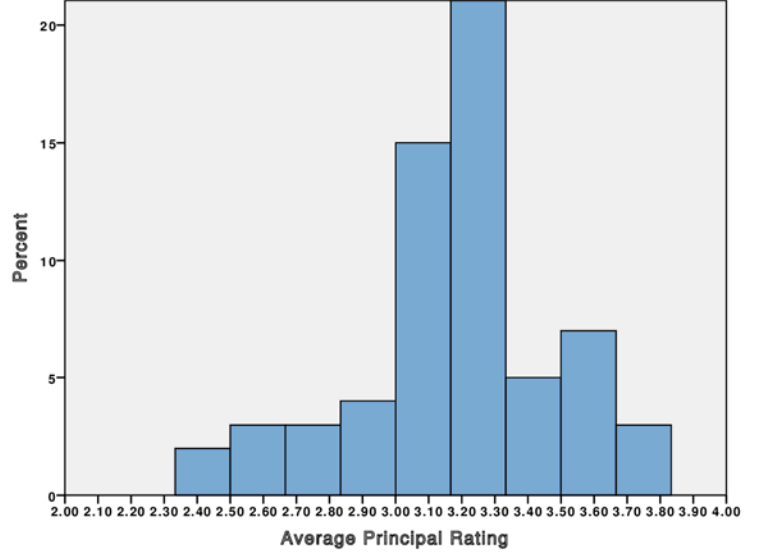


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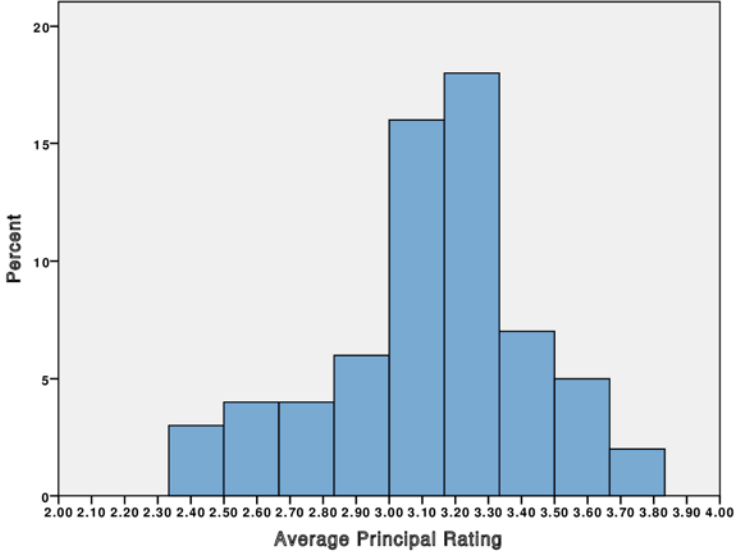
Q28. After making school policies and decisions, my principal clearly communicates changes in school policie...



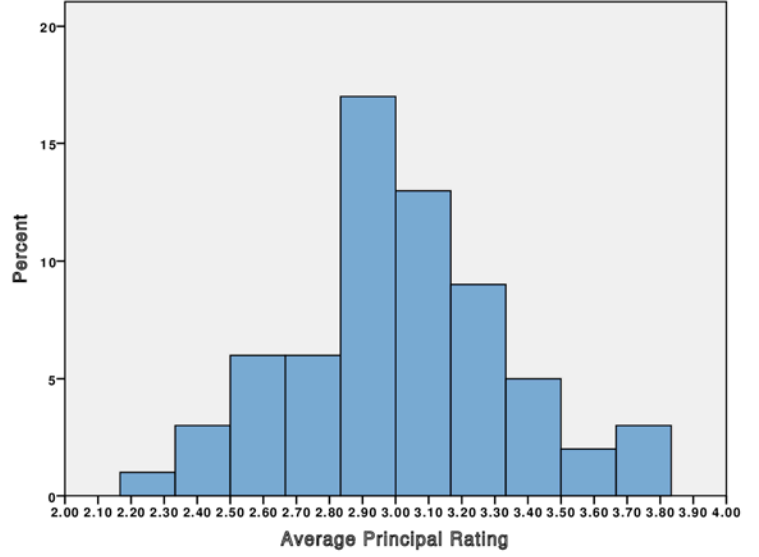
Q29. After making school policies and decisions, my principal makes him/herself available to clarify changes t...



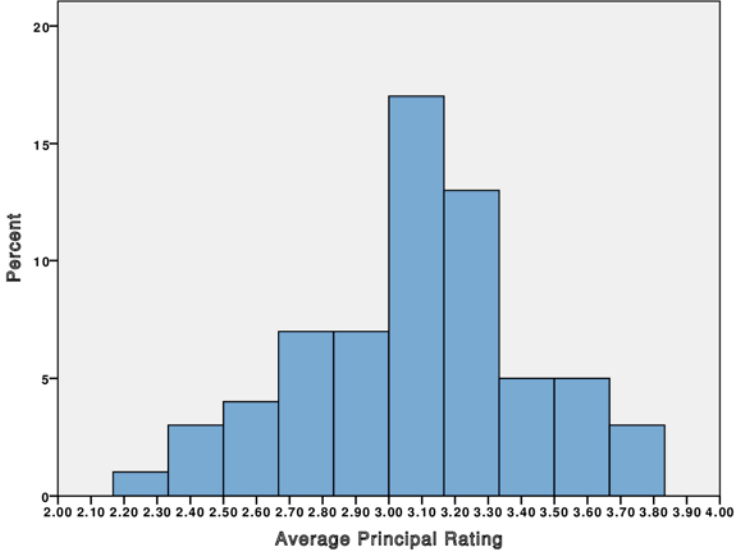
Q30. After making school policies and decisions, my principal puts systems into place to keep all parents ...



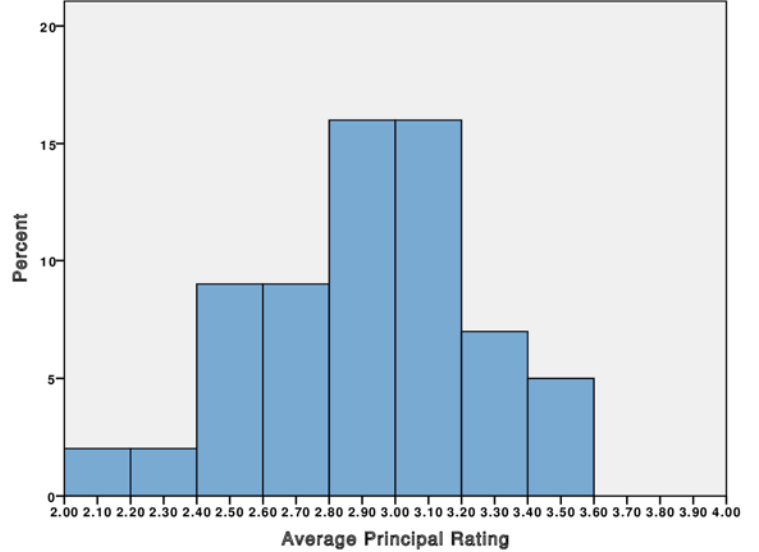
Q31. My principal acknowledges when school policies are not working.



Q32. My principal communicates both successes and failures in school policies.

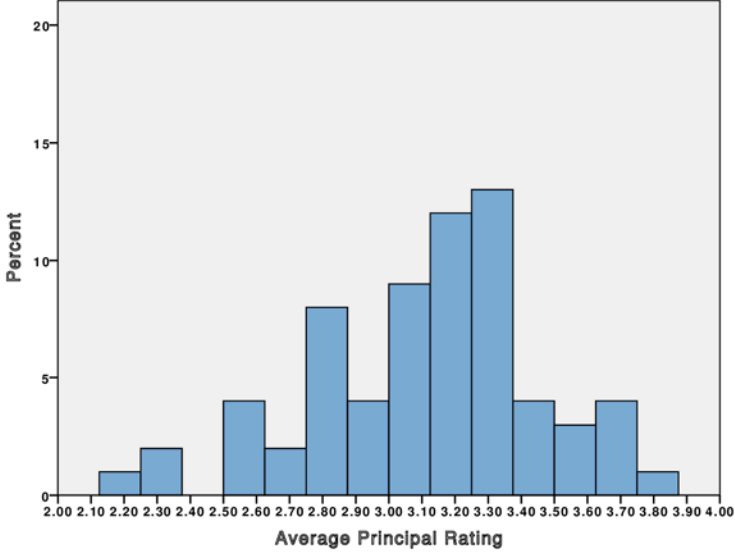


Q33. I understand how my input is used to guide instructional decisions in my school.

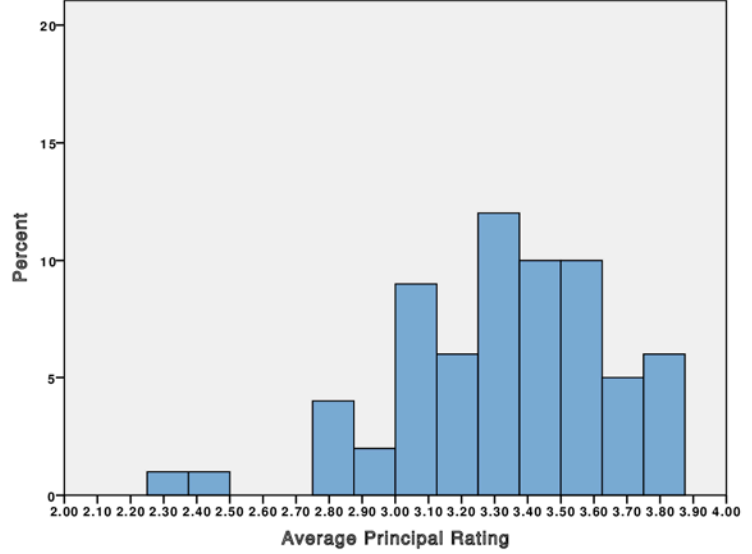


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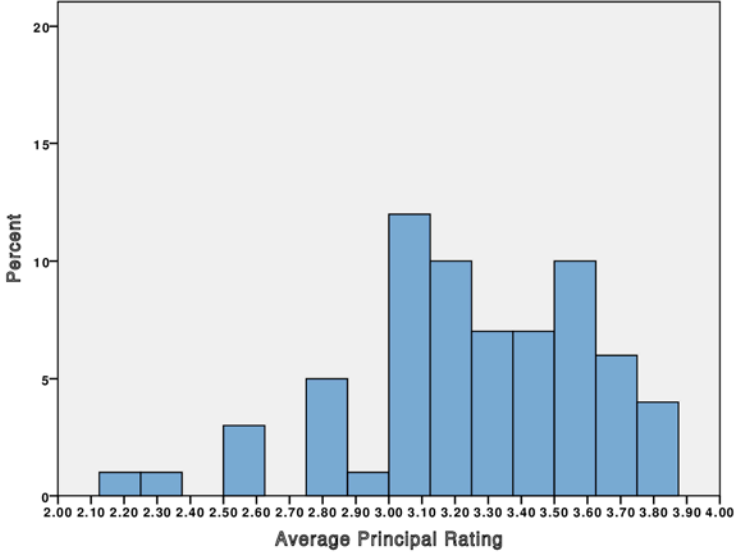
Q34. My principal takes the challenges and experiences of individual students into account when implementin...



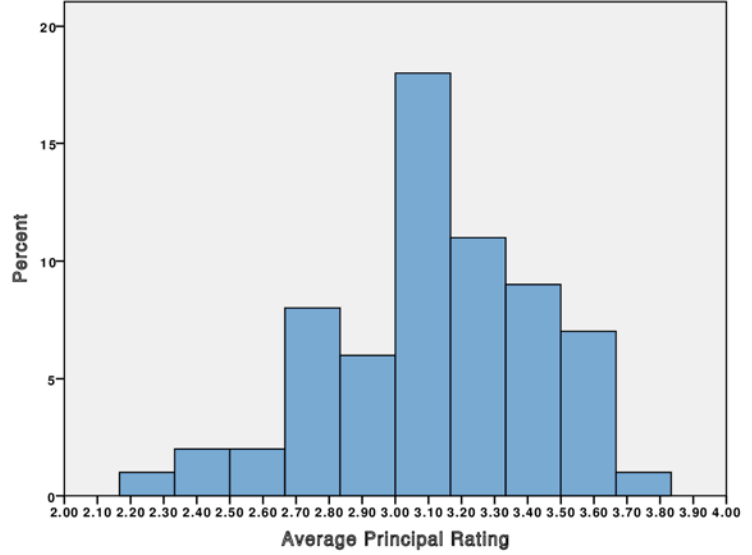
Q36. My principal recognizes diversity as an asset to the school.



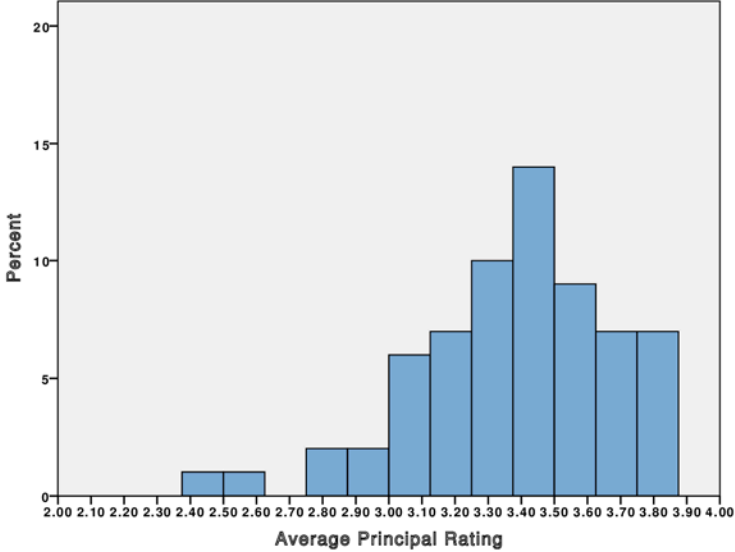
Q37. My principal is focused on including all families in school activities.



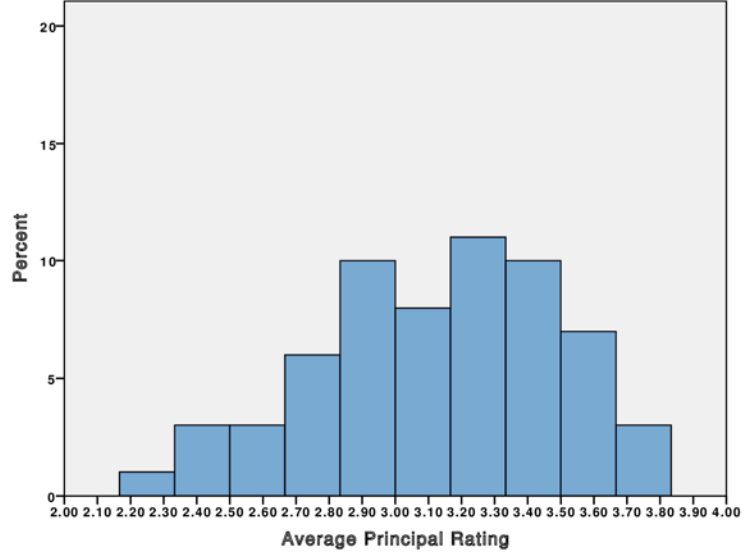
Q38. My principal finds ways to involve parents and the community in the students learning.



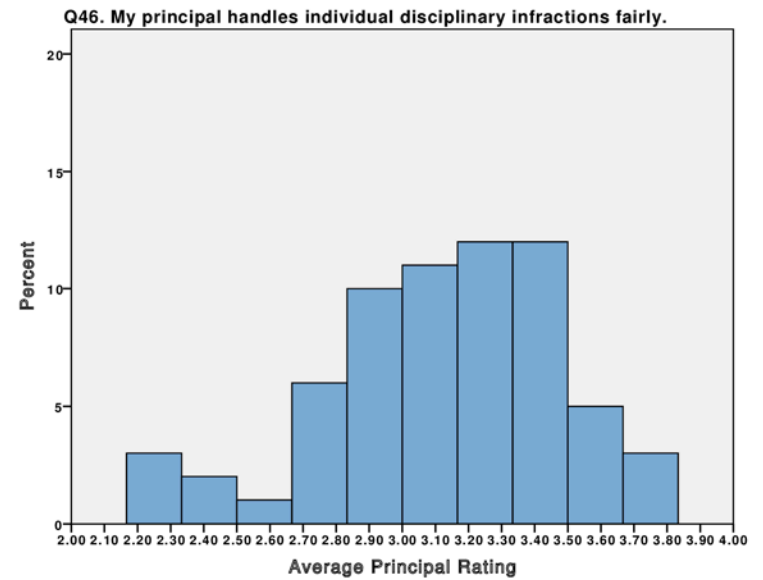
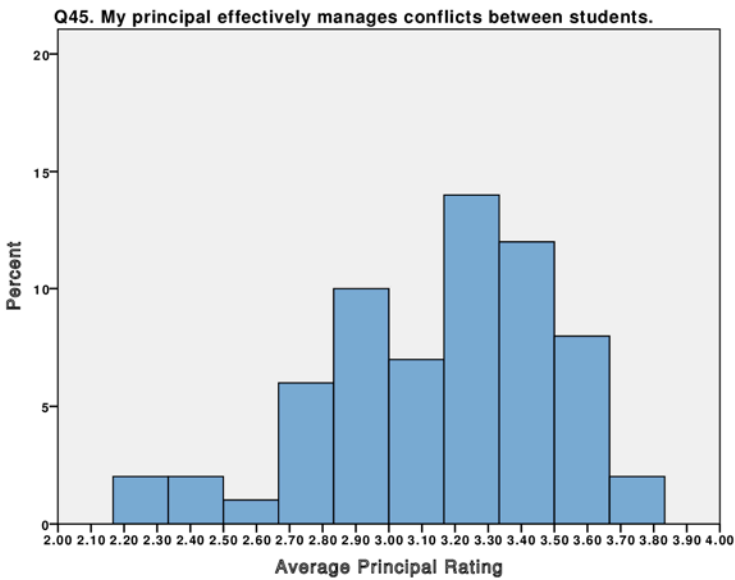
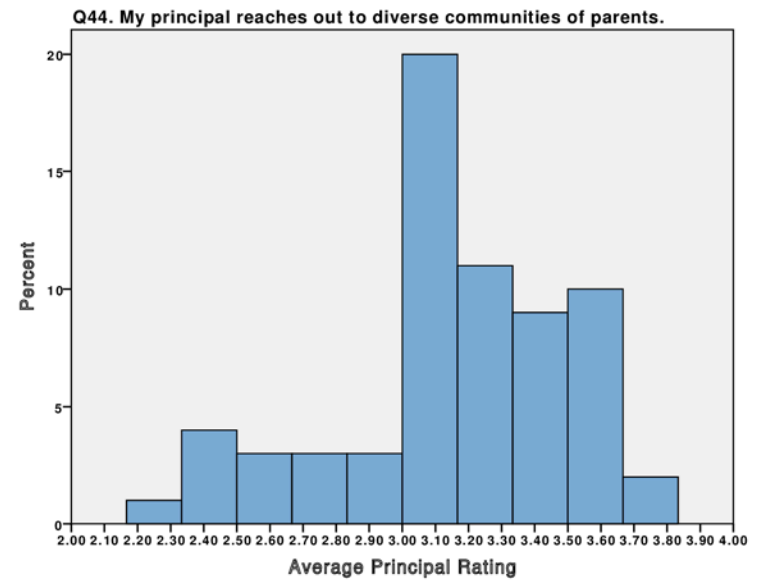
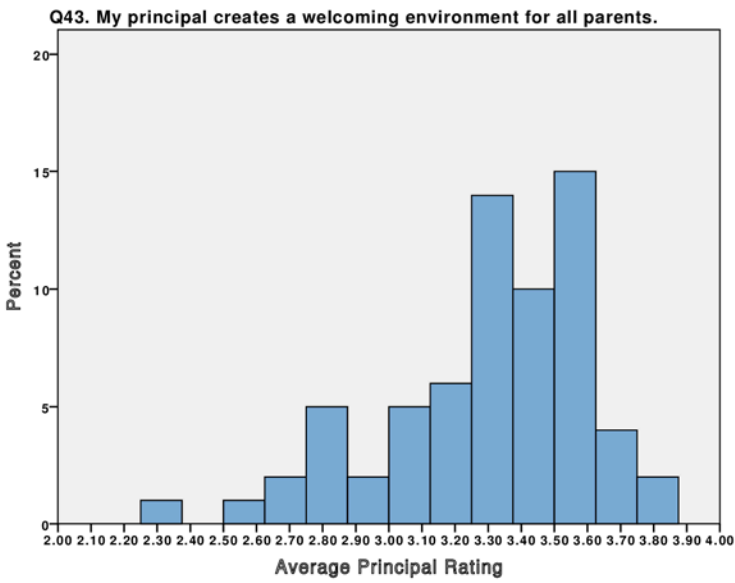
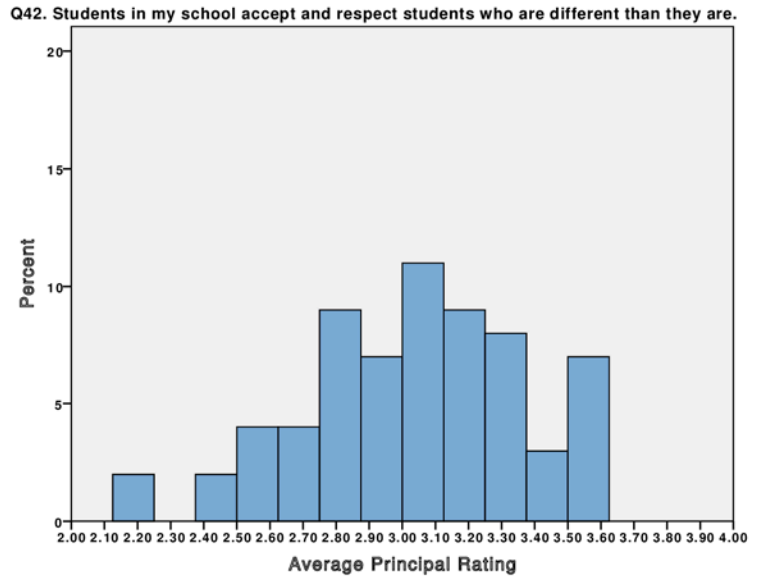
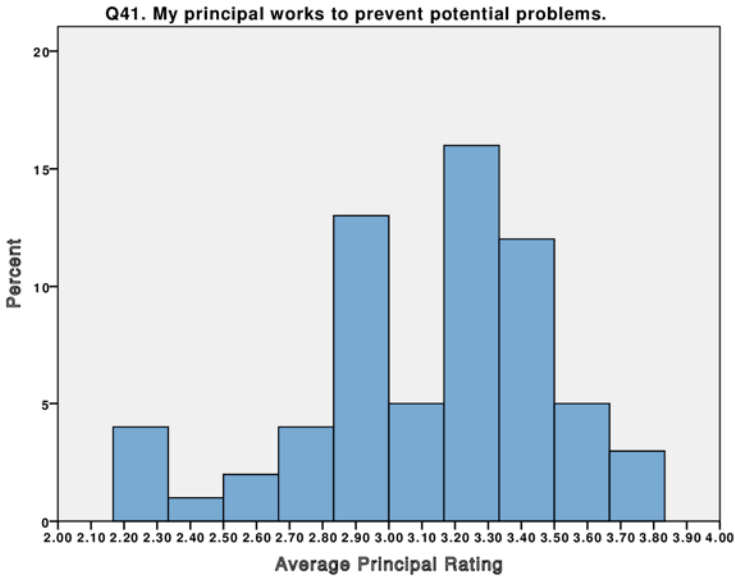
Q39. My principal ensures that all students are treated with dignity and respect.



Q40. My principal addresses and resolves problems quickly.

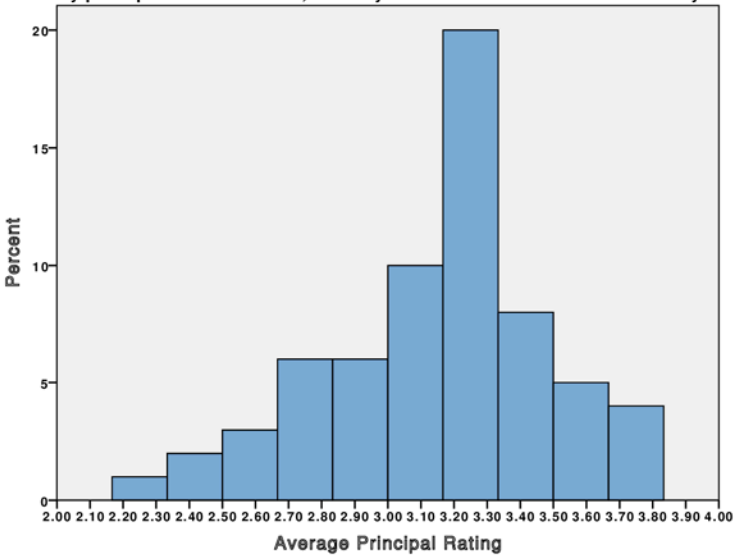


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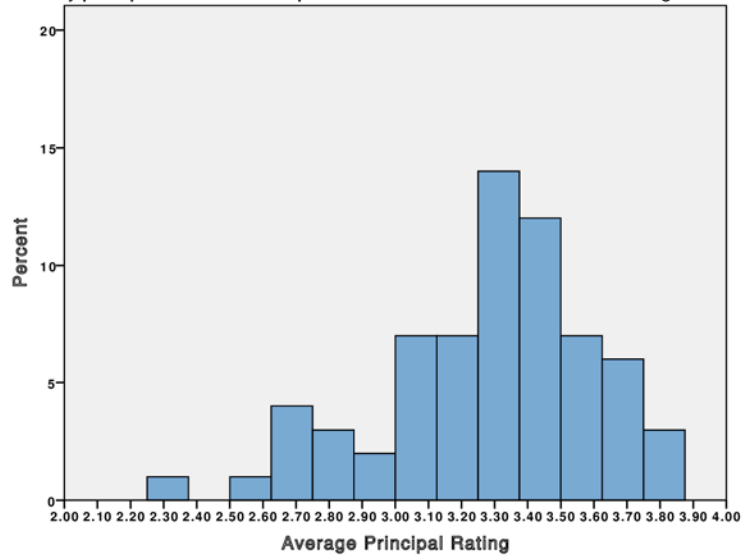


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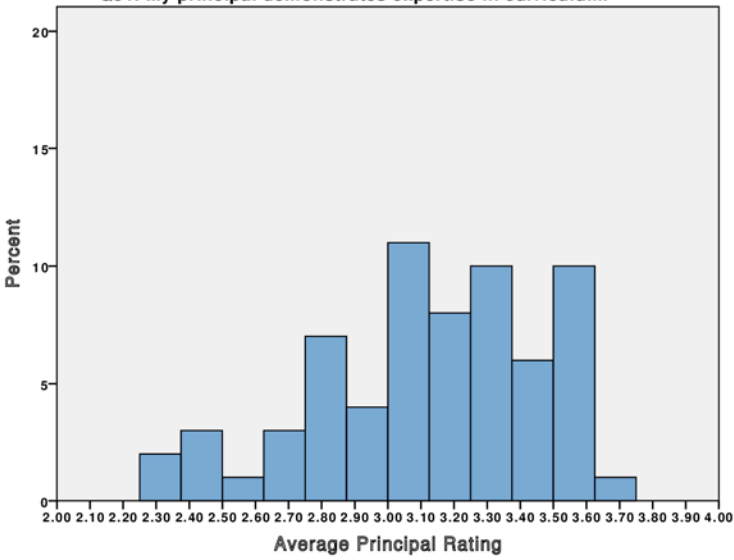
Q47. My principal maintains clear, two-way communication with the community.



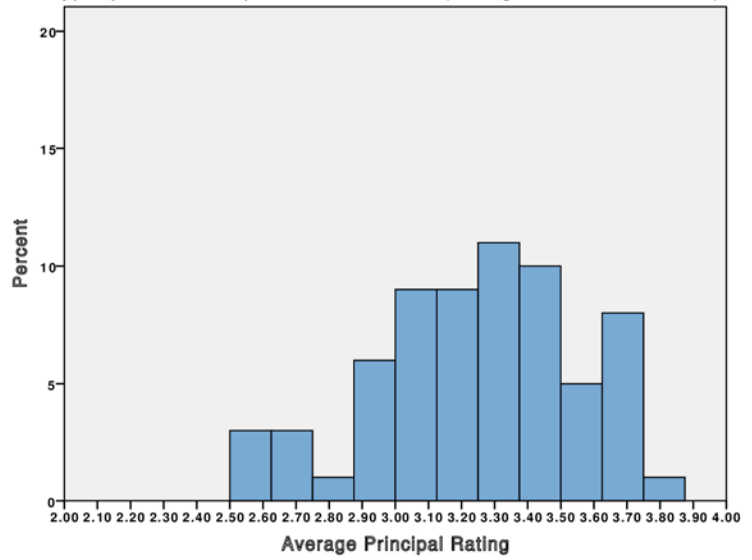
Q50. My principal demonstrates expertise in student achievement and student growth.



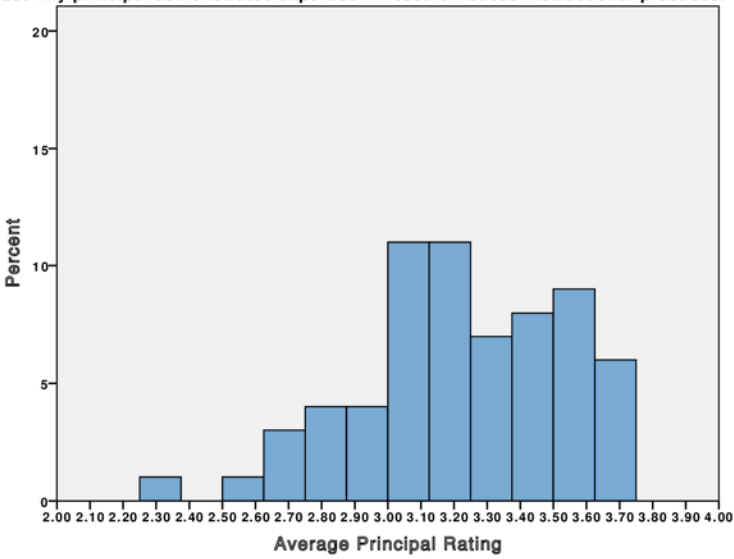
Q51. My principal demonstrates expertise in curriculum.



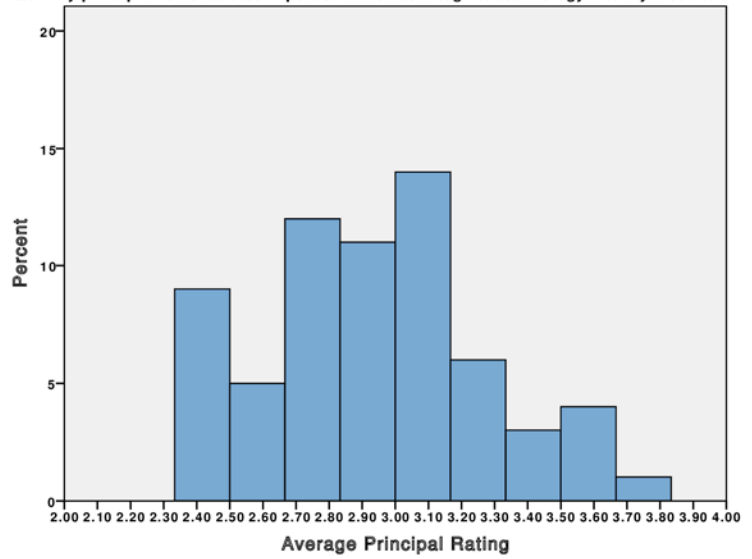
Q52. My principal demonstrates expertise in academic standards (including Colorado Academic Standards).



Q53. My principal demonstrates expertise in research-based instructional practices.

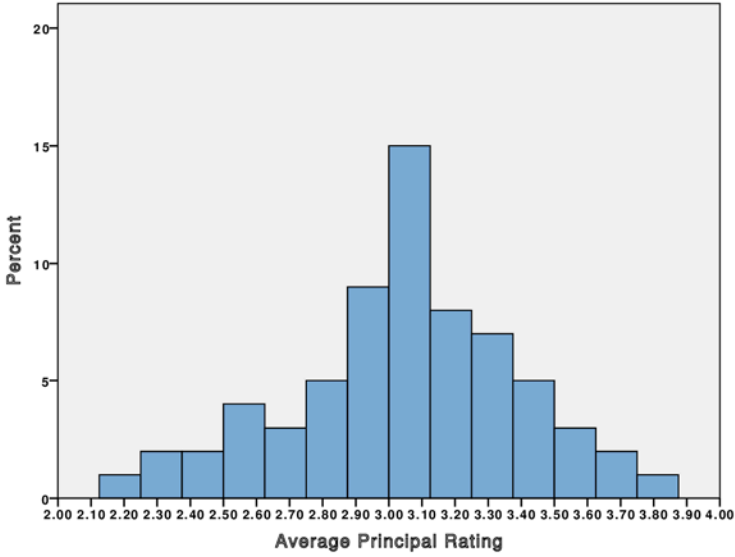


Q54. My principal demonstrates expertise in how to integrate technology into my instruction.

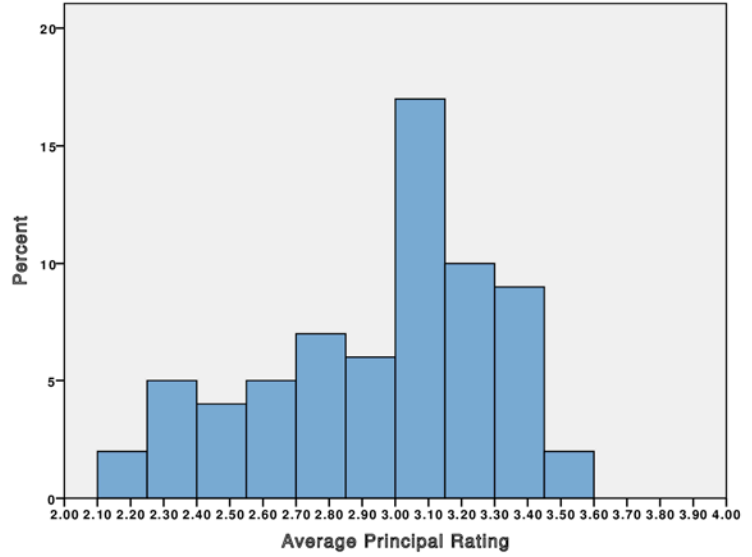


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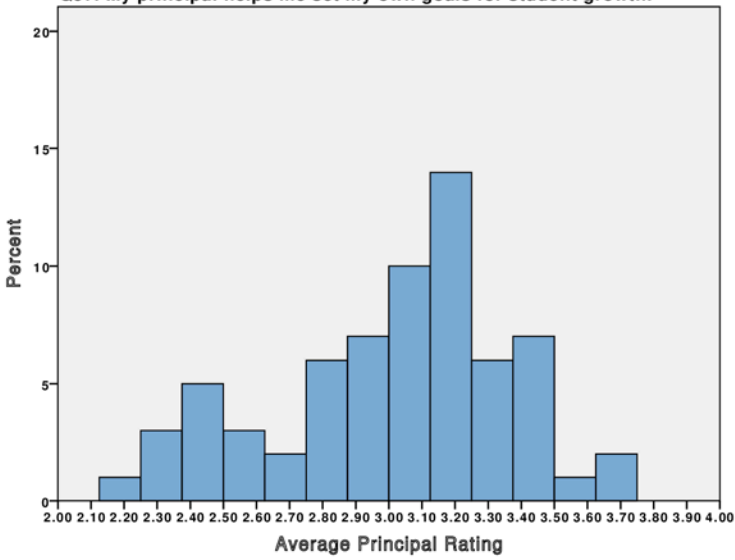
Q55. My principal demonstrates expertise in incorporating appropriate assessment strategies into my practice.



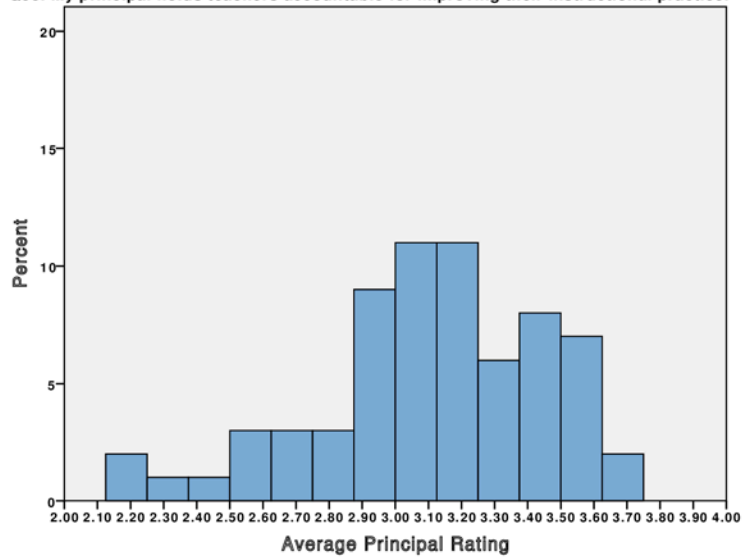
Q56. My principal helps me understand how to adapt my instruction to meet the needs of all students.



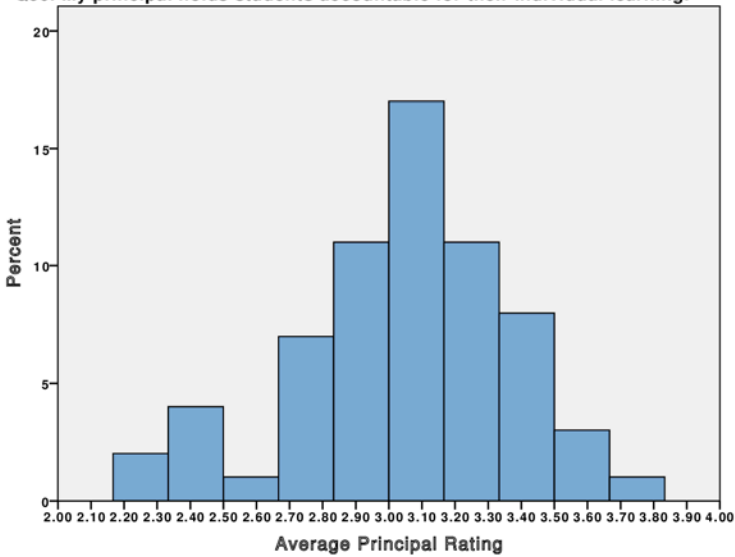
Q57. My principal helps me set my own goals for student growth.



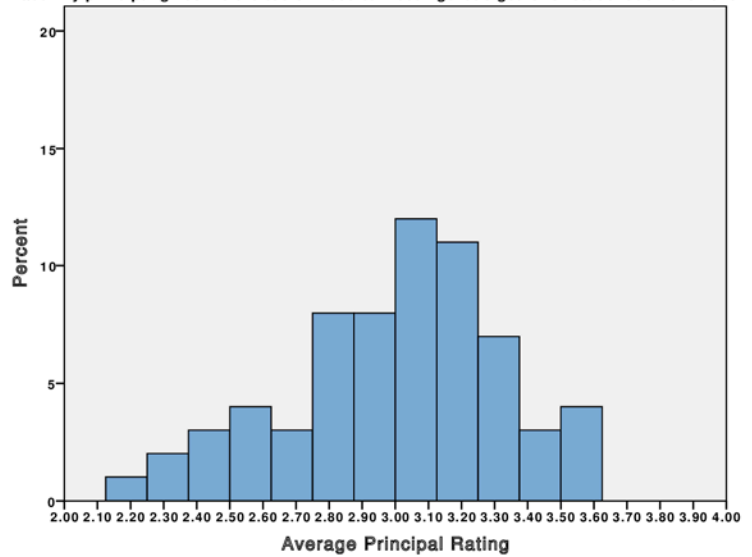
Q58. My principal holds teachers accountable for improving their instructional practice.



Q59. My principal holds students accountable for their individual learning.

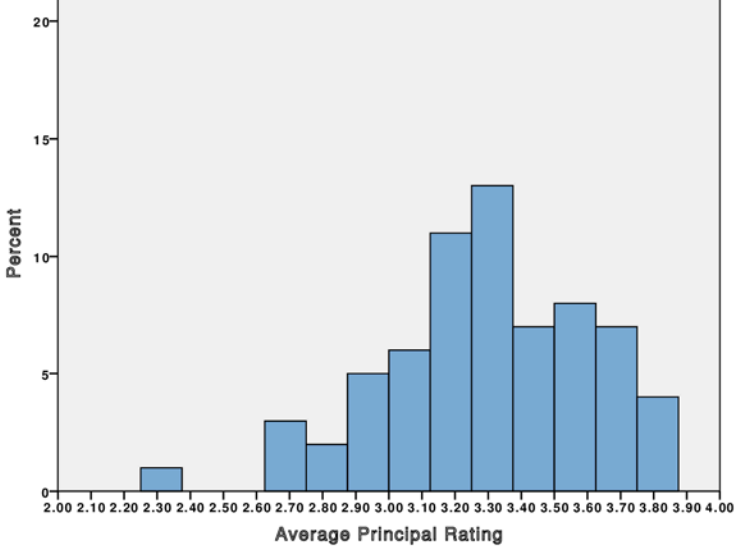


Q60. My principal gives me the tools I need to meet rigorous goals for student achievement.

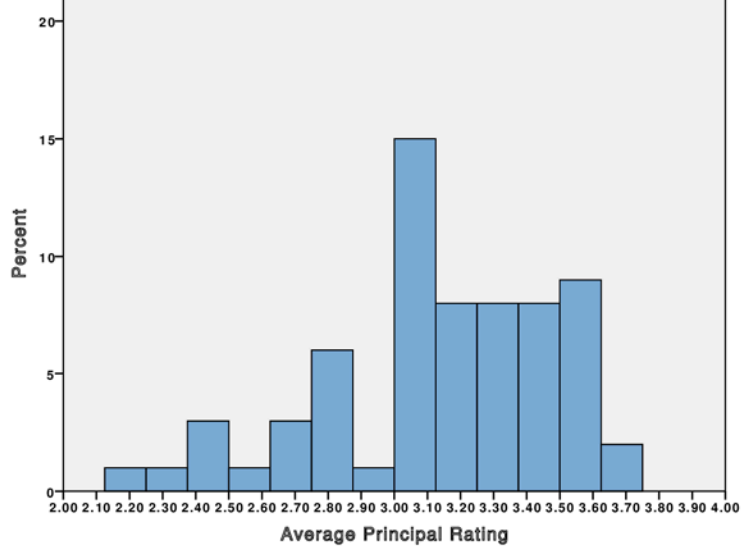


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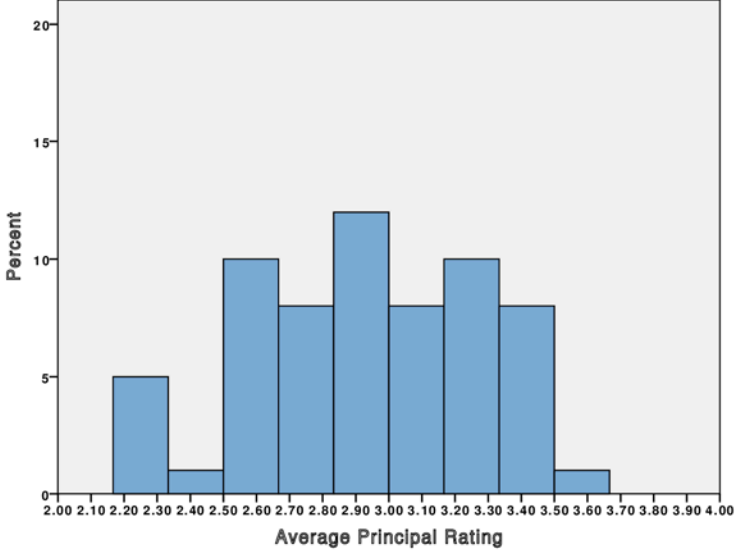
Q61. My principal is interested in innovation and new ideas.



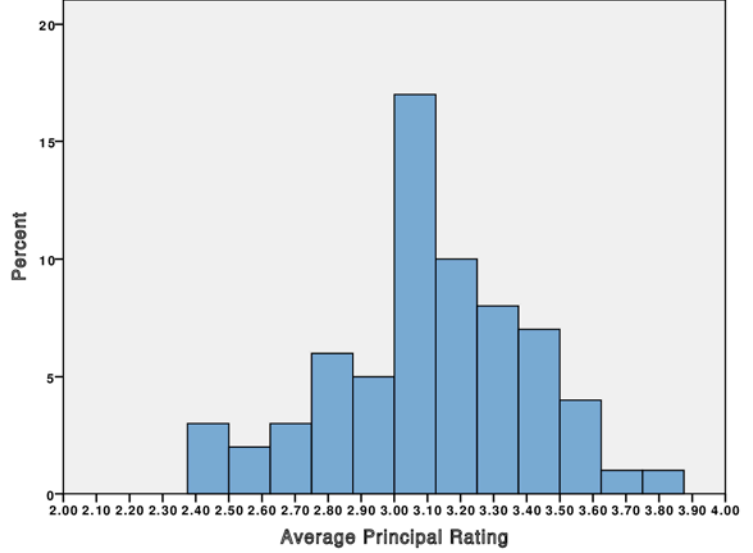
Q62. My principal listens to teachers feedback about scheduling decisions.



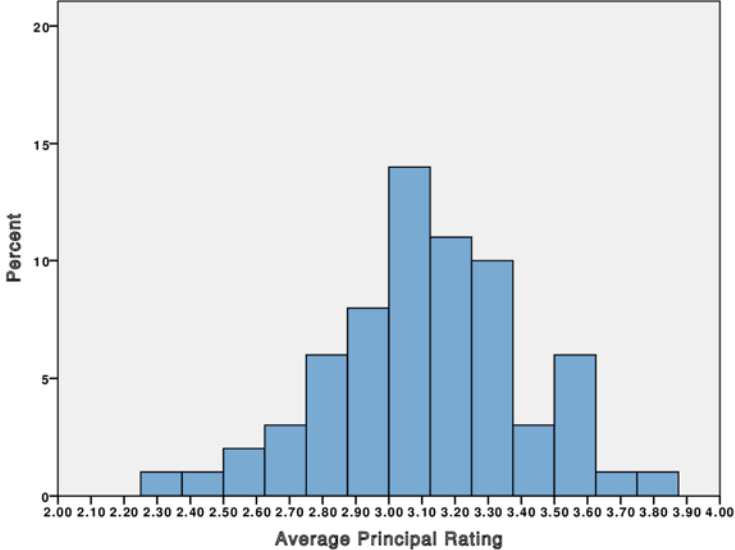
Q63. Teachers are protected from duties that interfere with their roles as educators.



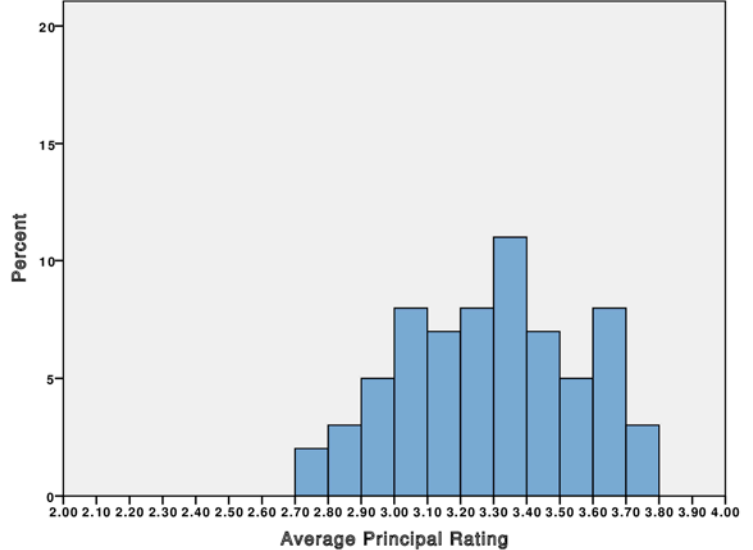
Q65. My principal adds to my professional development by encouraging meaningful engagement in profesio...



Q66. My principal provides us with real opportunities to be members of professional learning communities.

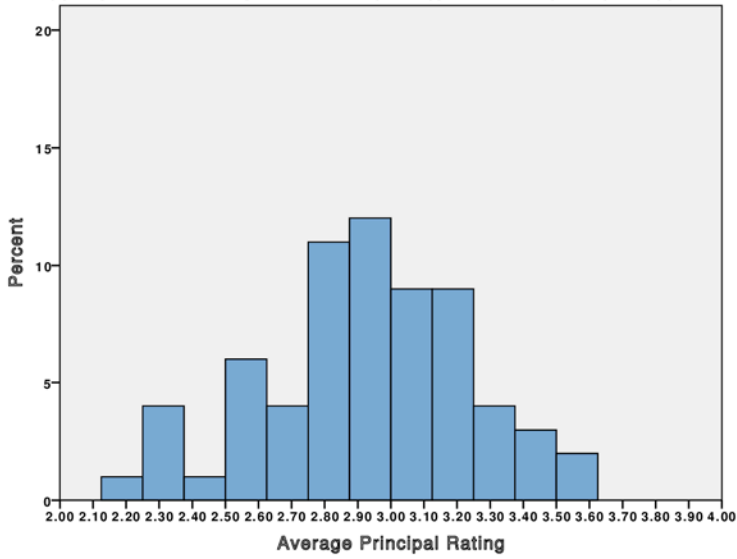


Q67. My principal encourages instructional collaboration among teachers.

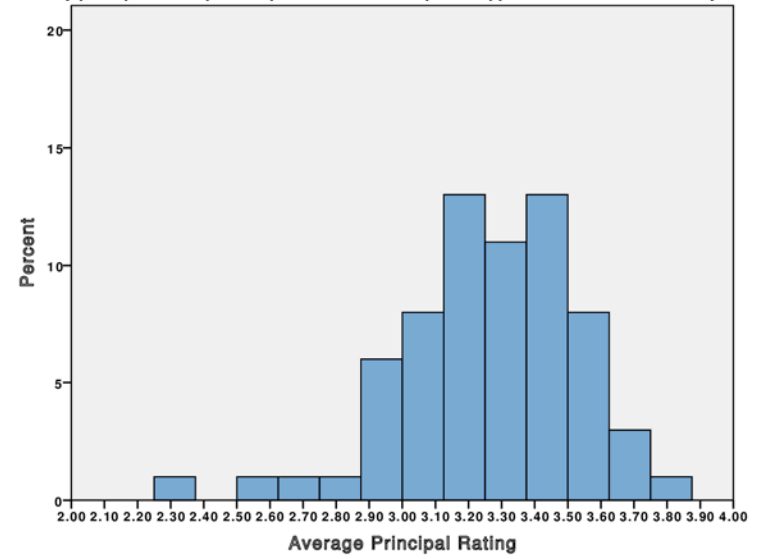


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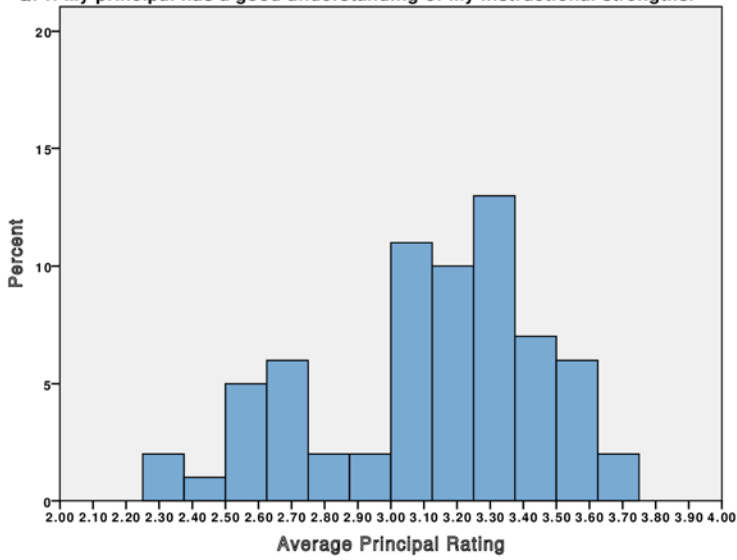
Q68. My principal connects me with professional development opportunities to help me improve my practice.



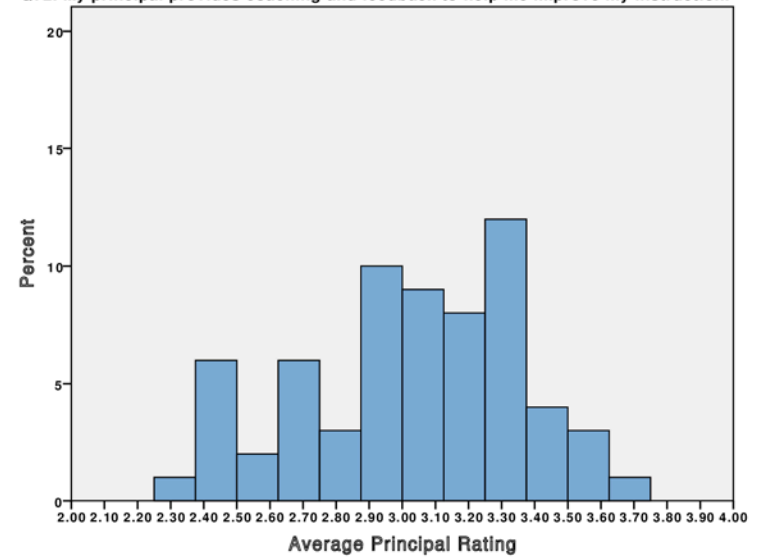
Q69. My principal is receptive to professional development opportunities I seek out on my own.



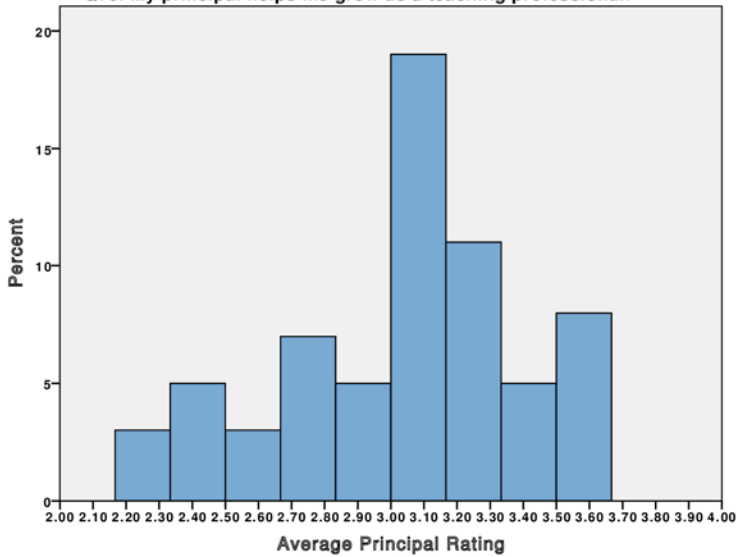
Q71. My principal has a good understanding of my instructional strengths.



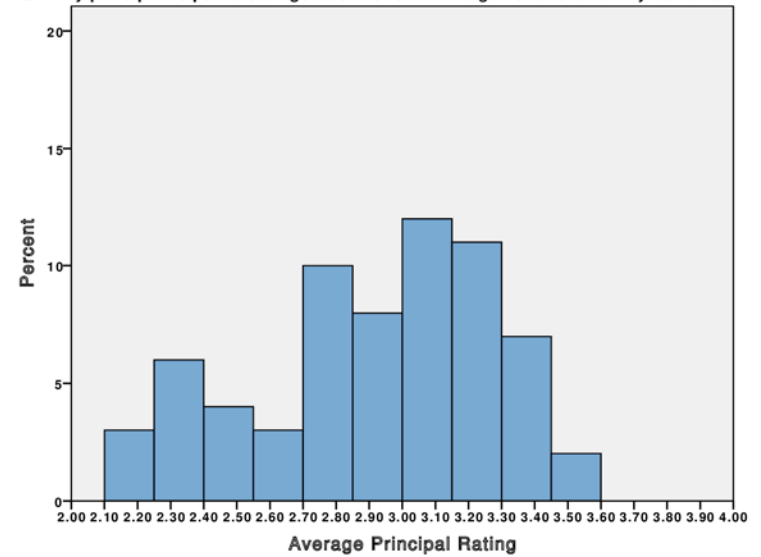
Q72. My principal provides coaching and feedback to help me improve my instruction.



Q73. My principal helps me grow as a teaching professional.

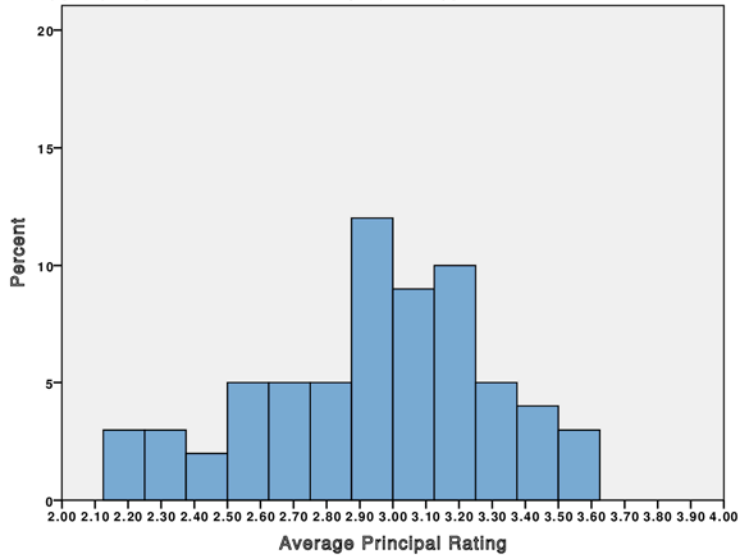


Q74. My principal helps me set rigorous but achievable goals for each of my students.

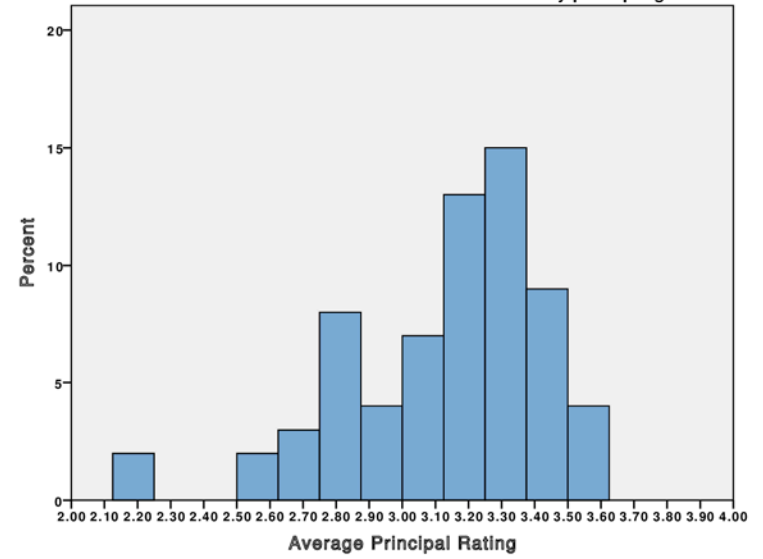


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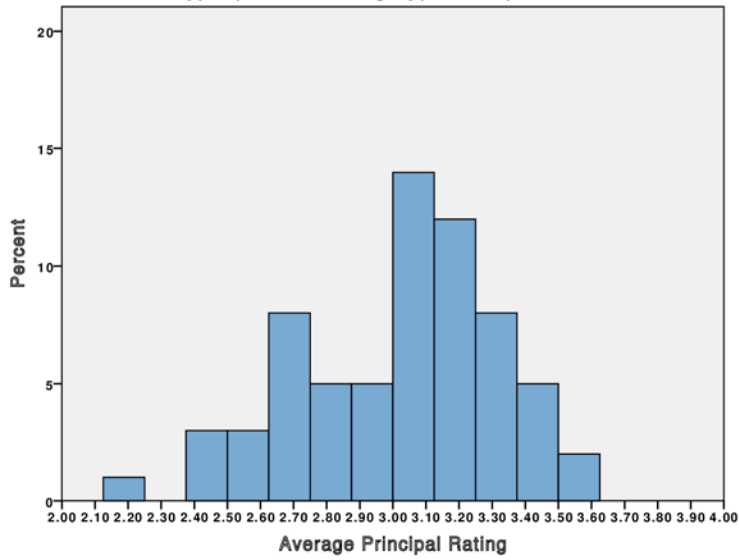
Q75. My principal helps me understand how to change my teaching practice to increase student achievement.



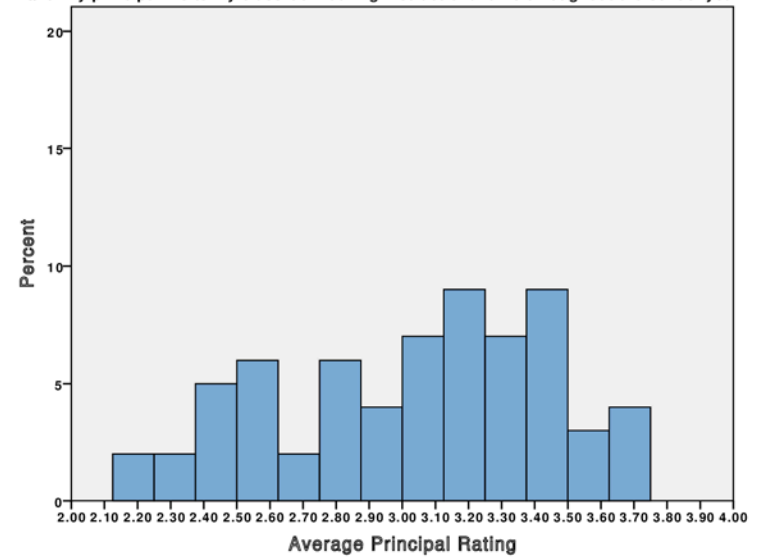
Q76. I understand how to use the instructional feedback that my principal gives me.



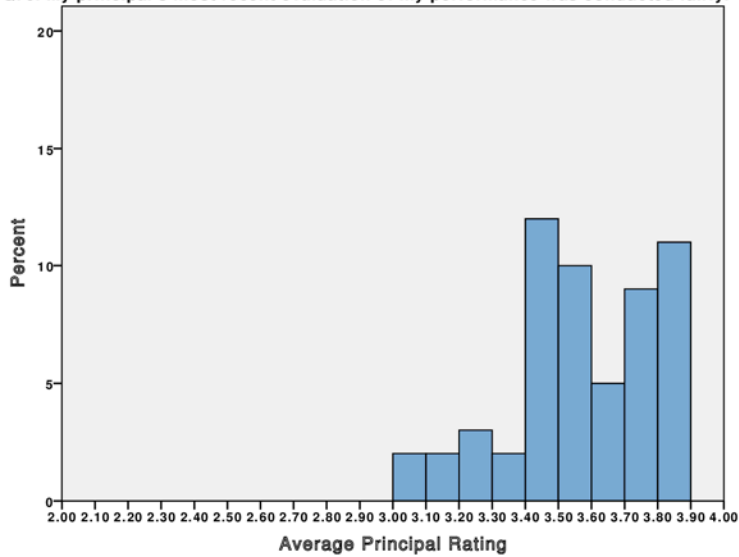
Q77. I understand how my principal wants me to change my professional practice to increase student ...



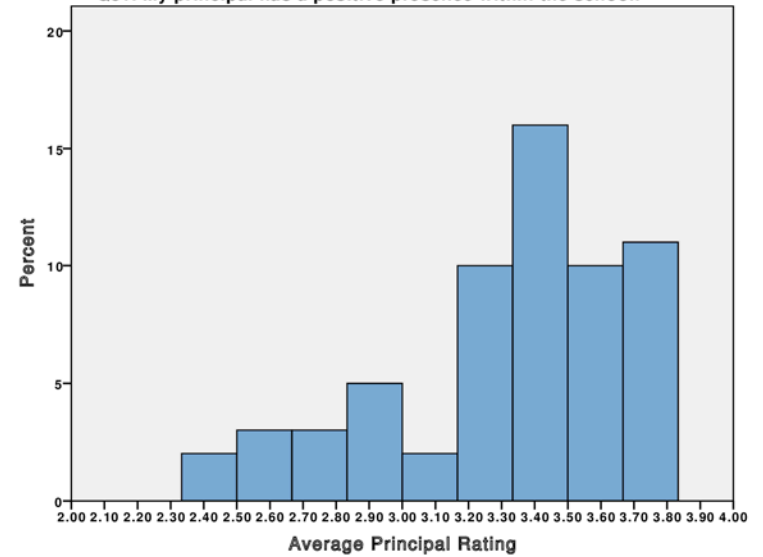
Q78. My principal visits my classroom during instructional time throughout the school year.



Q79. My principal's most recent evaluation of my performance was conducted fairly.

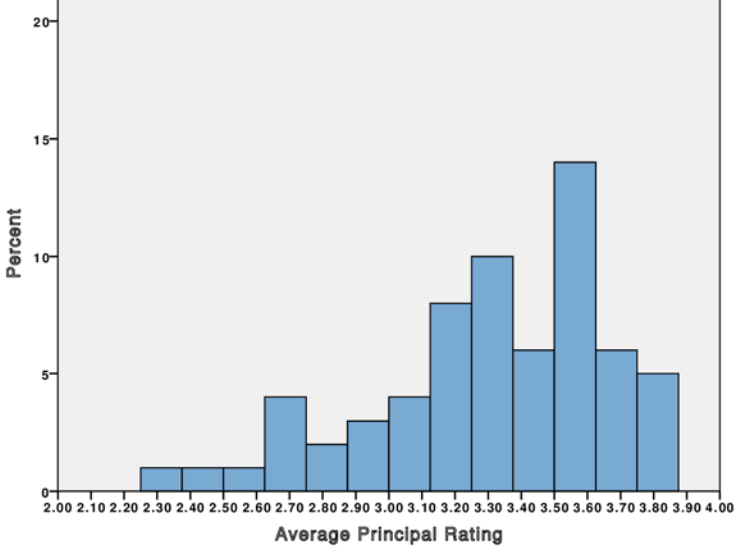


Q81. My principal has a positive presence within the school.

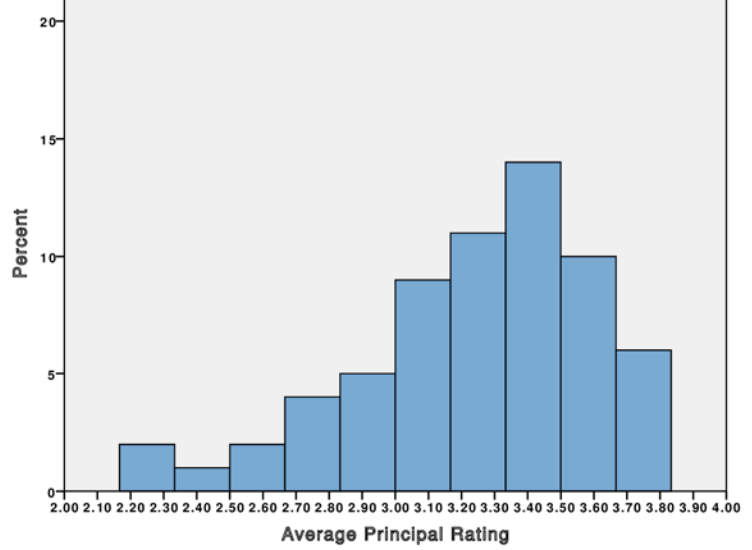


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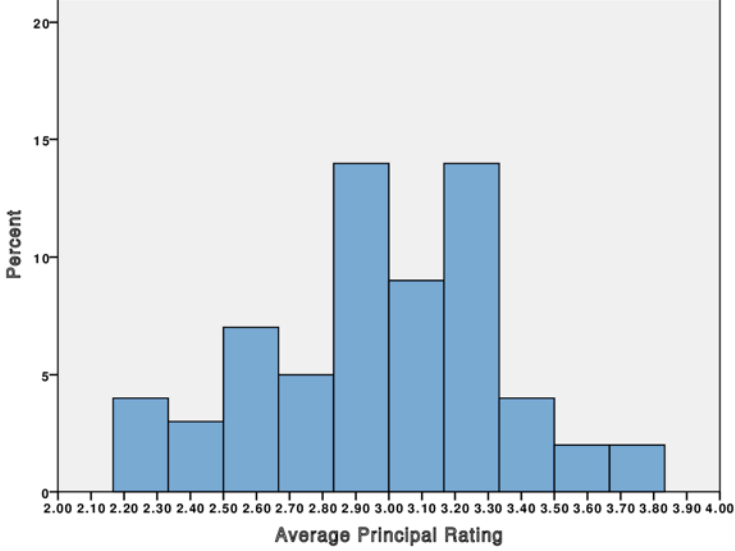
Q82. My principal helps create an inclusive and welcoming school climate.



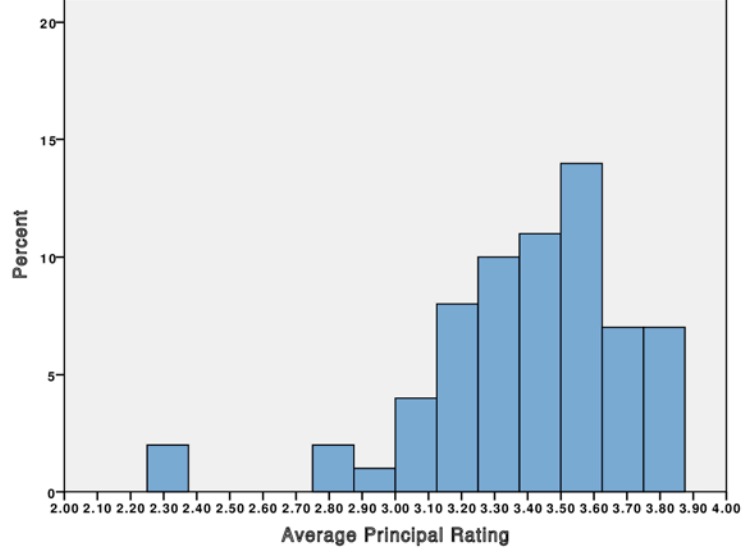
Q83. My principal is easily accessible to students and staff.



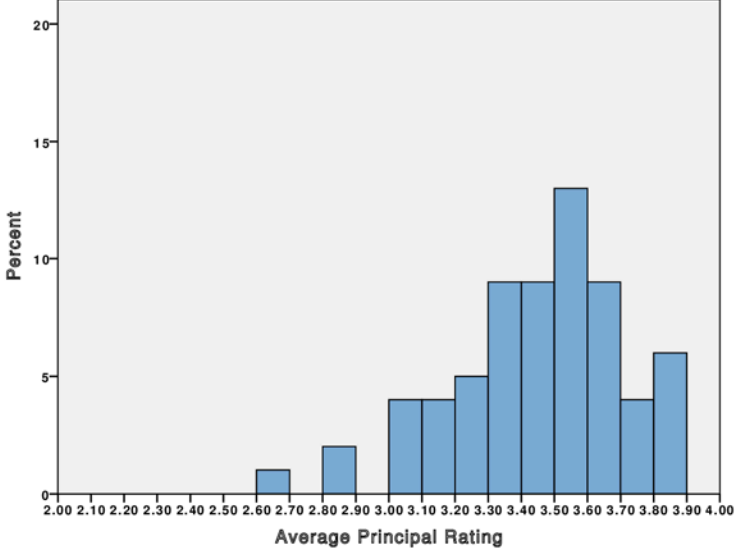
Q84. My principal considers the input of all teachers equally.



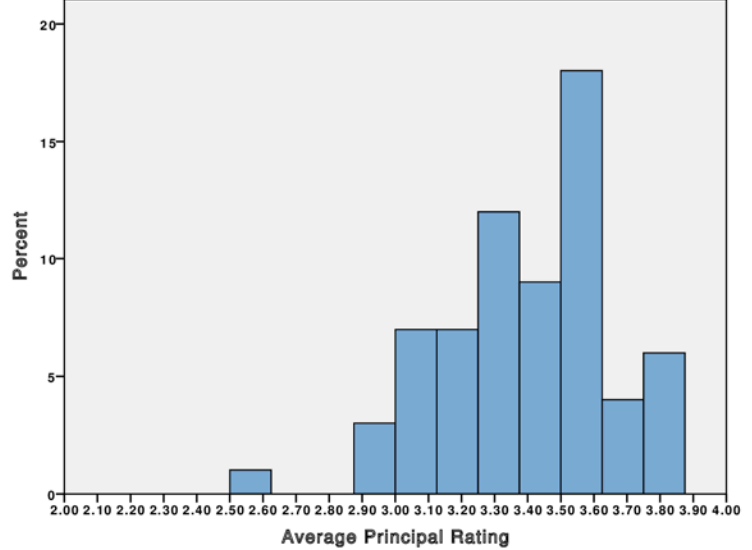
Q85. My principal considers the well-being of all students.



Q86. My principal sets the expectation that all students can learn.

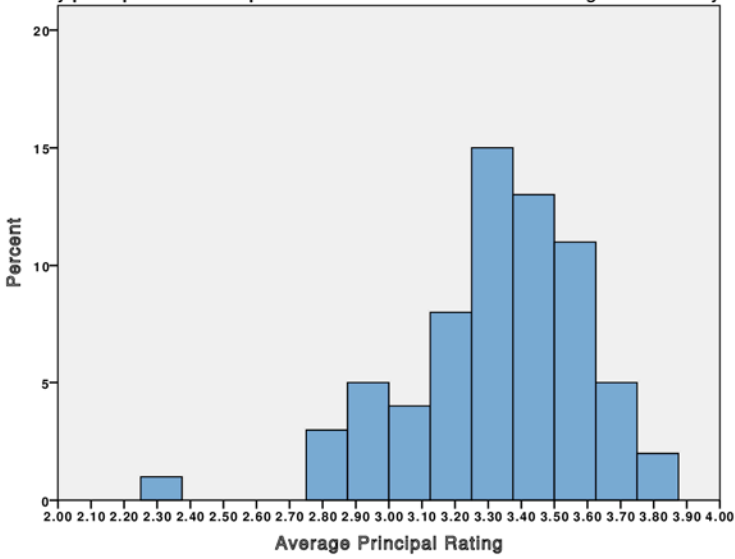


Q87. My principal sets the expectation that all students can graduate from high school.

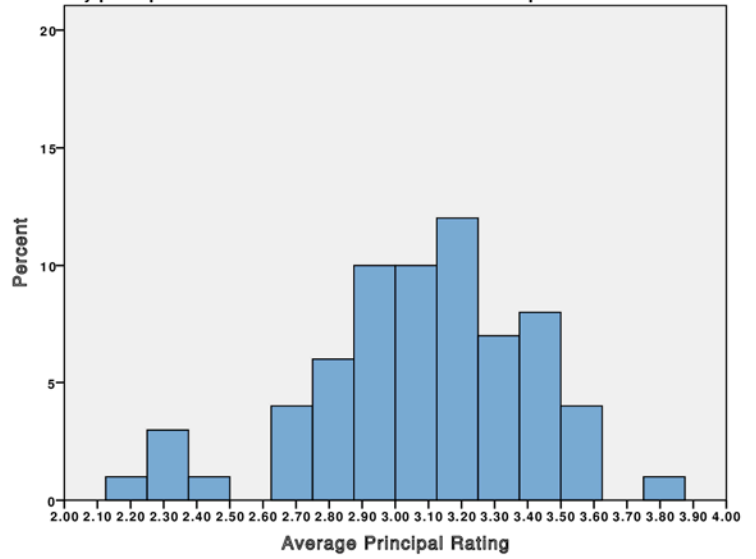


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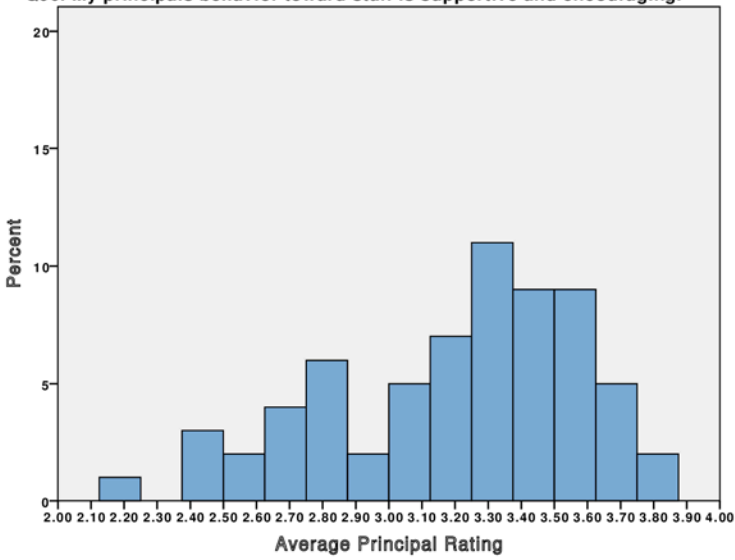
Q88. My principal sets the expectation that all students can be college/career ready.



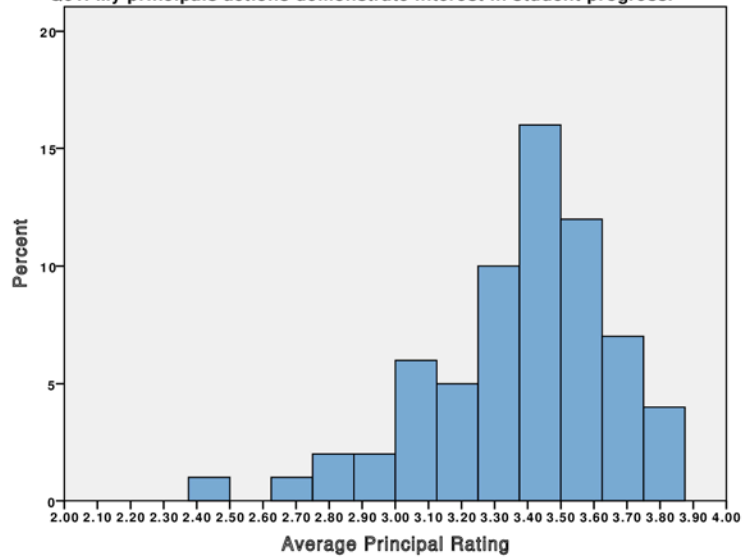
Q89. My principal handles conflicts between teachers in a professional manner.



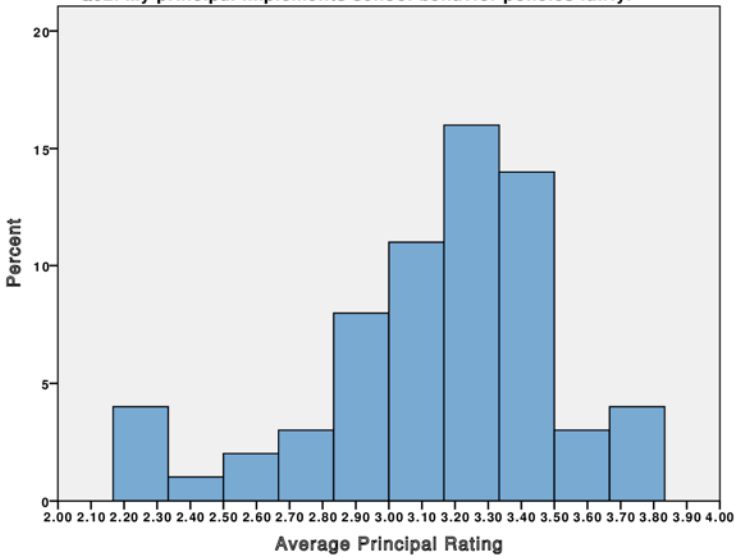
Q90. My principals behavior toward staff is supportive and encouraging.



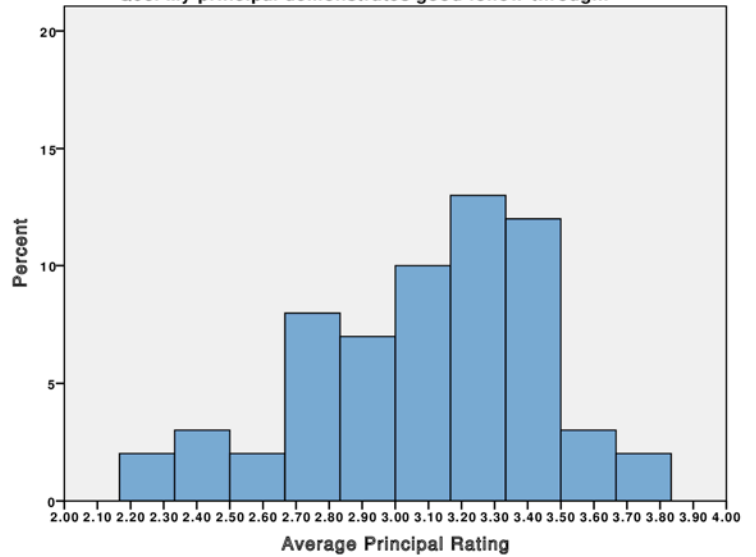
Q91. My principals actions demonstrate interest in student progress.



Q92. My principal implements school behavior policies fairly.

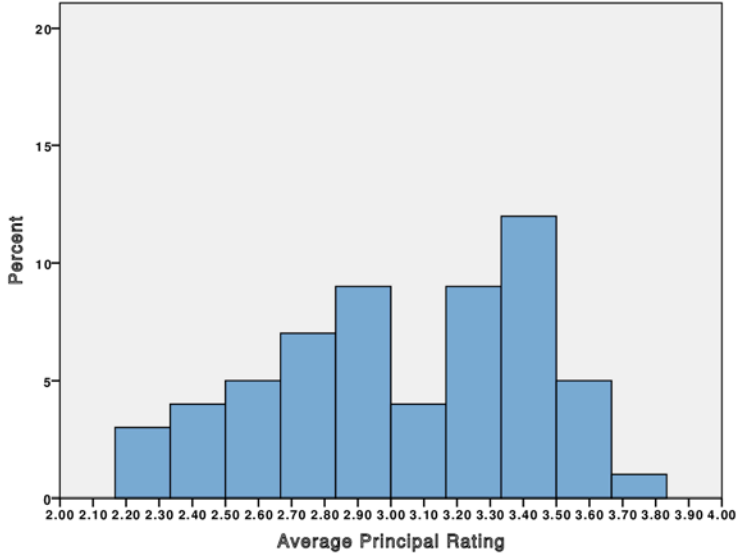


Q93. My principal demonstrates good follow-through.

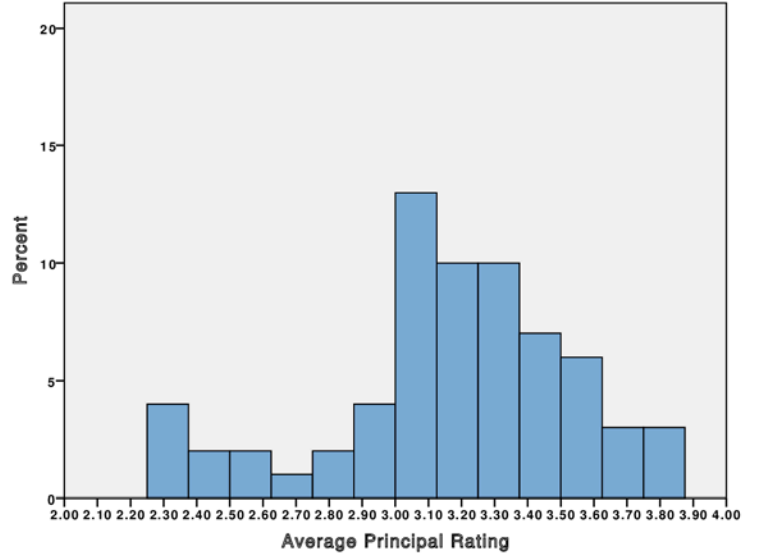


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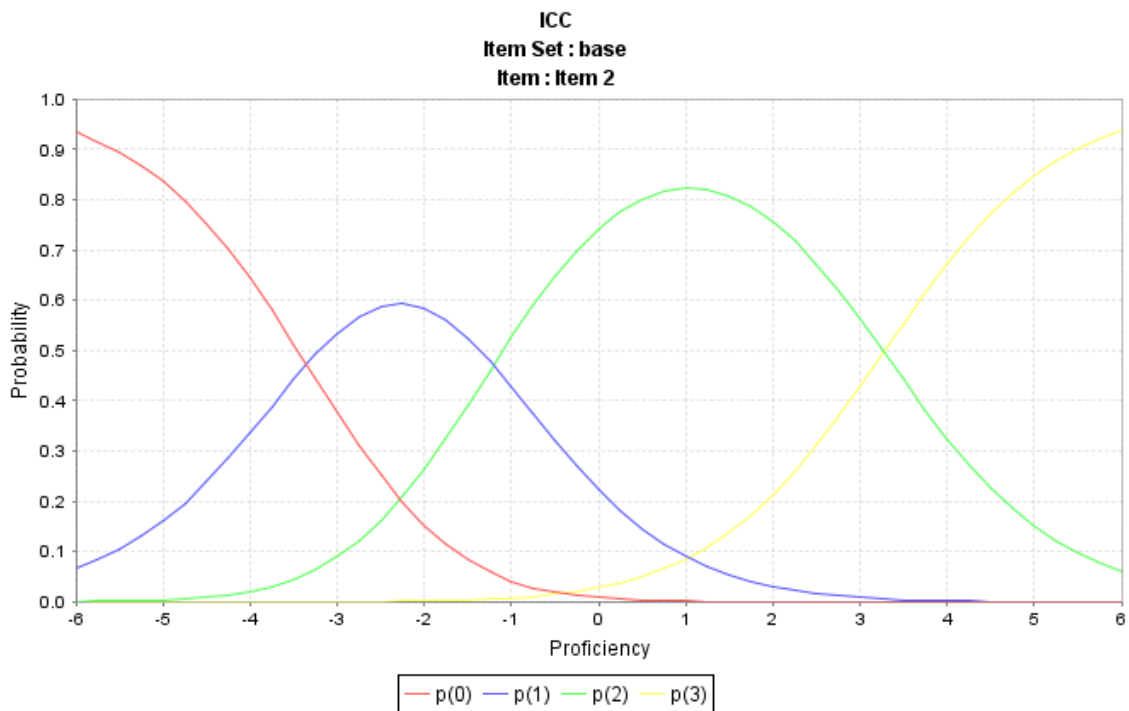
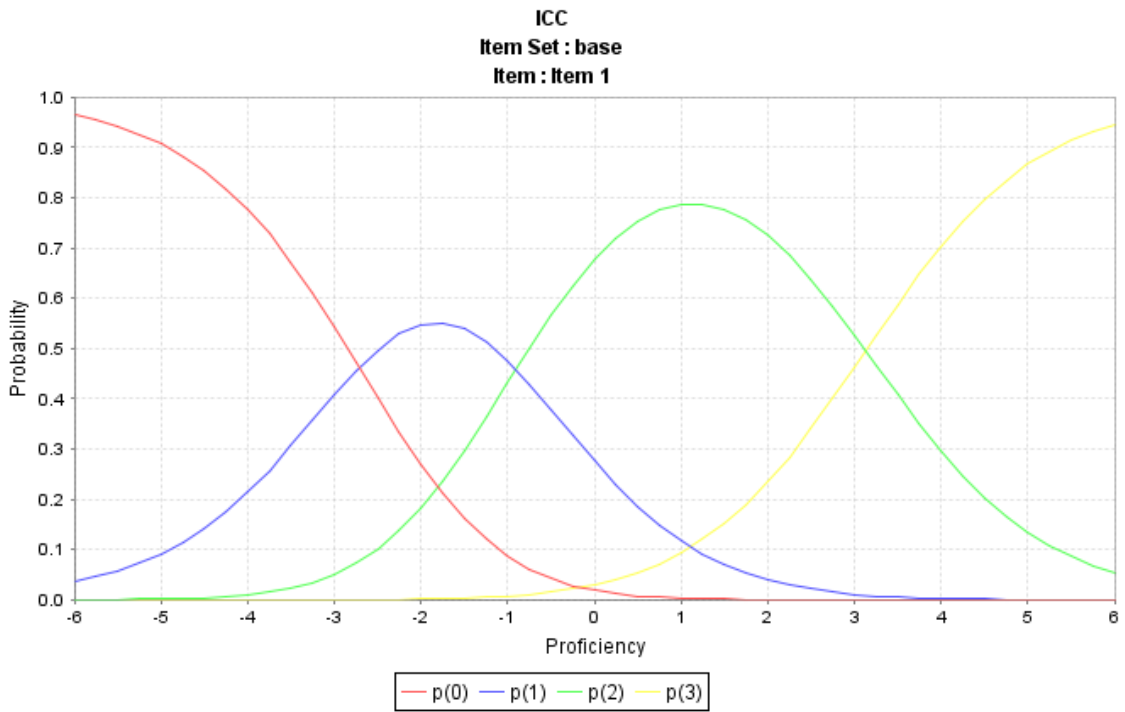
Q94. There is an atmosphere of trust and mutual respect between teachers in my school and the principal.



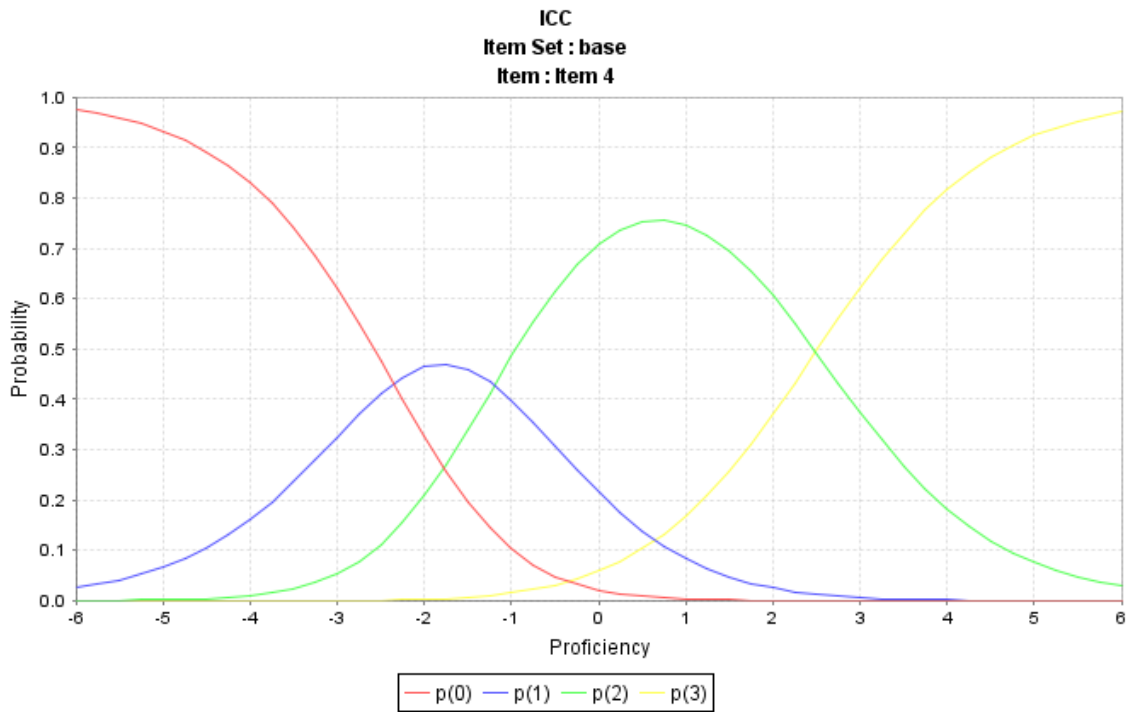
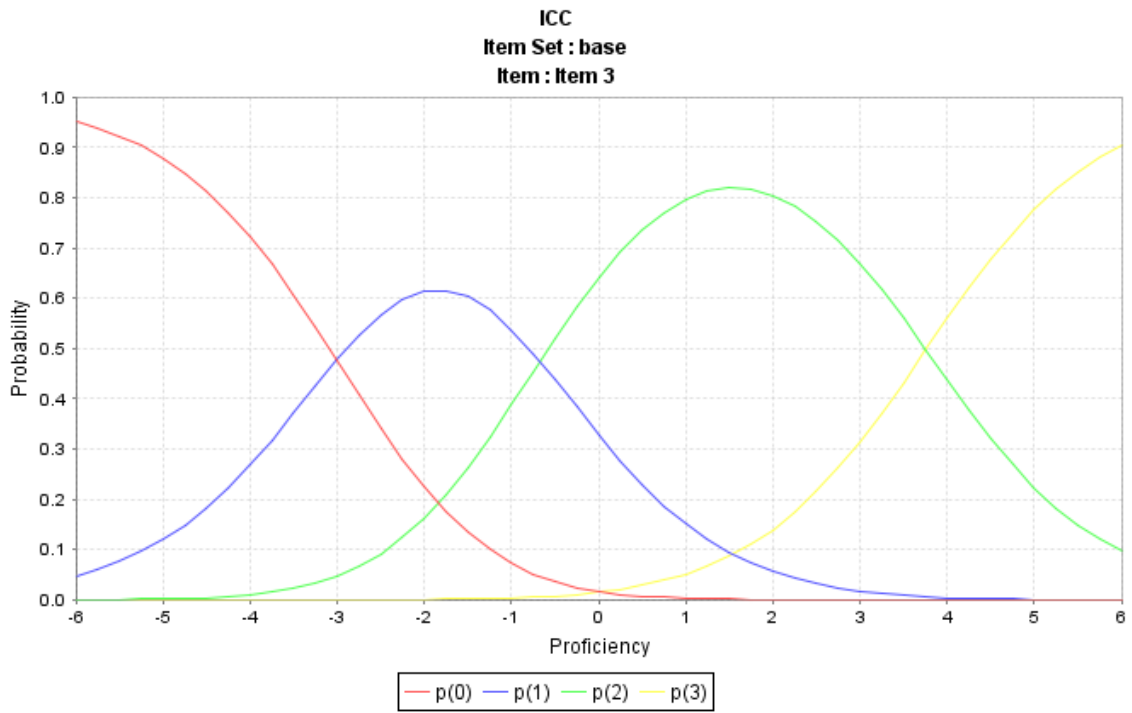
Q95. I feel comfortable raising issues and concerns that are important to me with my principal.



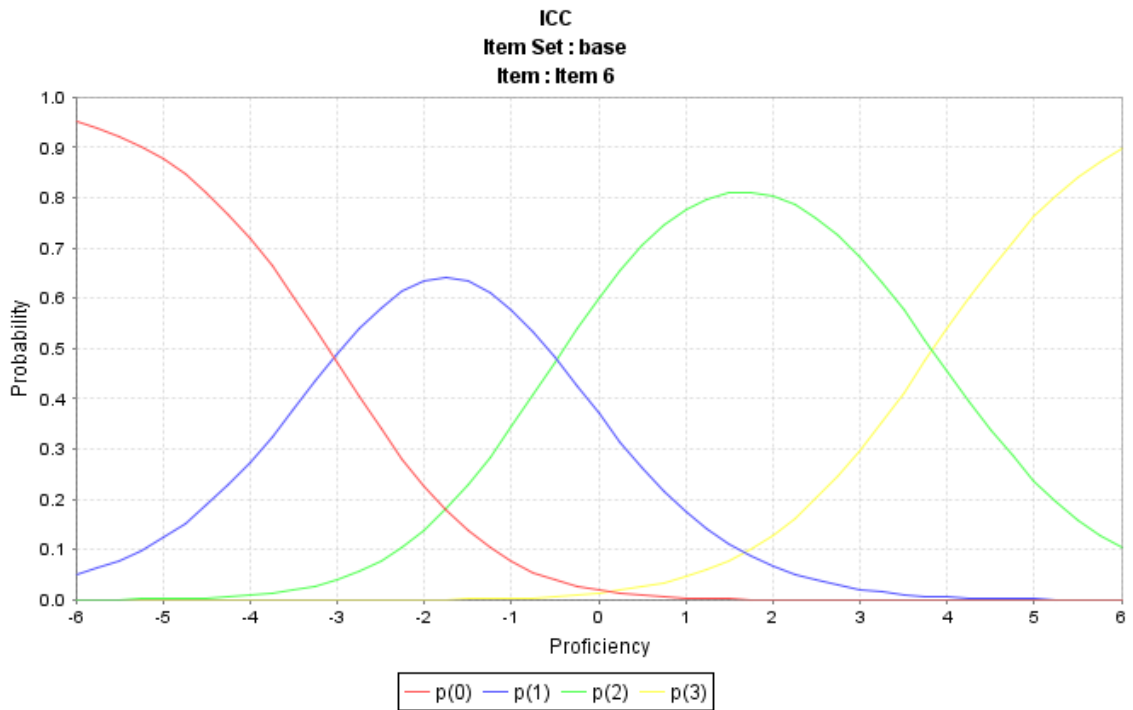
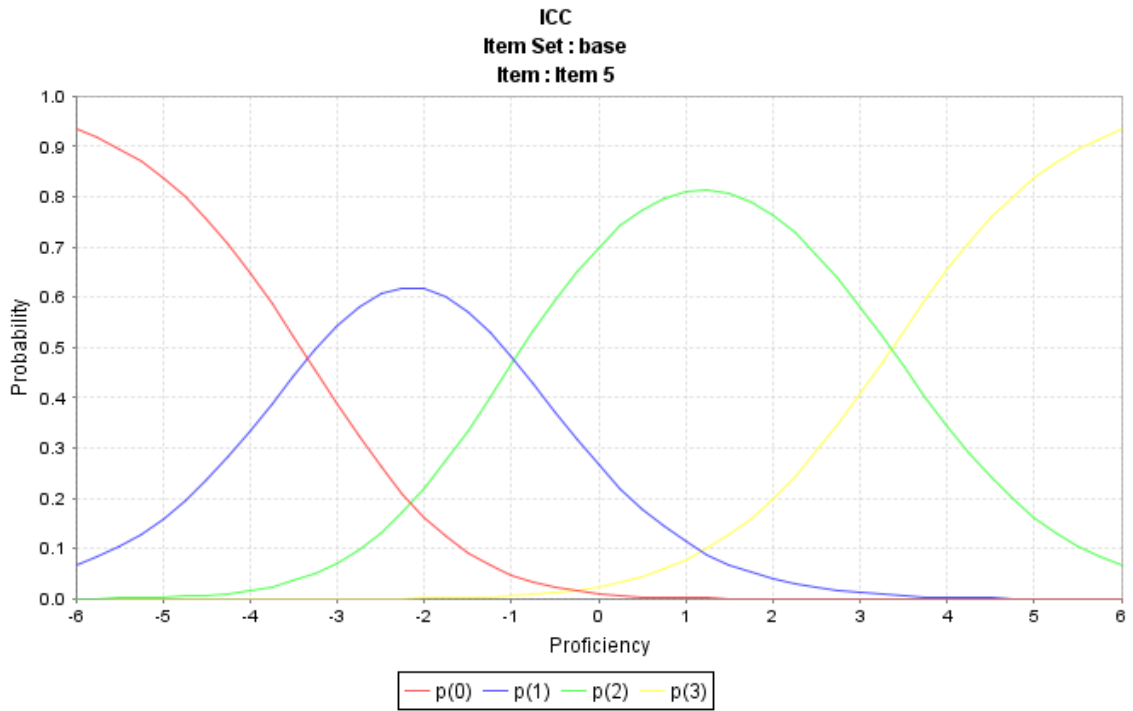
Appendix E: Item Characteristic Curves



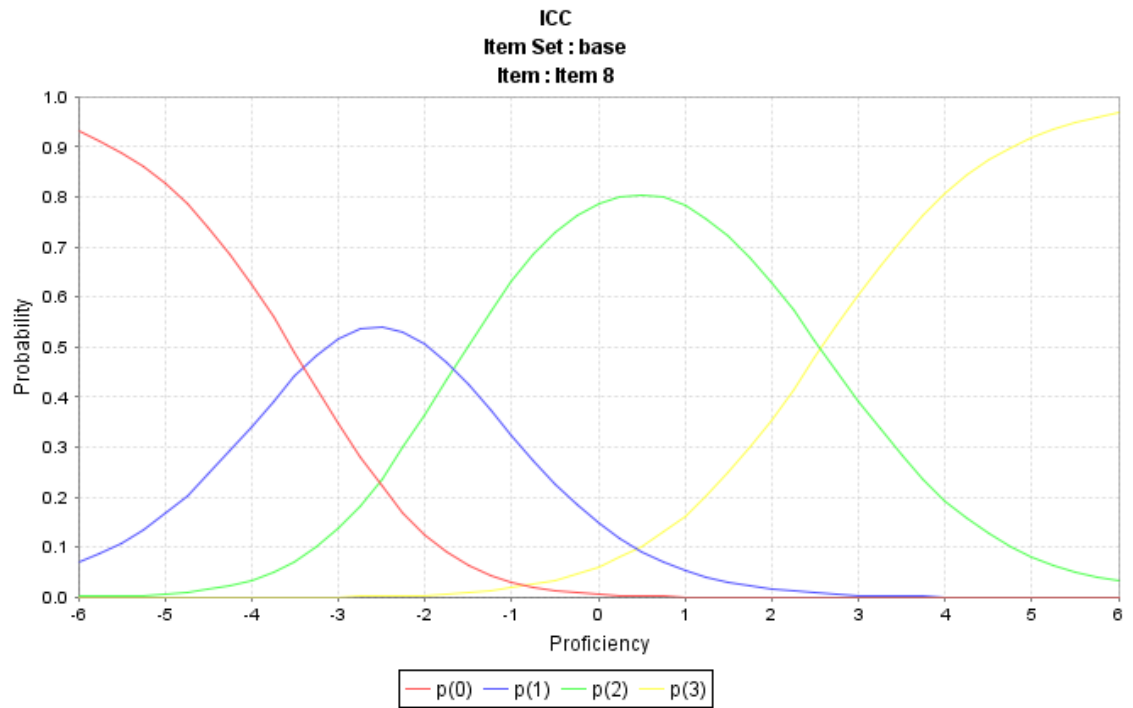
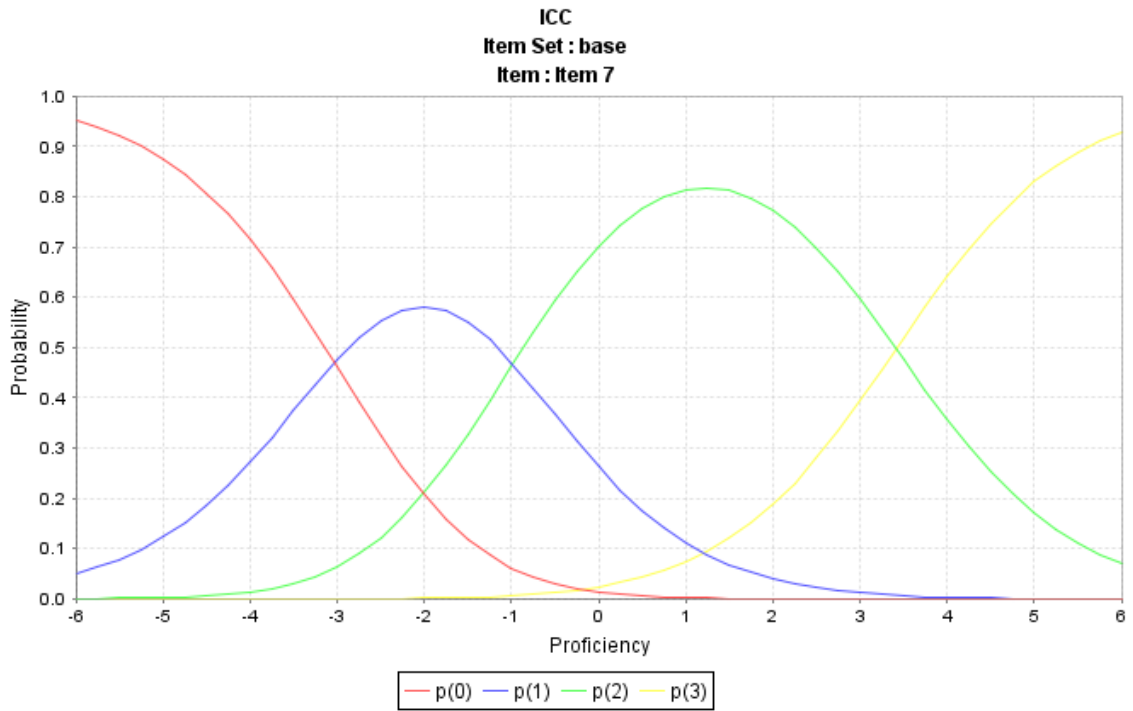
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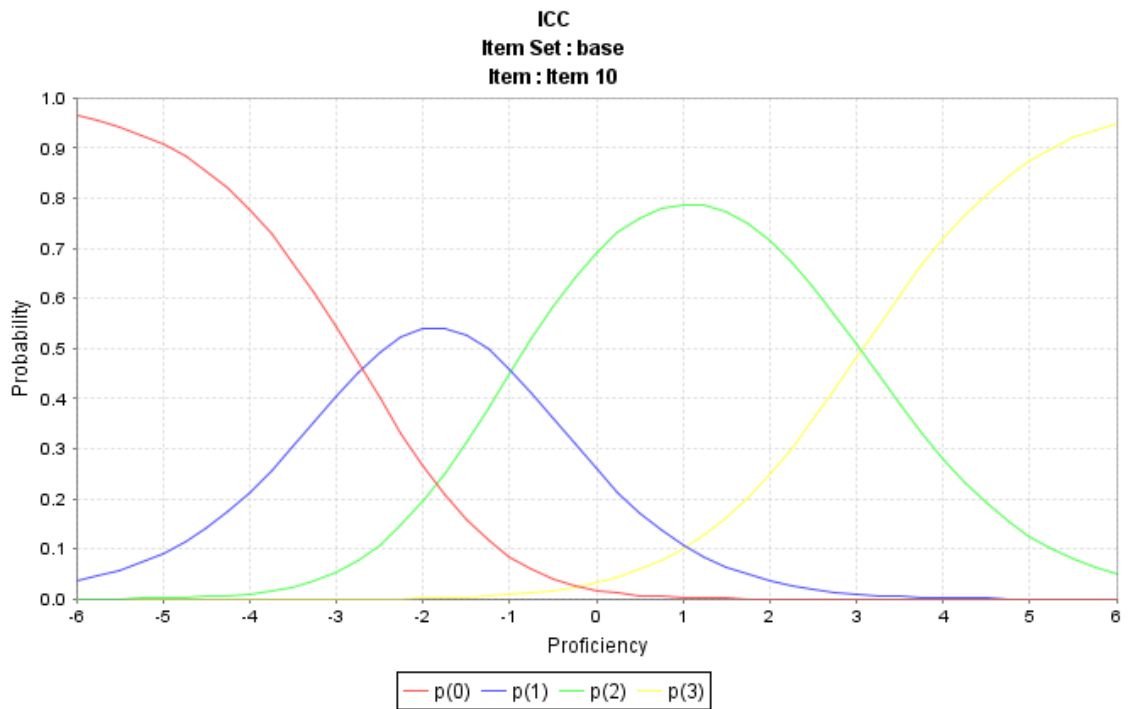
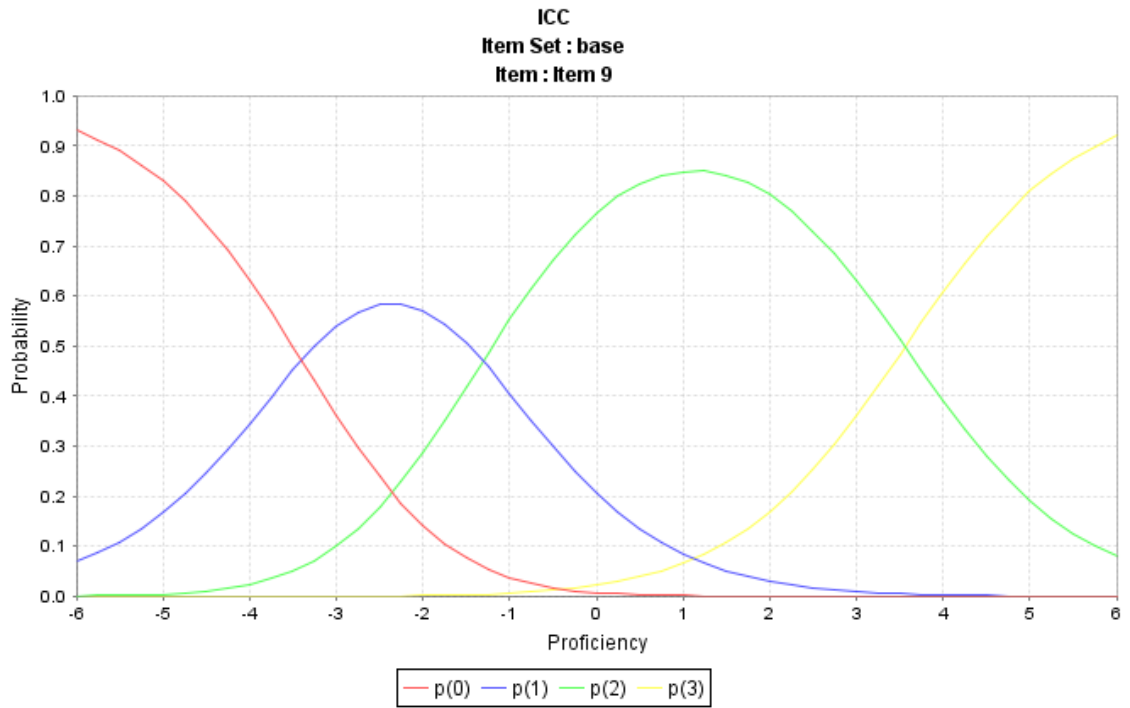
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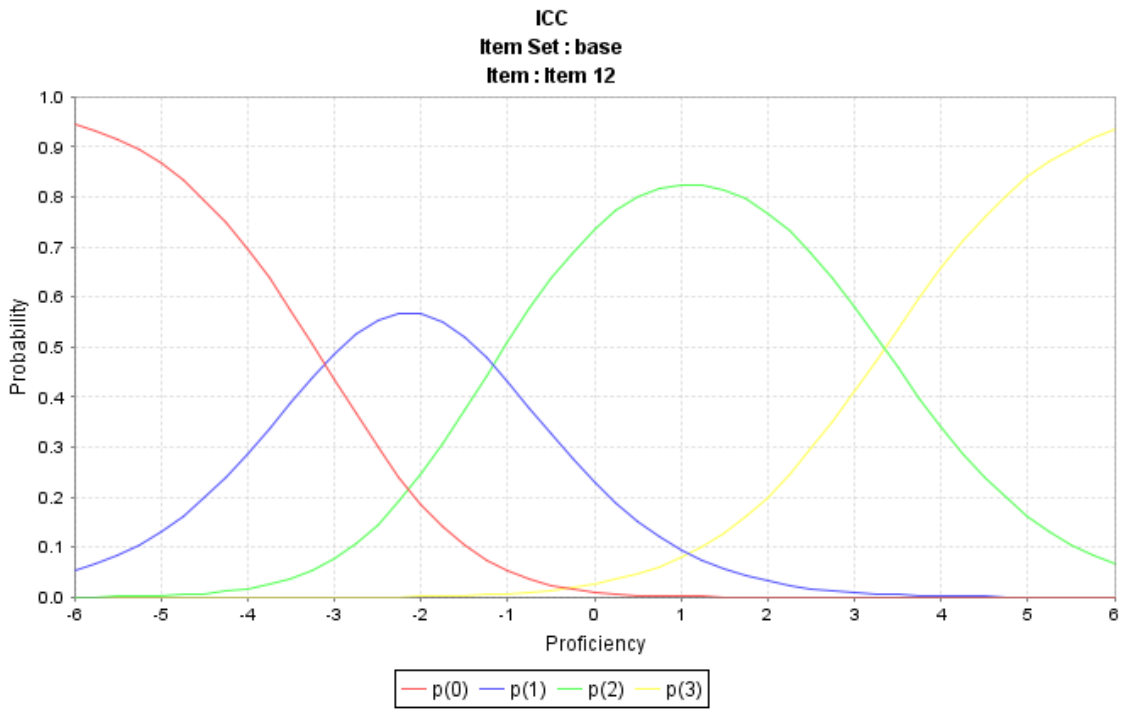
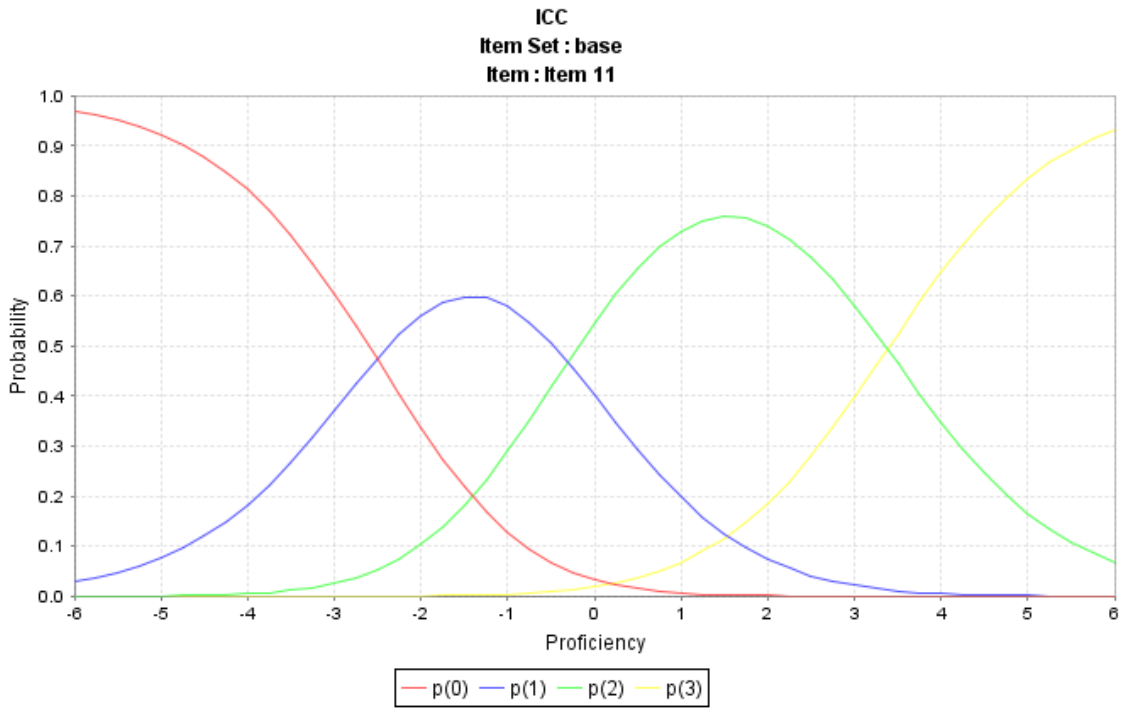
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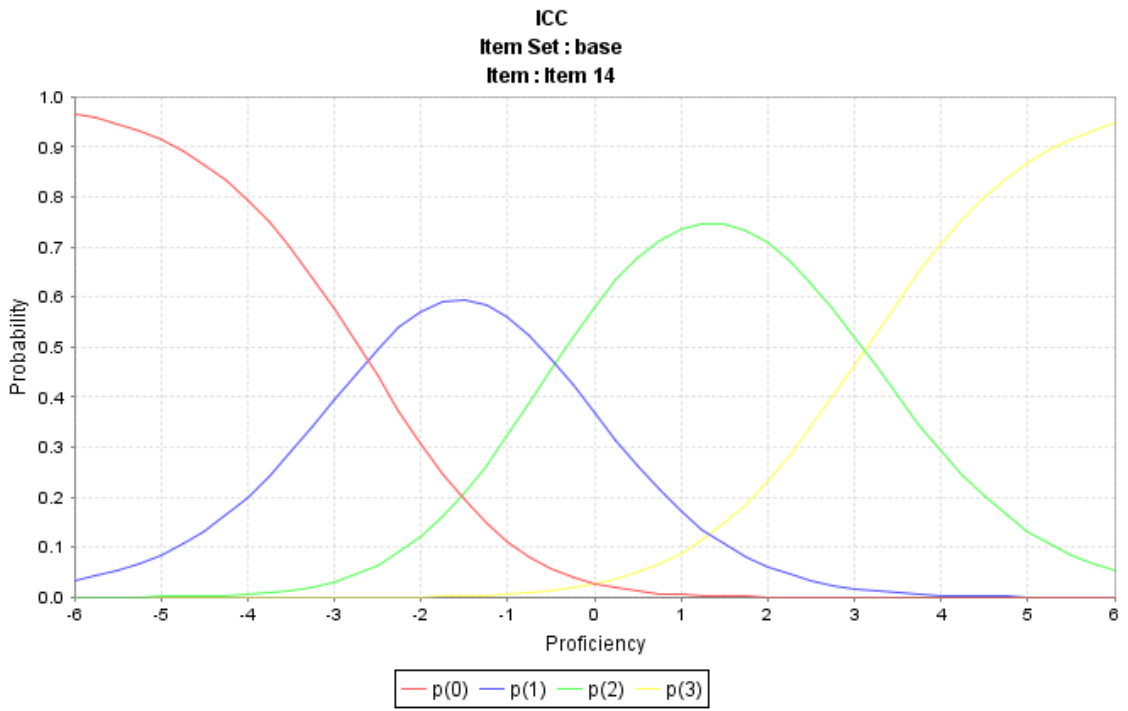
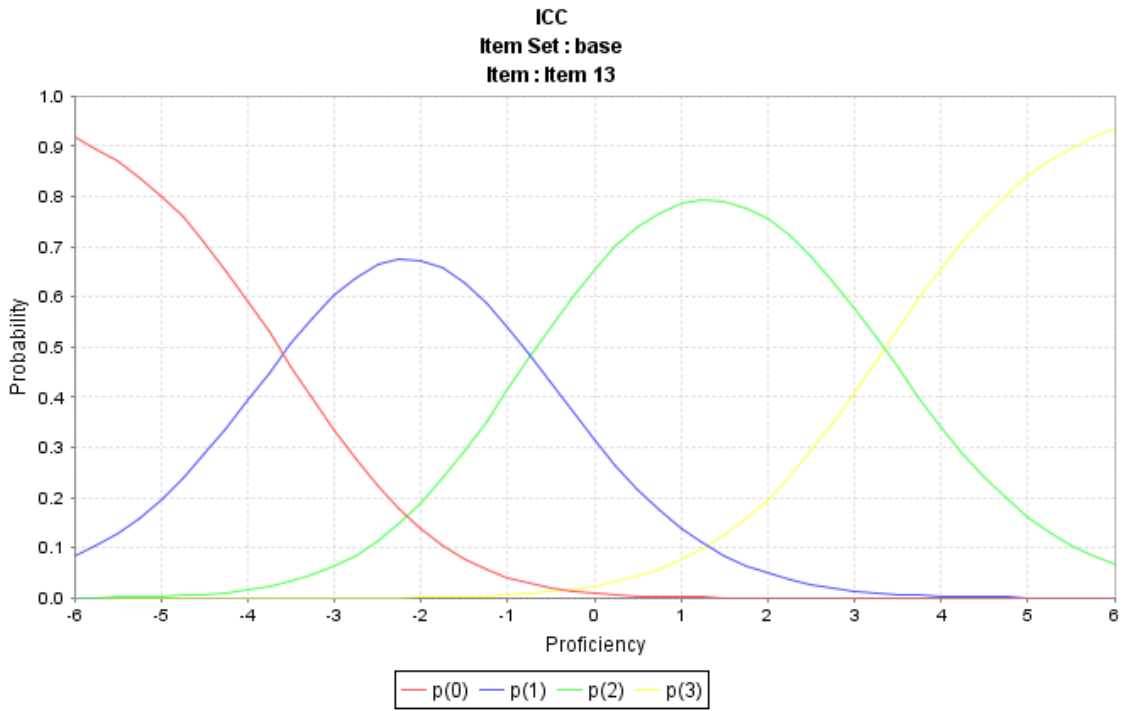
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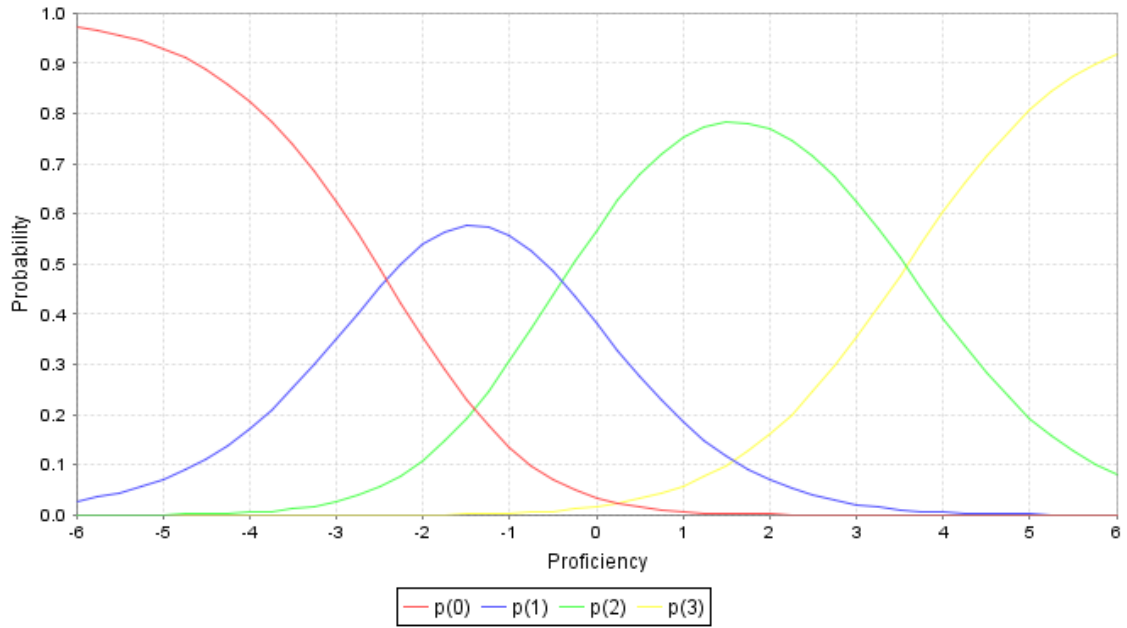


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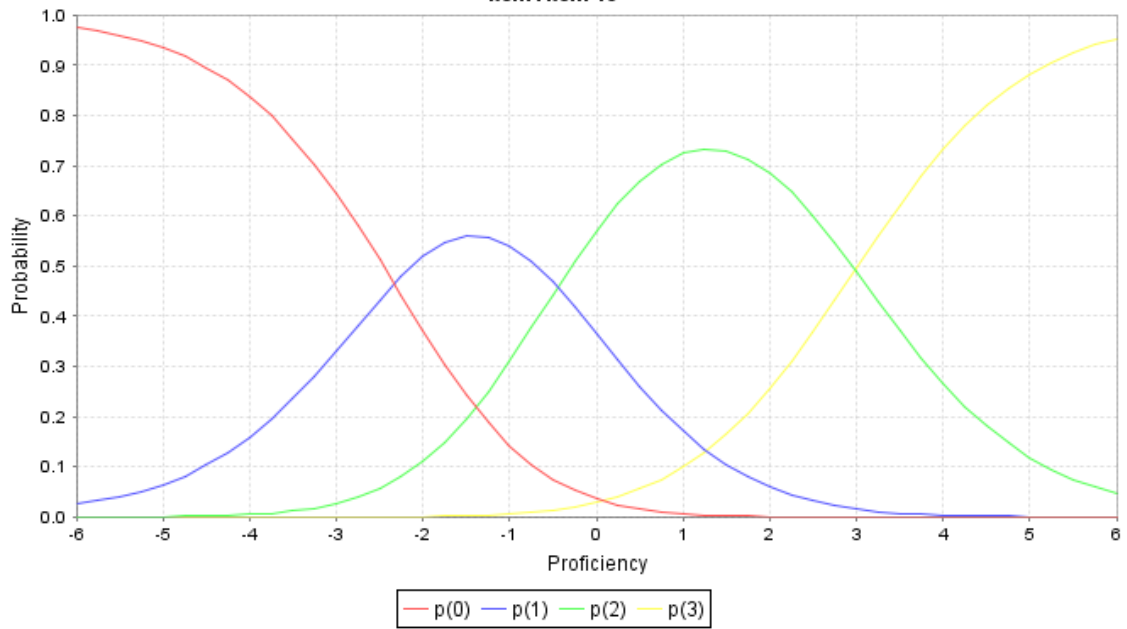


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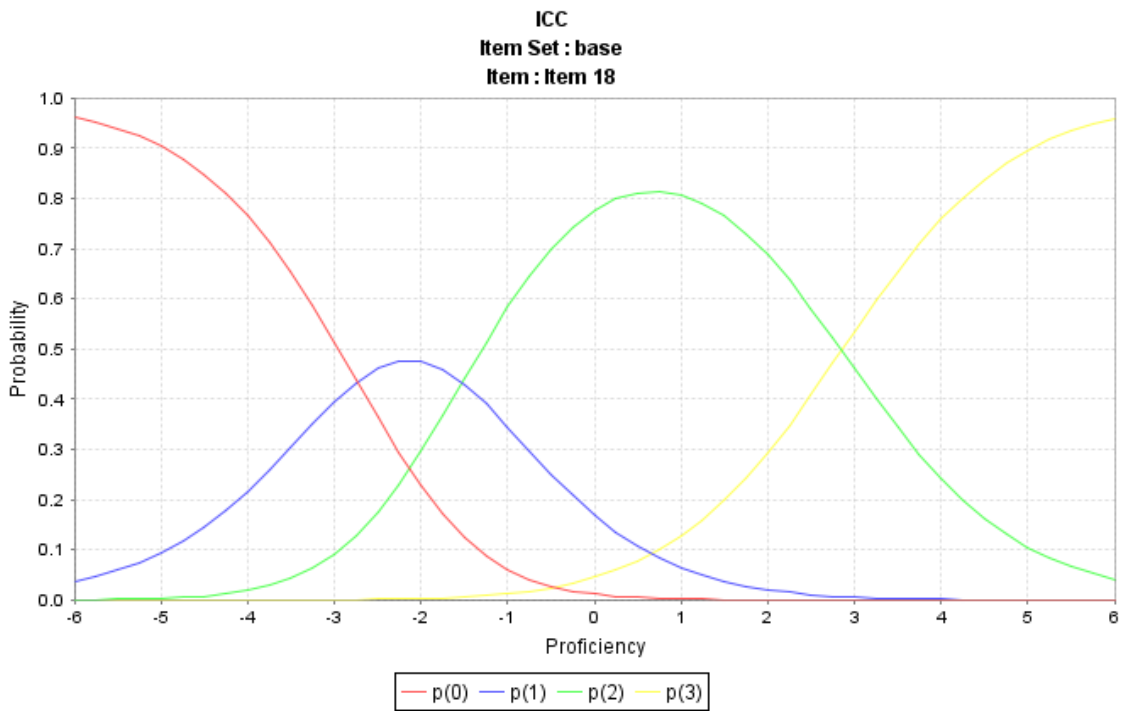
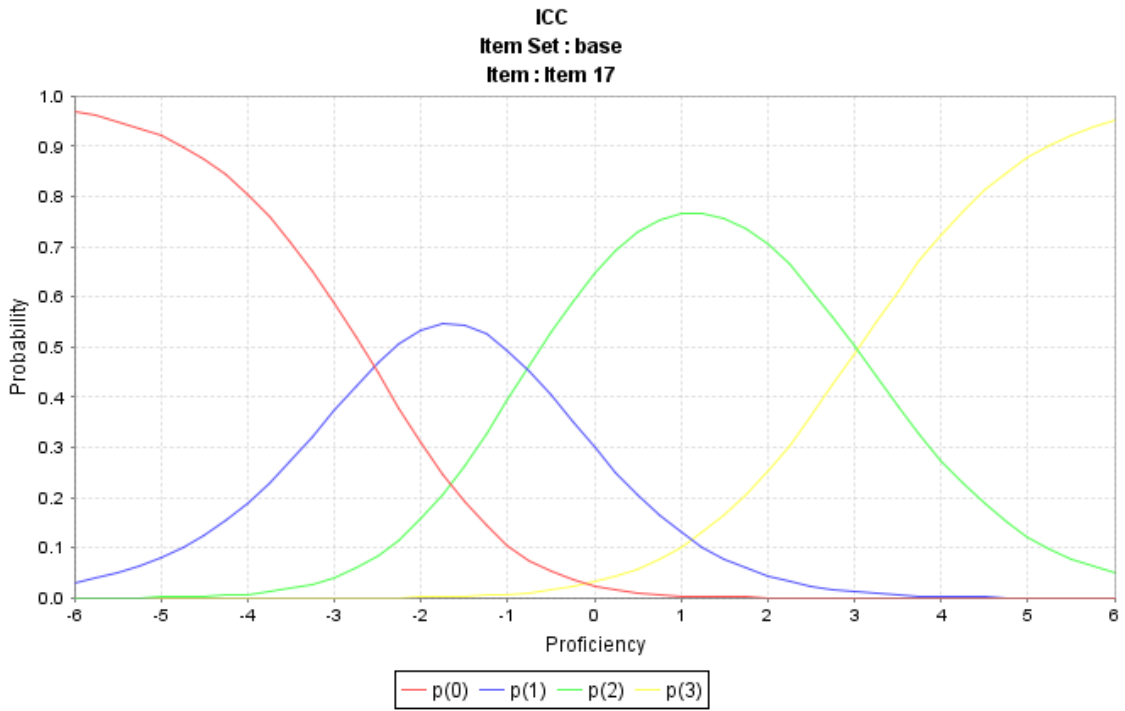
ICC
Item Set : base
Item : Item 15



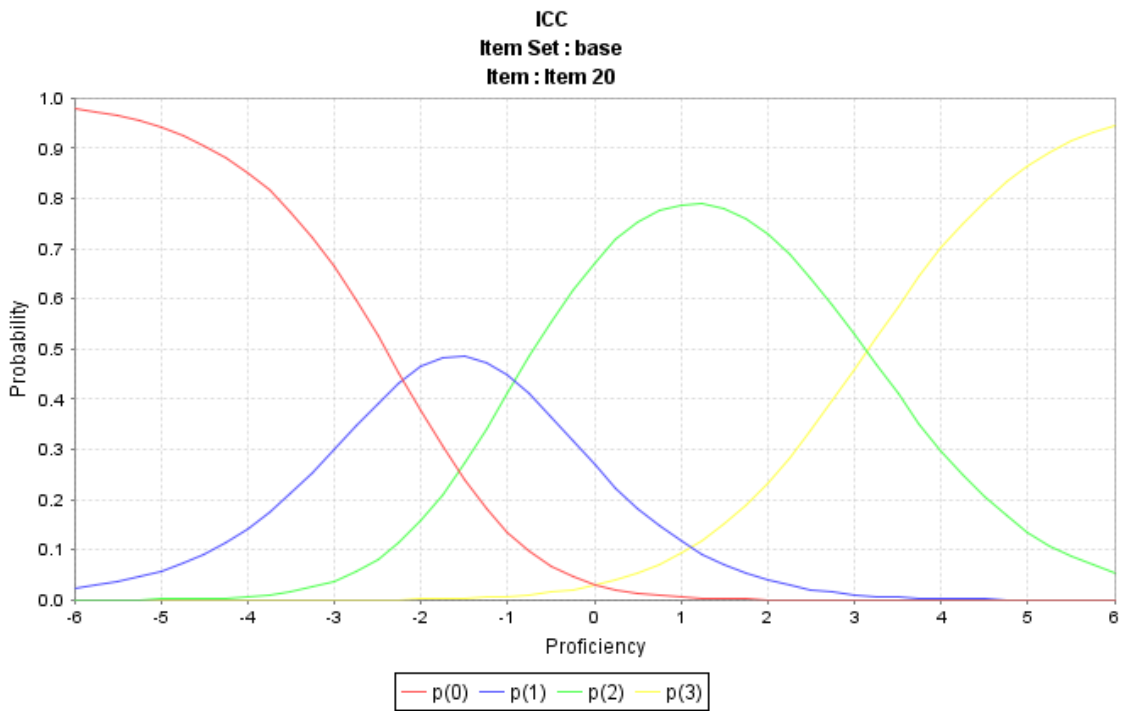
ICC
Item Set : base
Item : Item 16



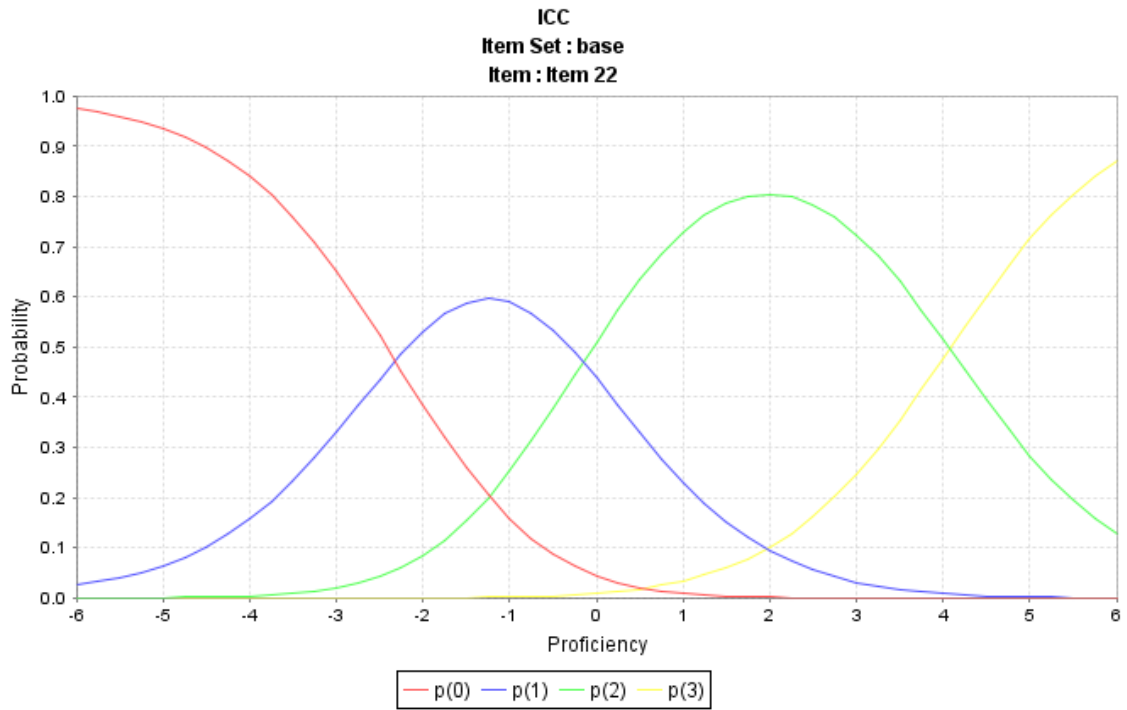
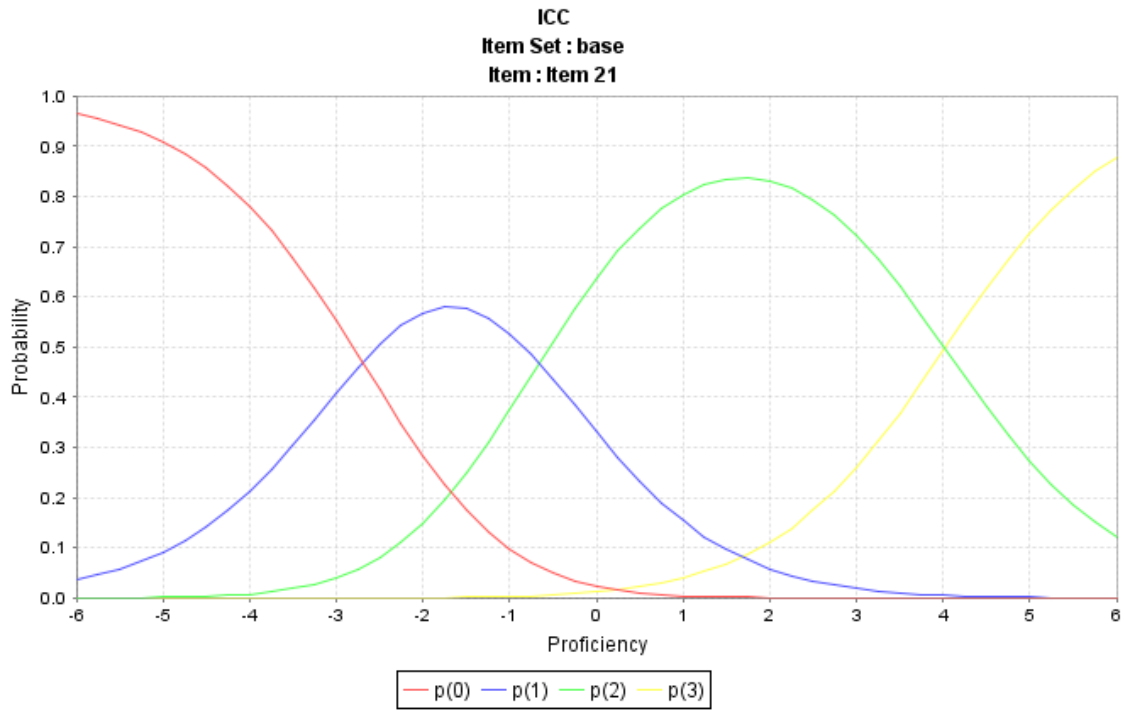
Teacher Perception Survey Technical Report



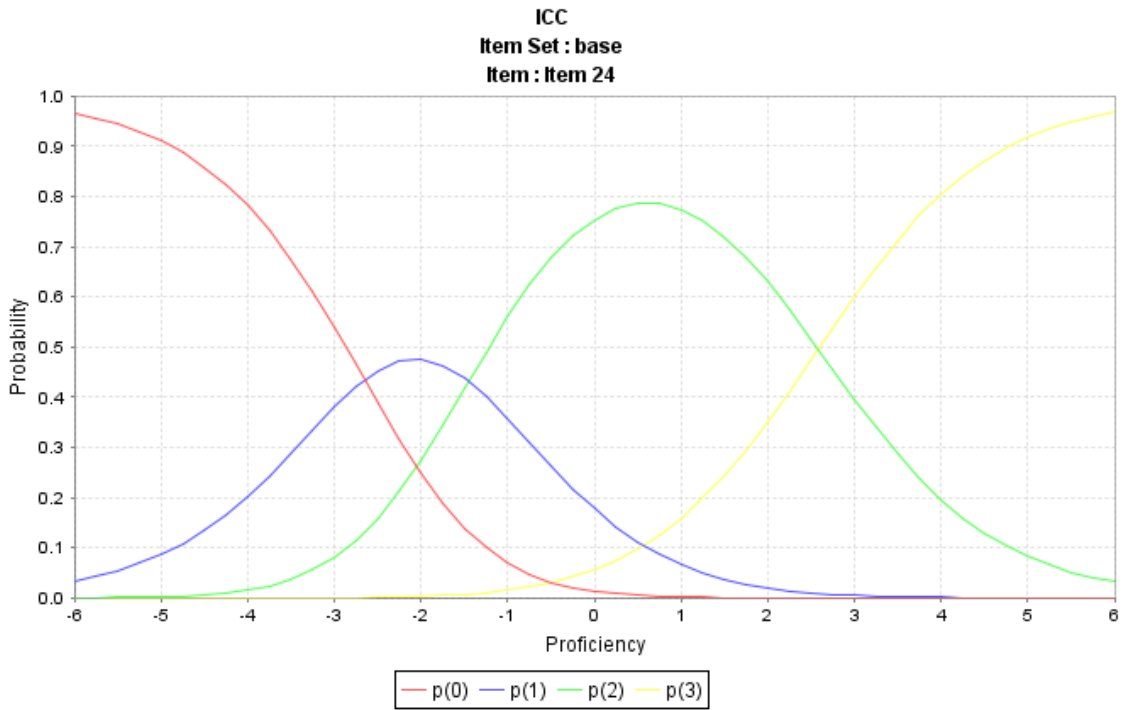
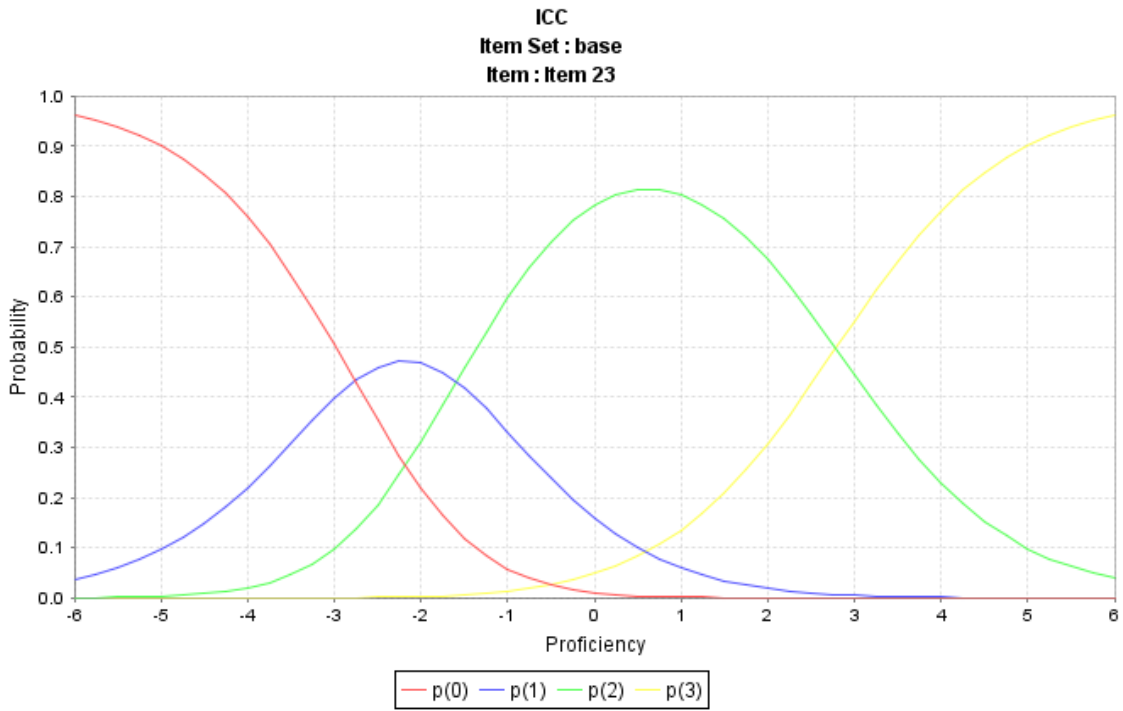
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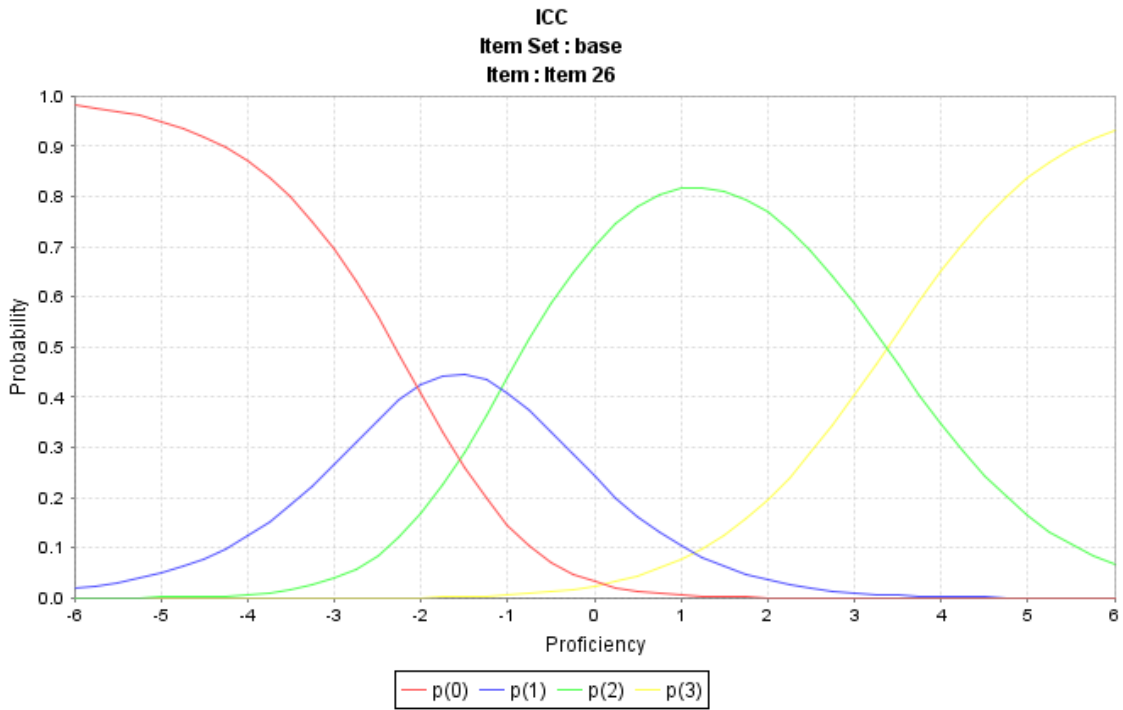
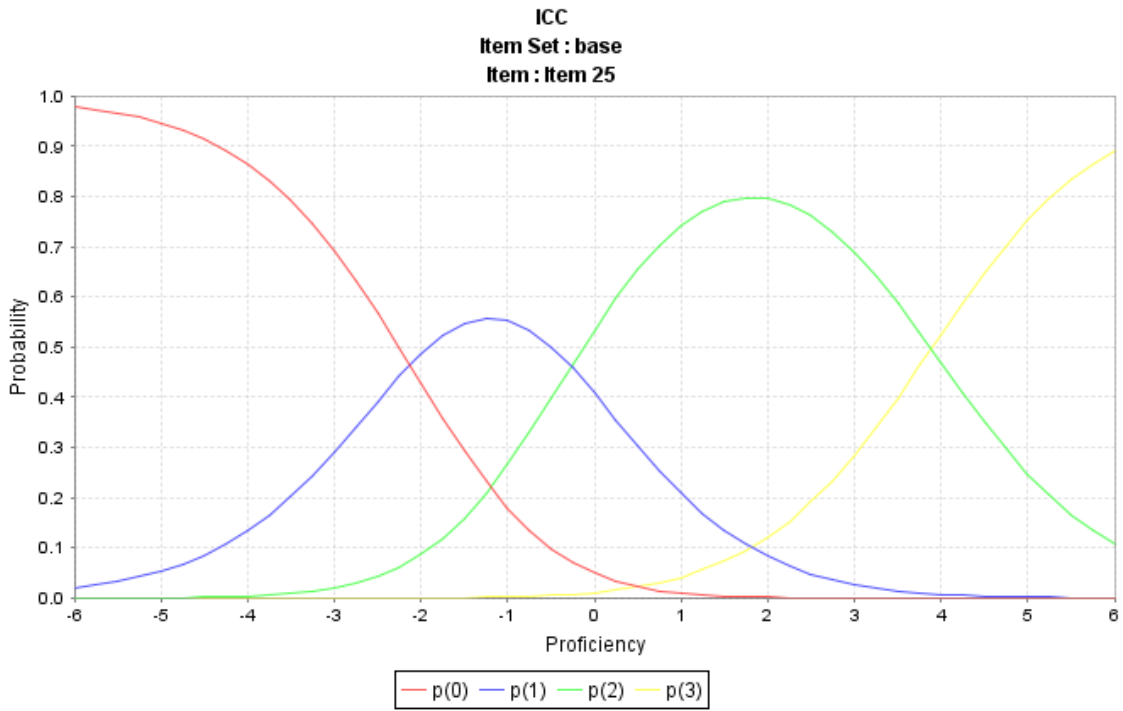
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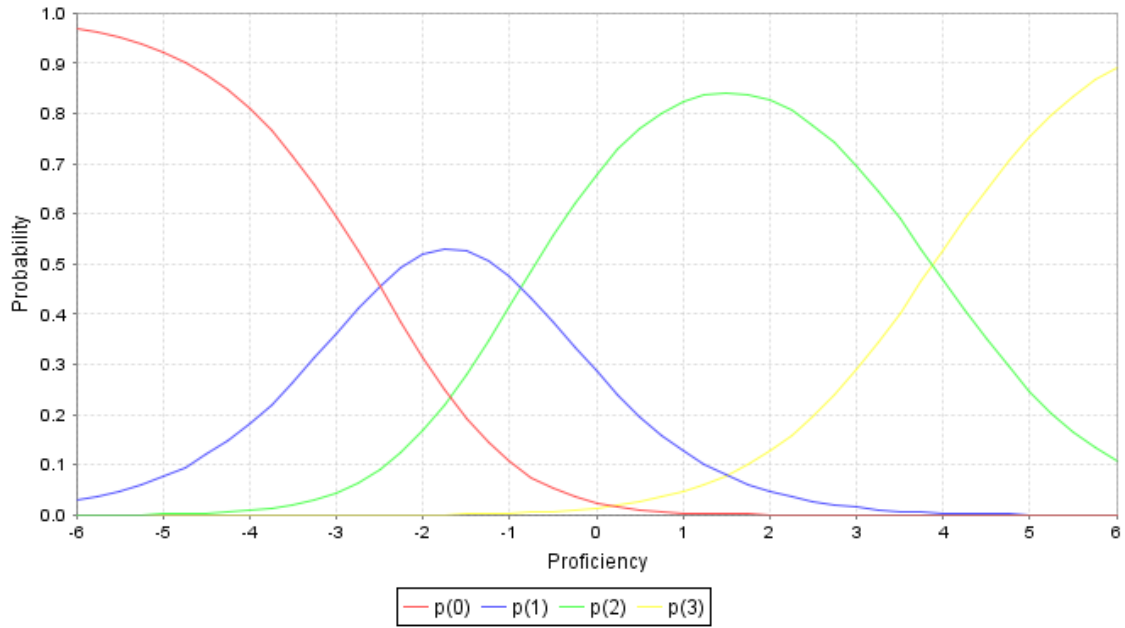


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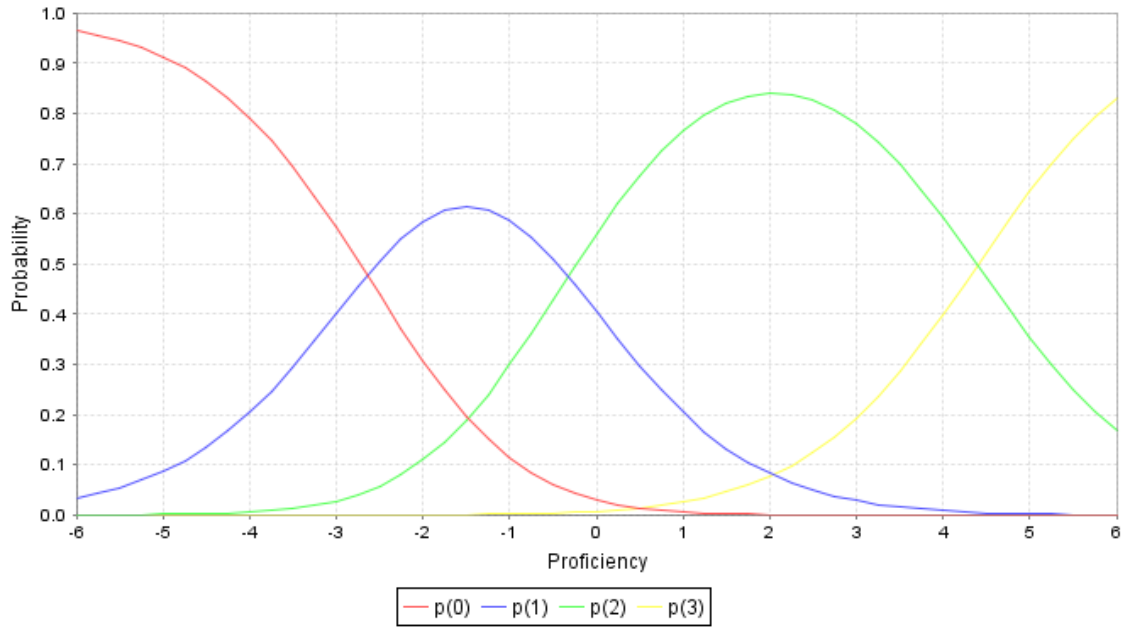


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ICC
Item Set : base
Item : Item 27

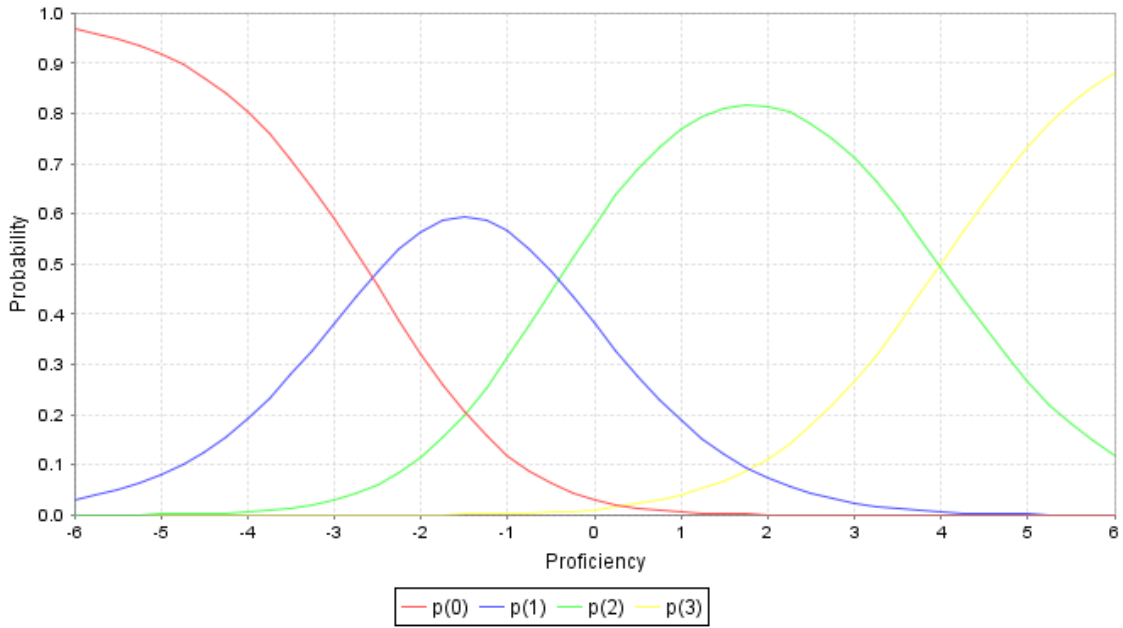


ICC
Item Set : base
Item : Item 28

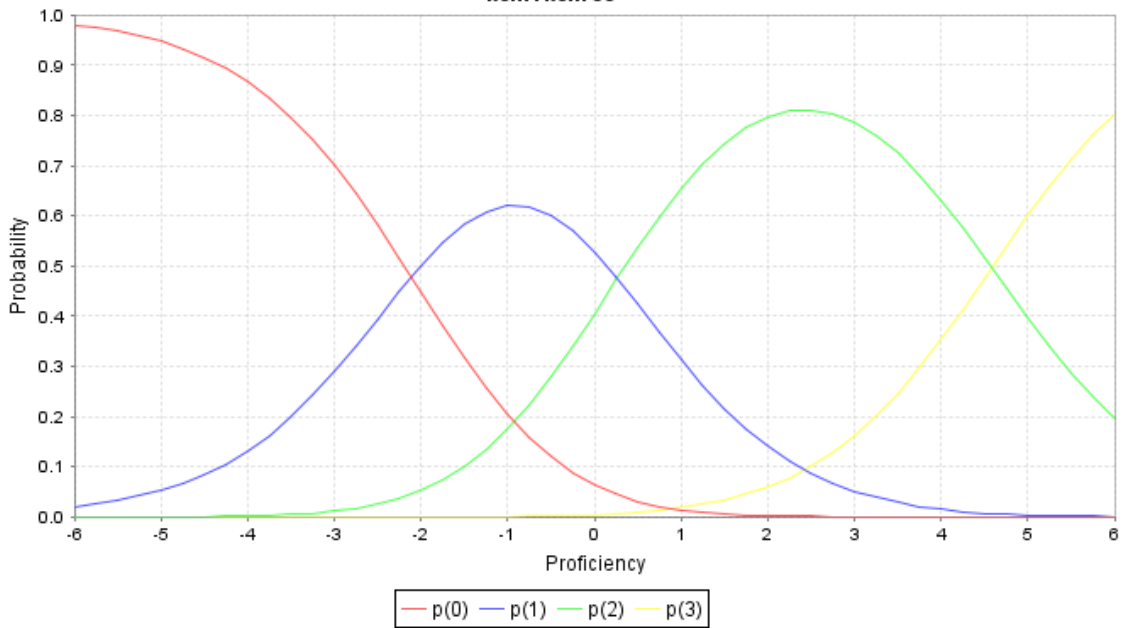


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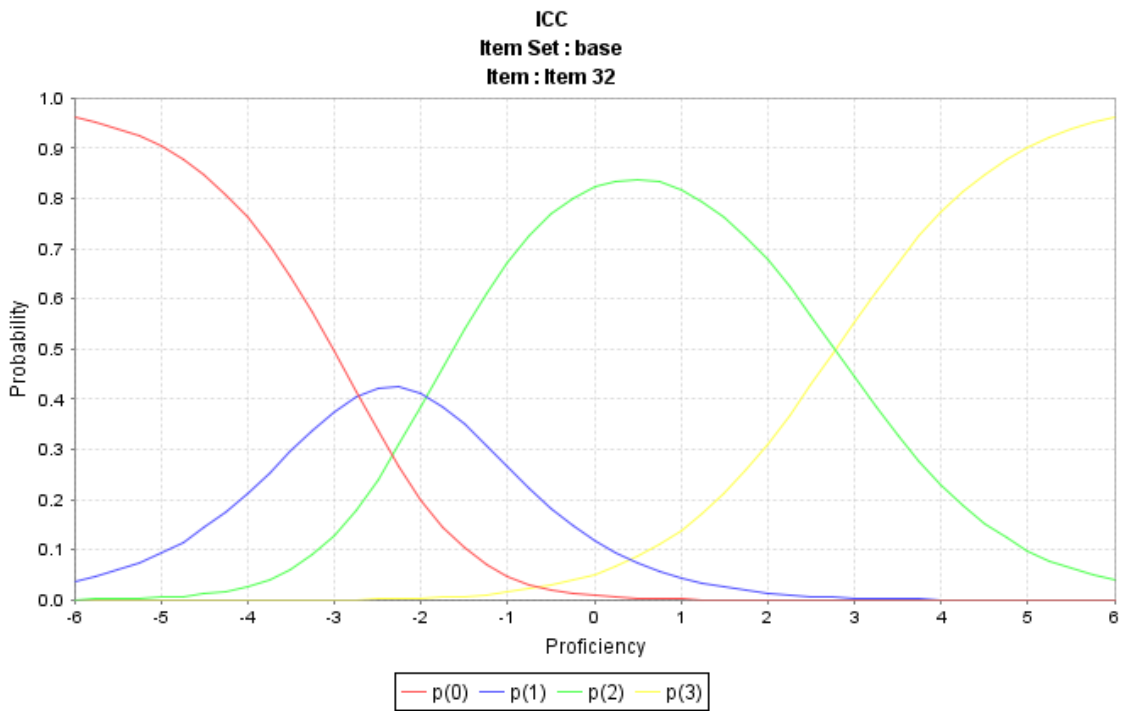
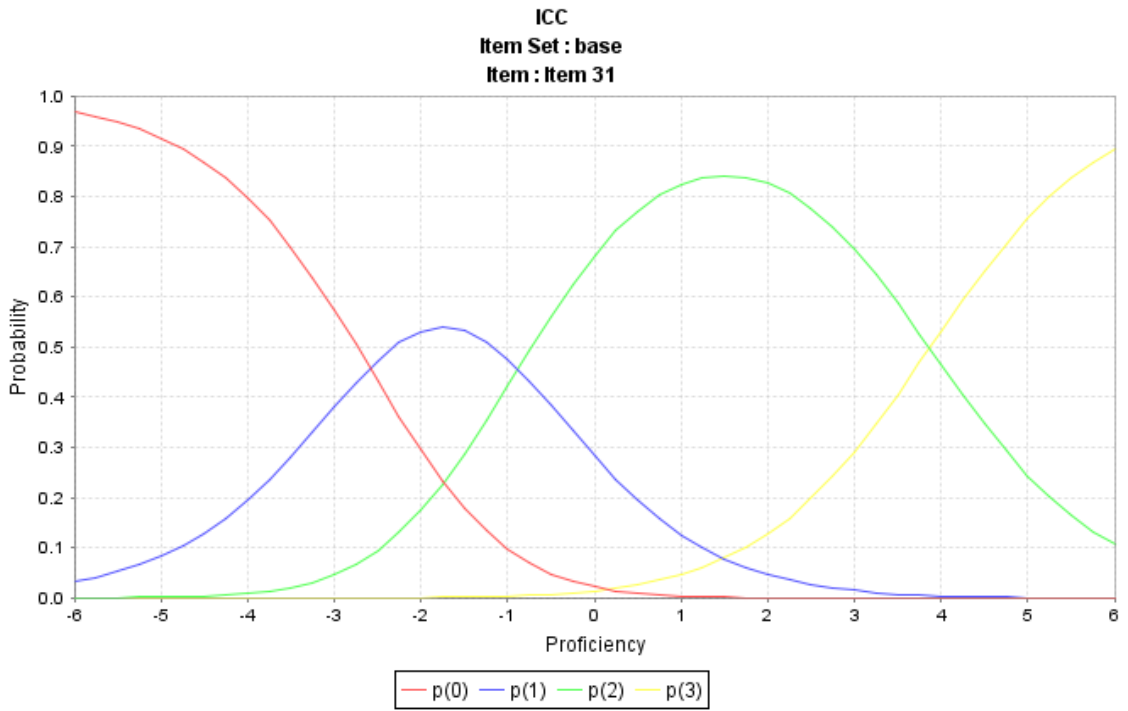
ICC
Item Set : base
Item : Item 29



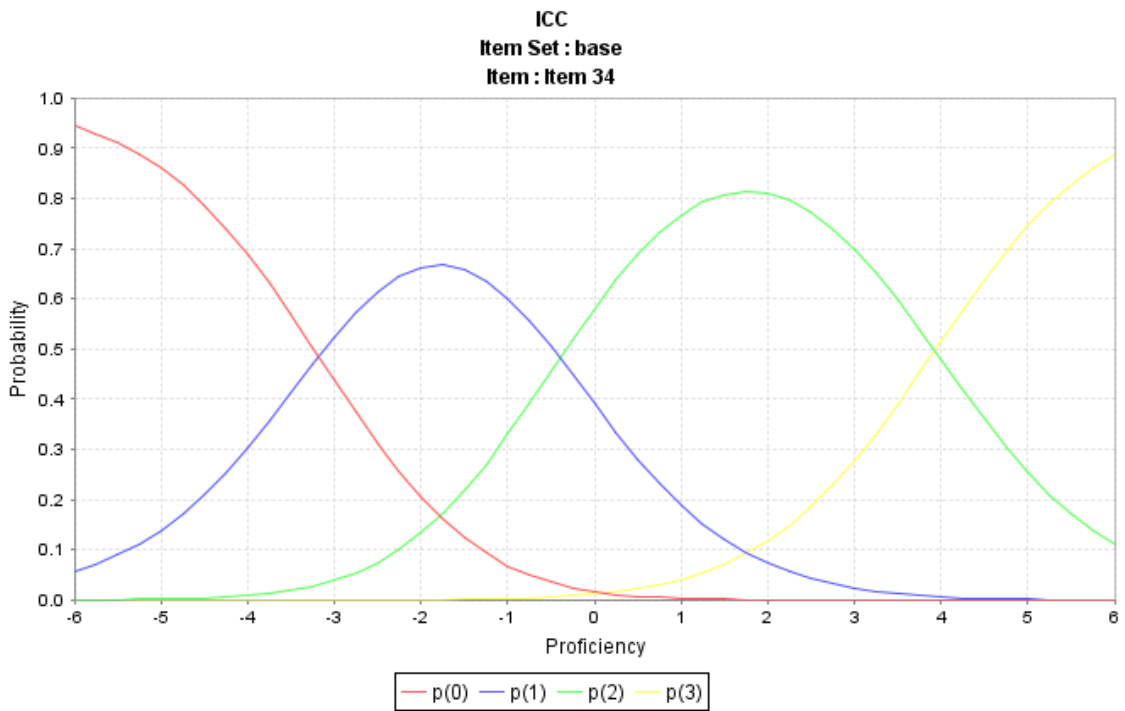
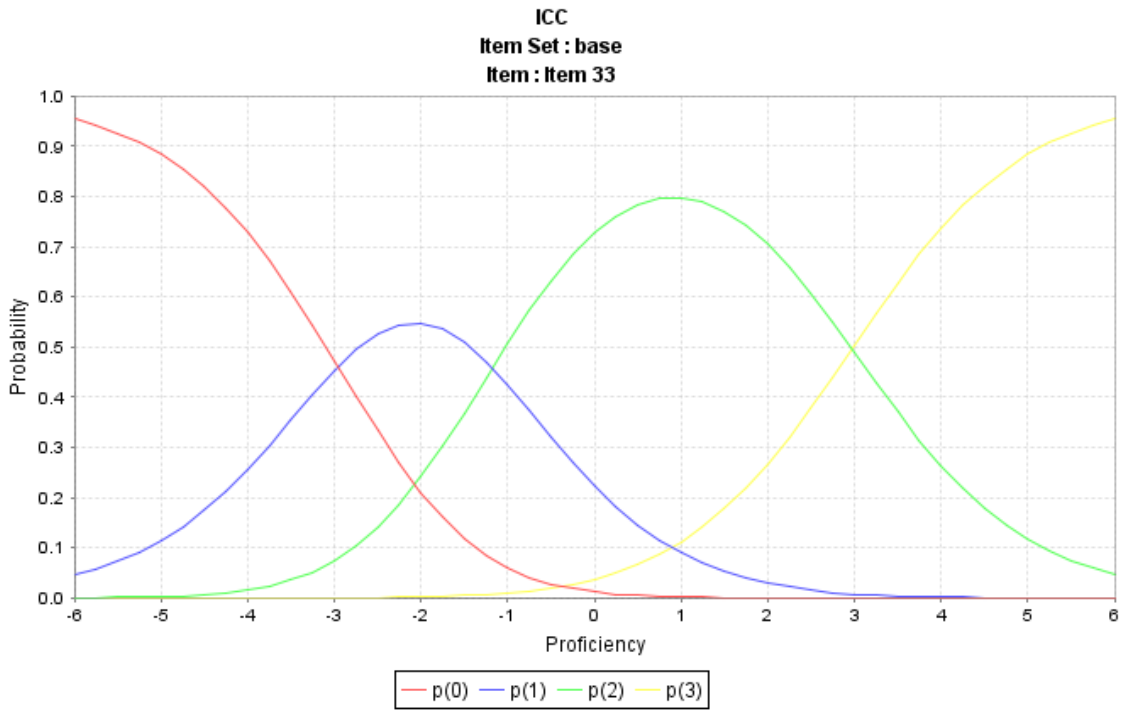
ICC
Item Set : base
Item : Item 30



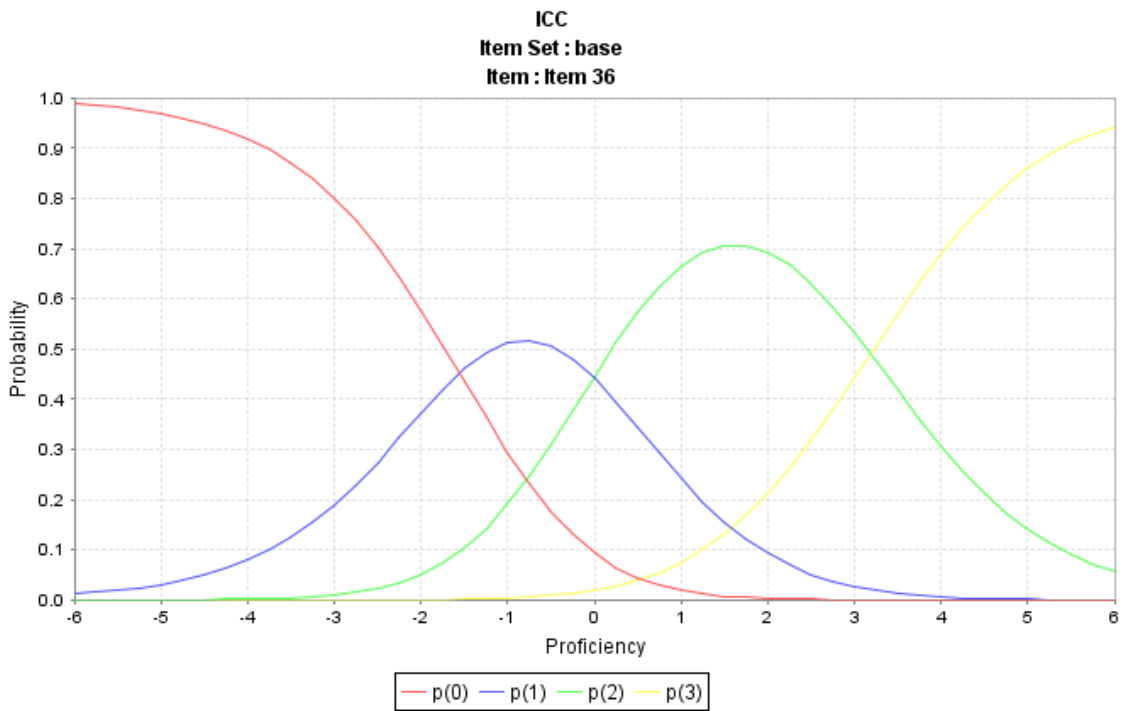
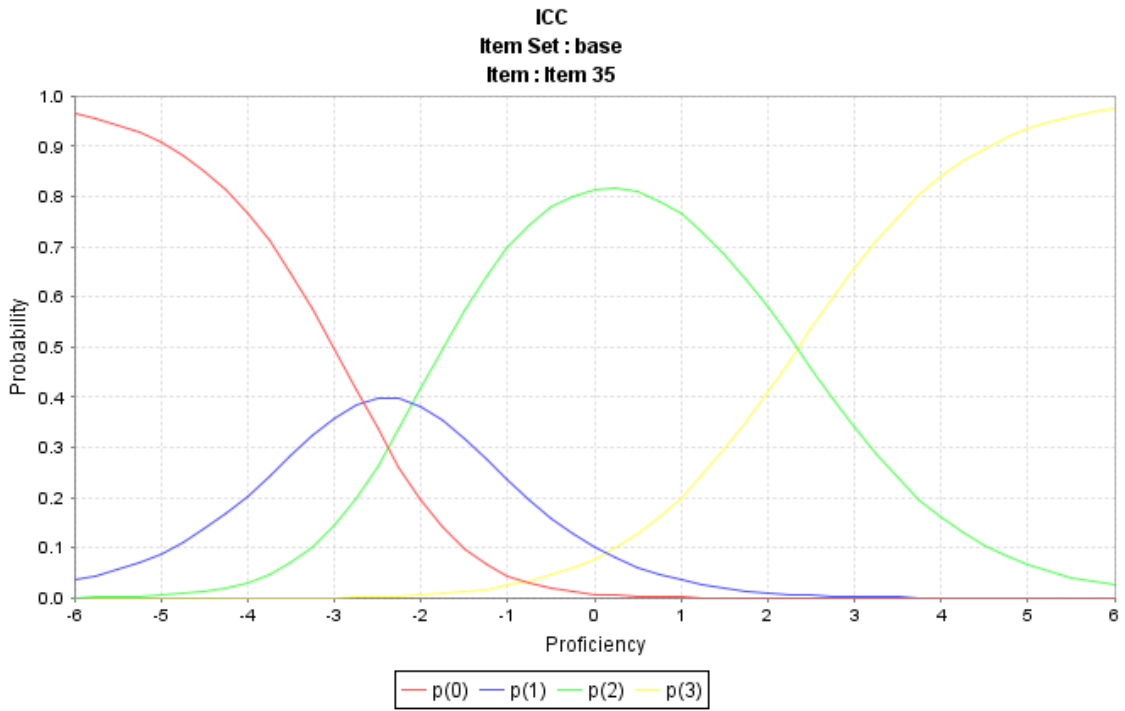
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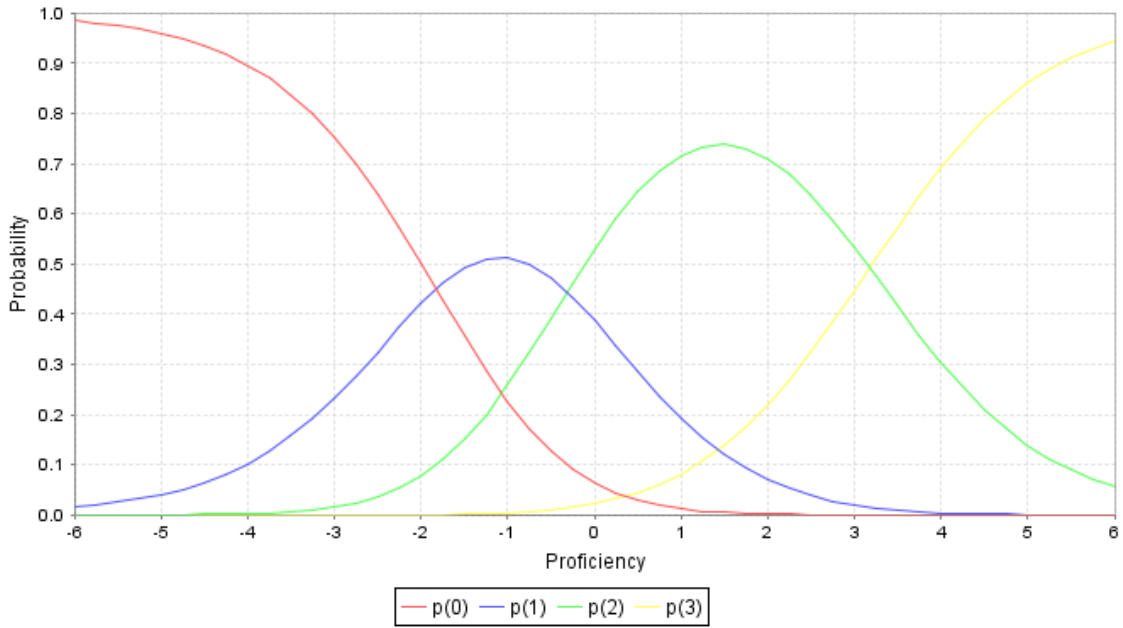


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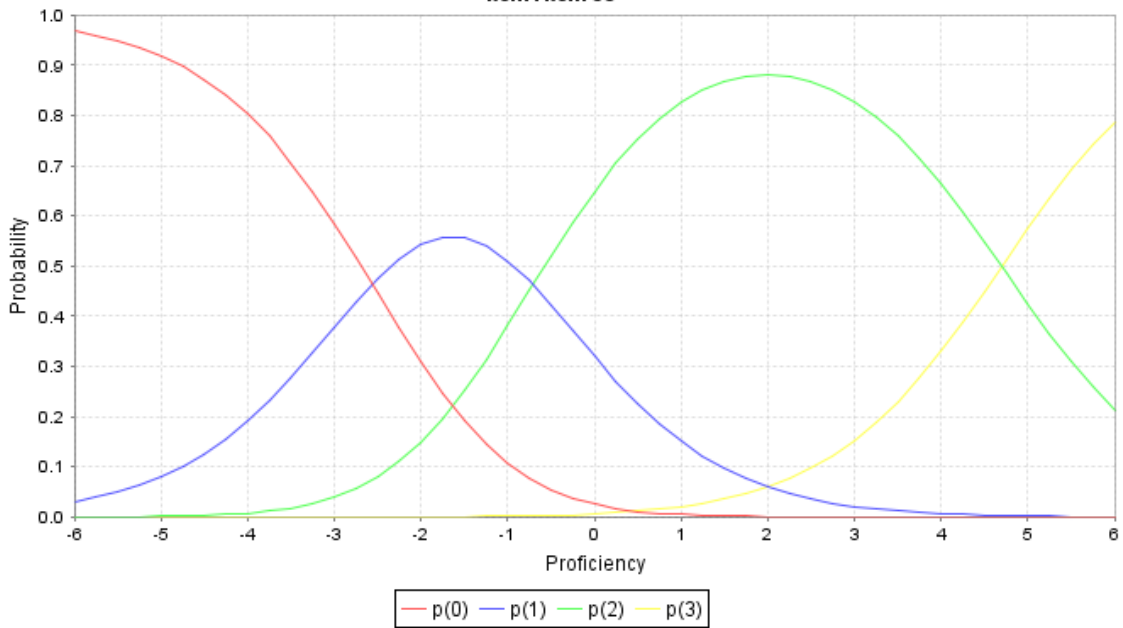


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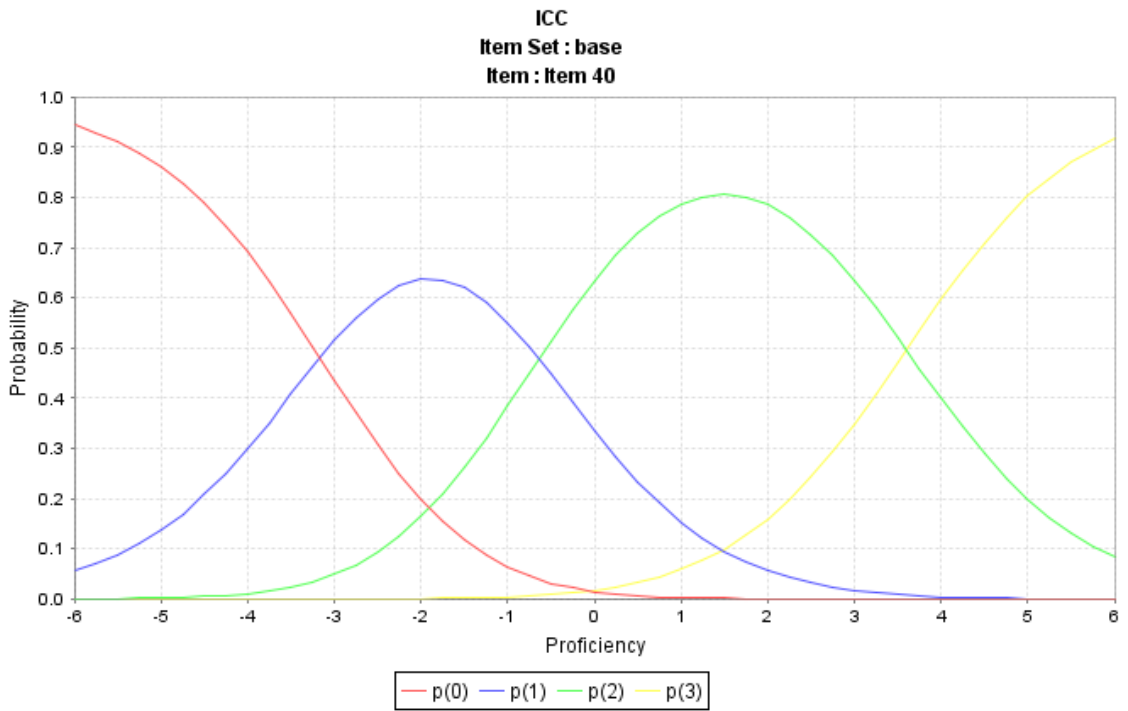
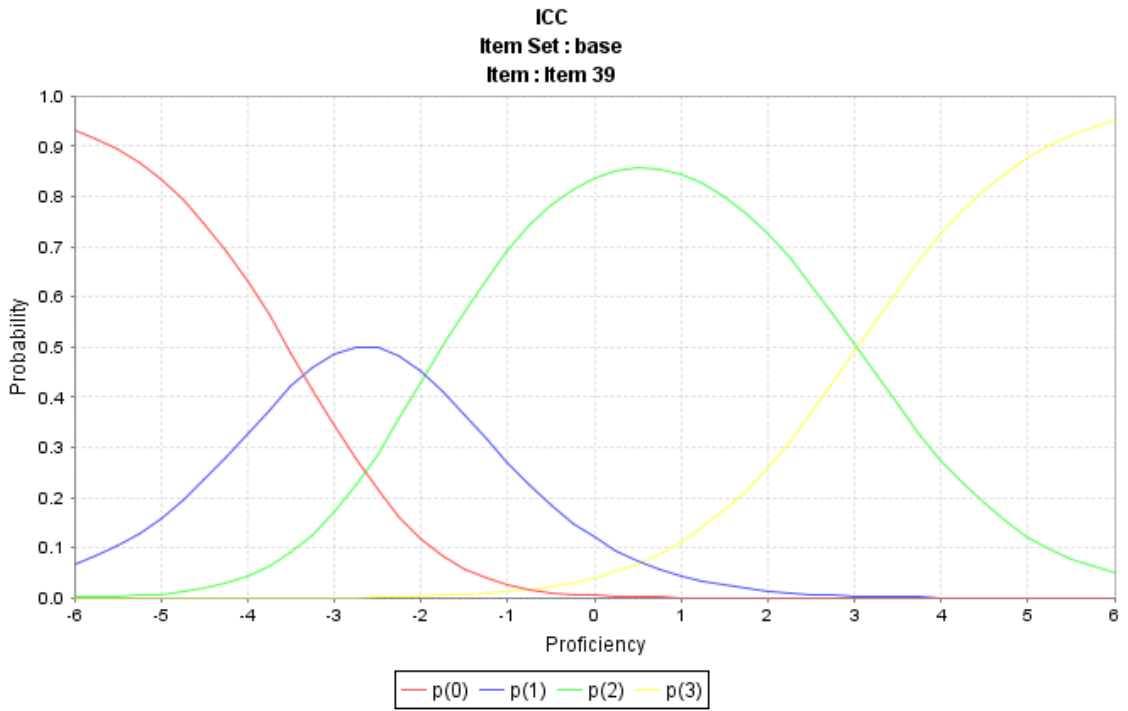
ICC
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Item : Item 37



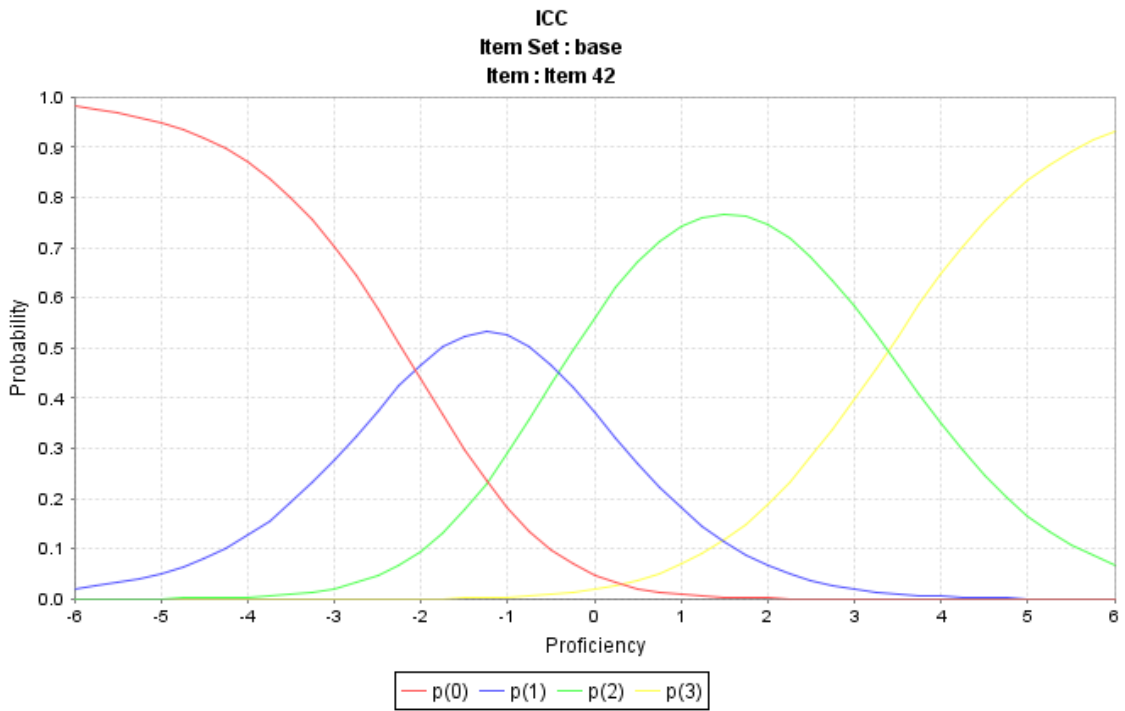
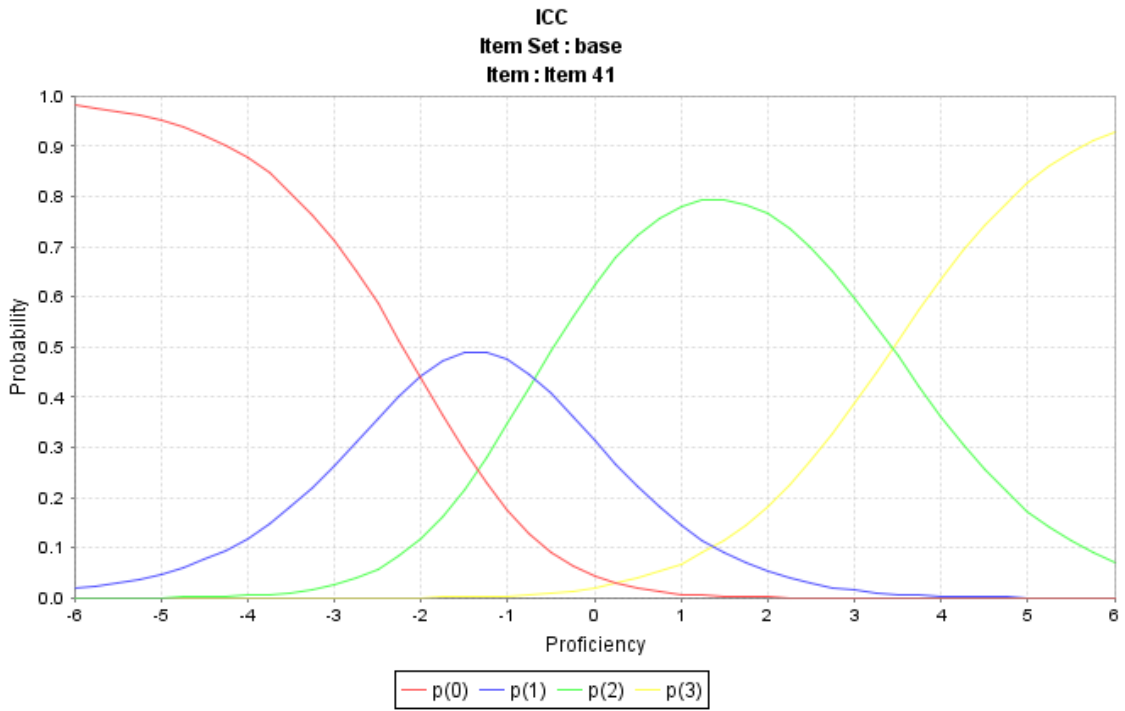
ICC
Item Set : base
Item : Item 38



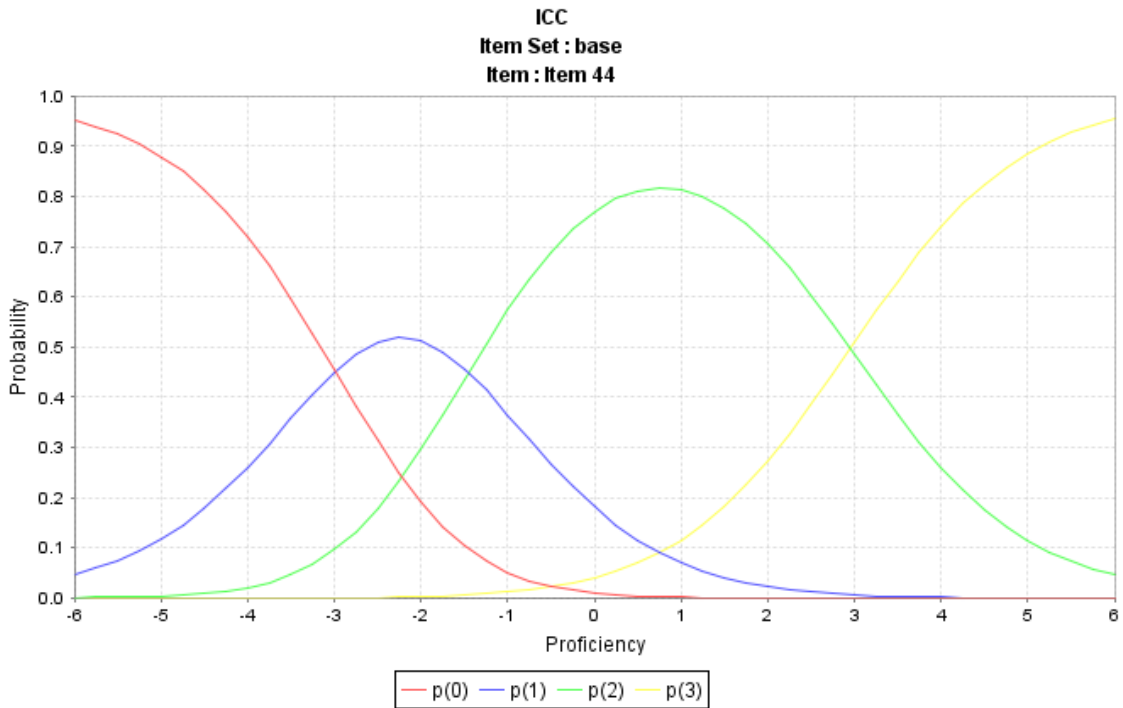
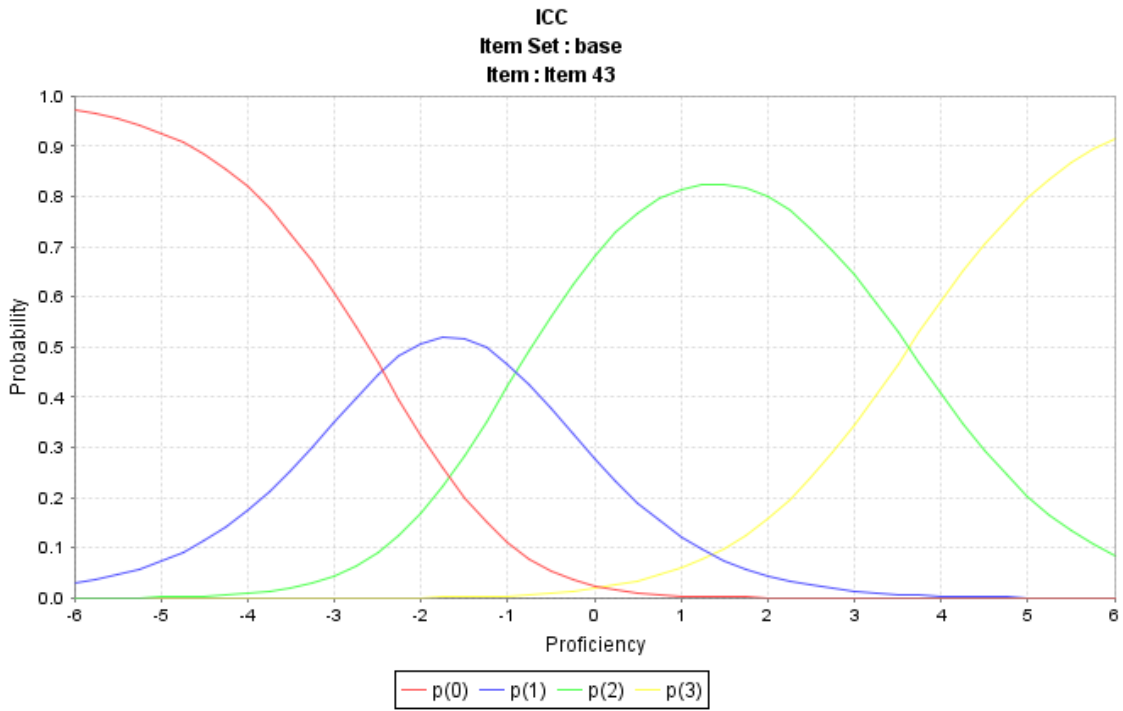
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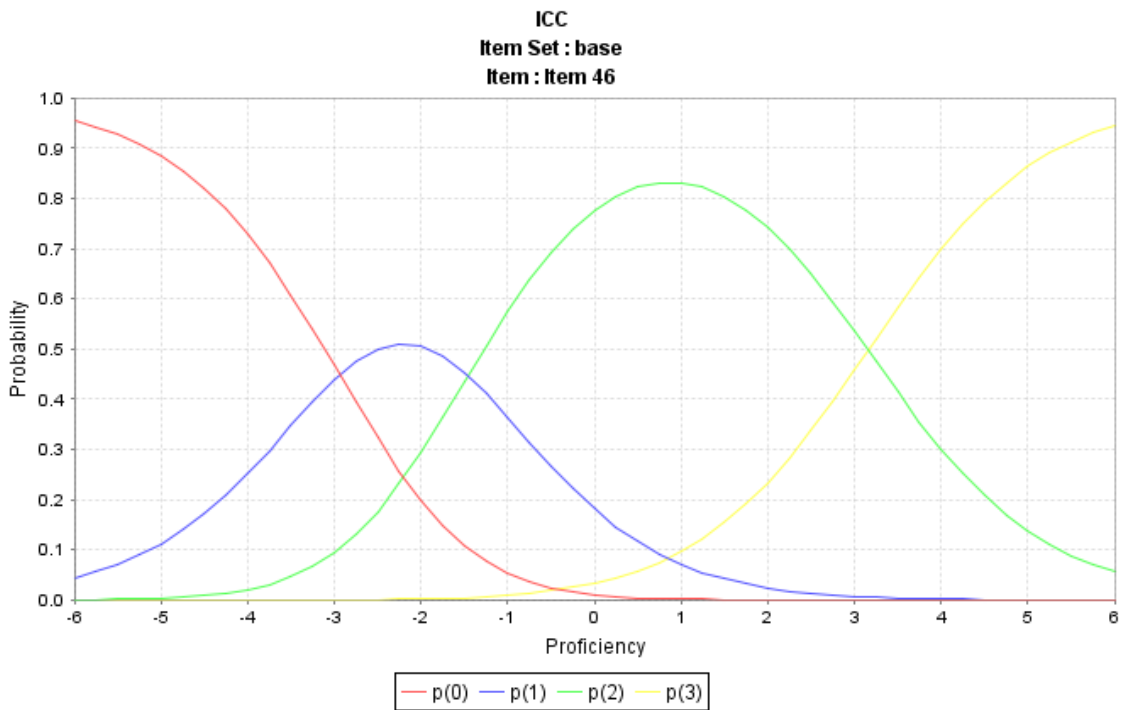
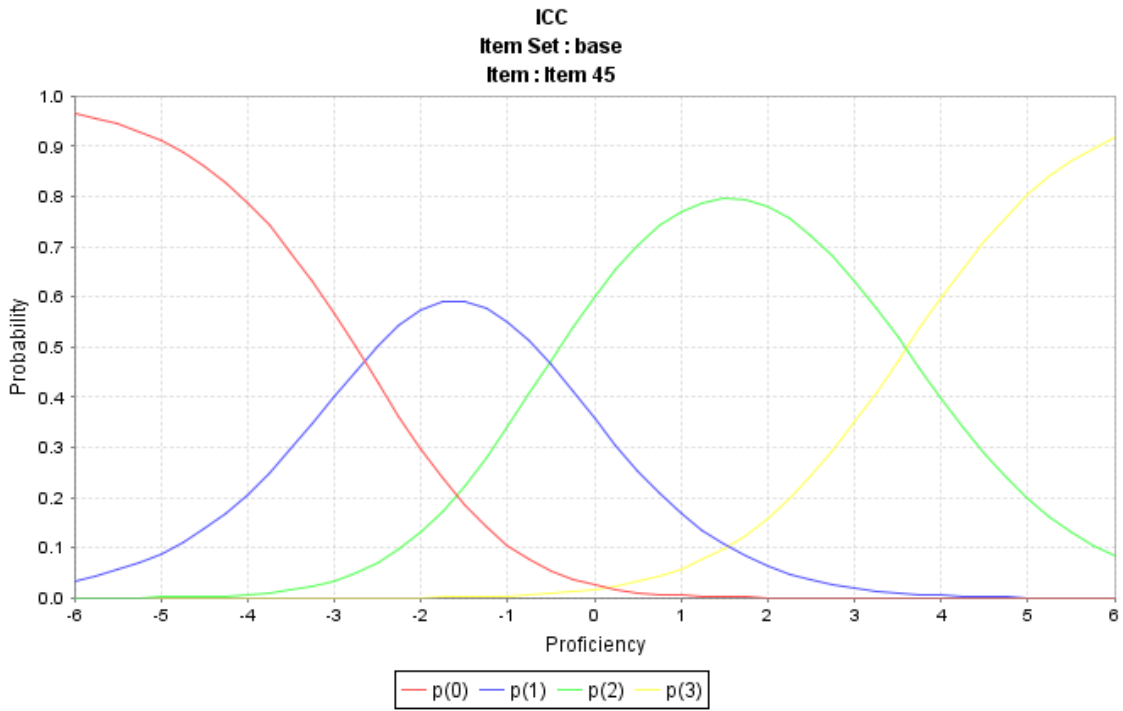
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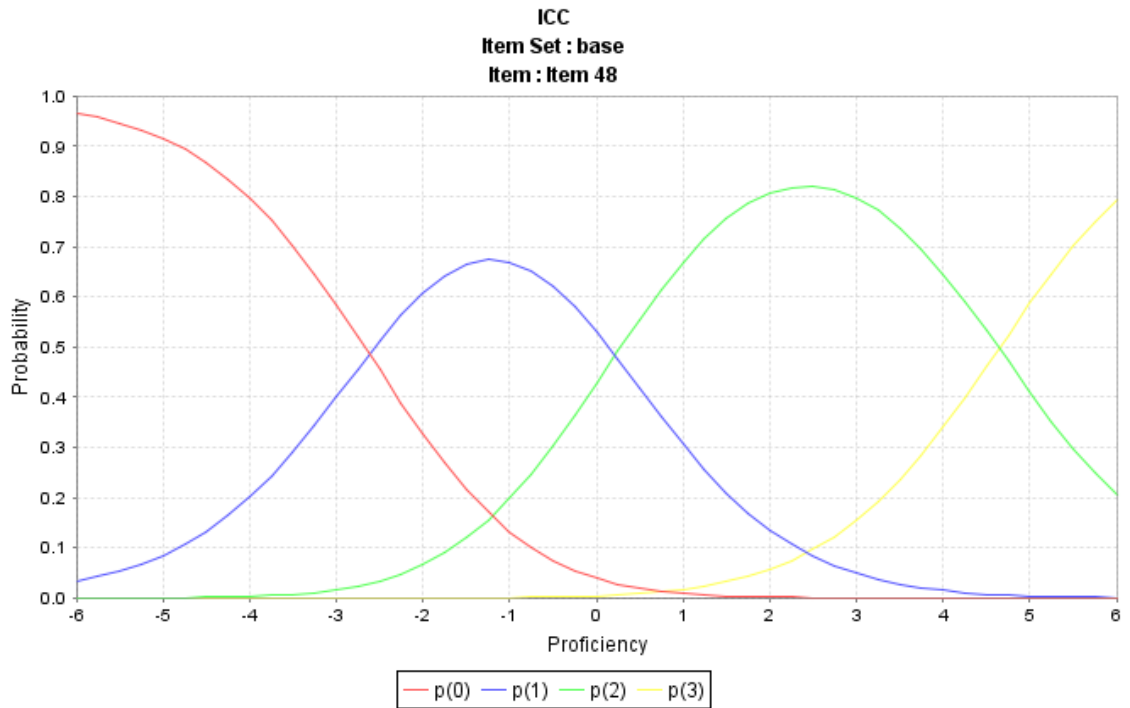
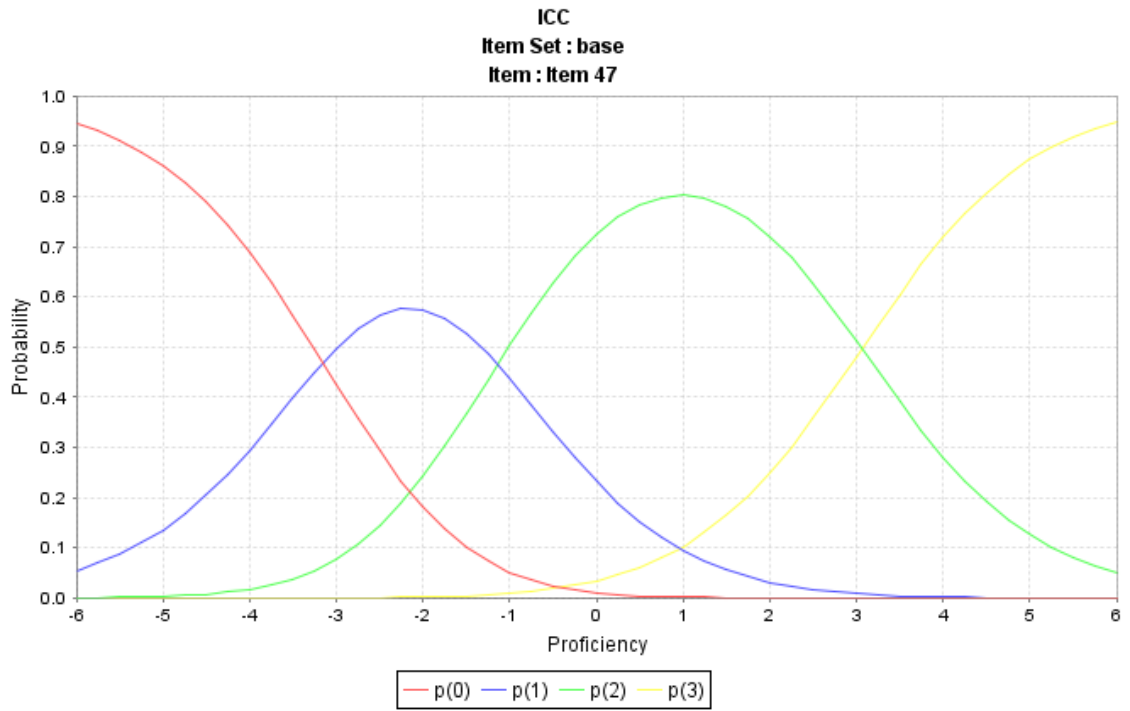
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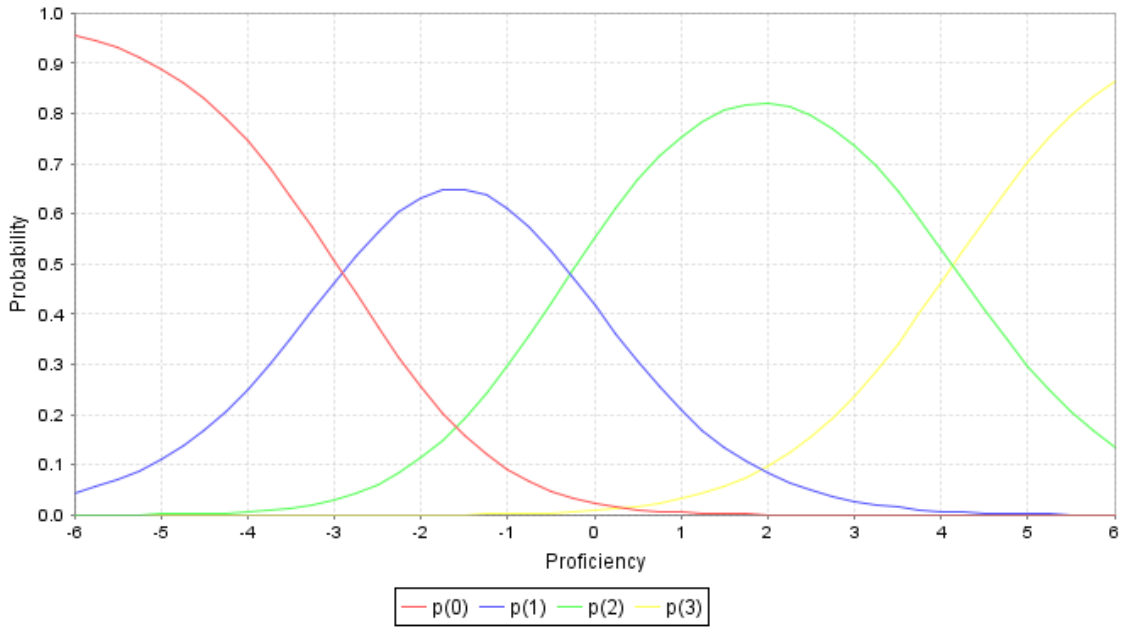


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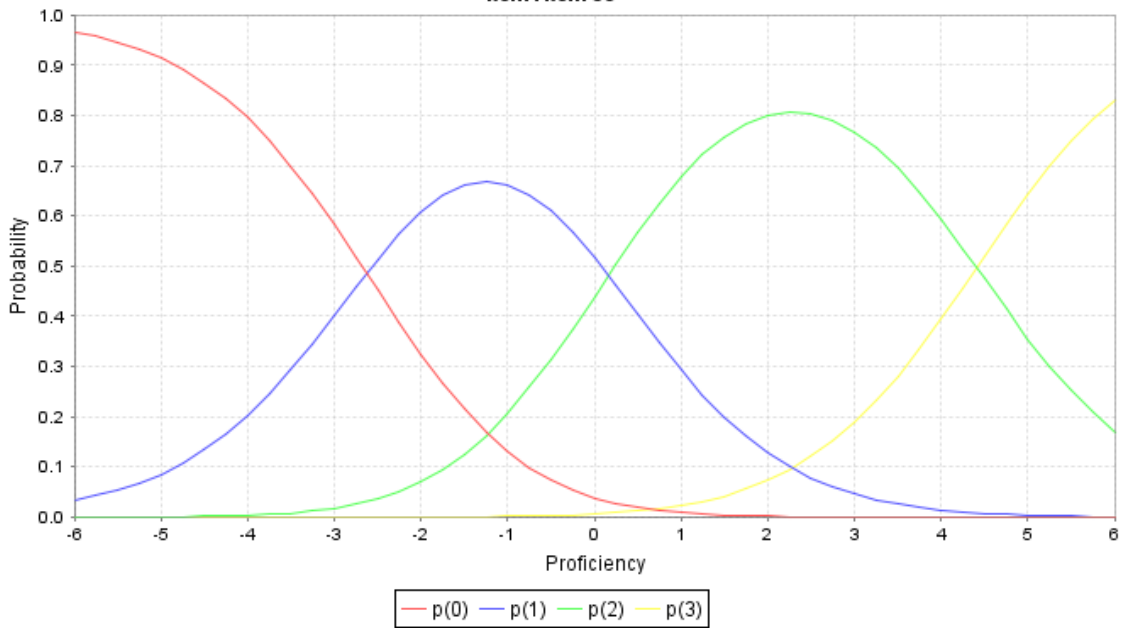


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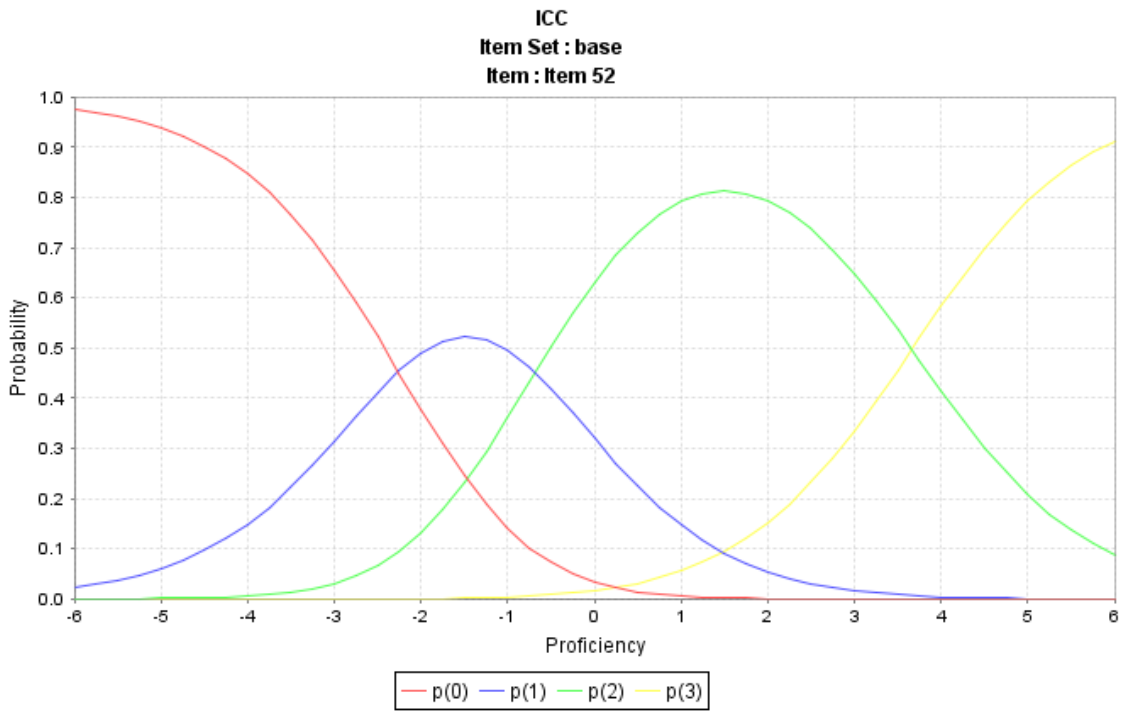
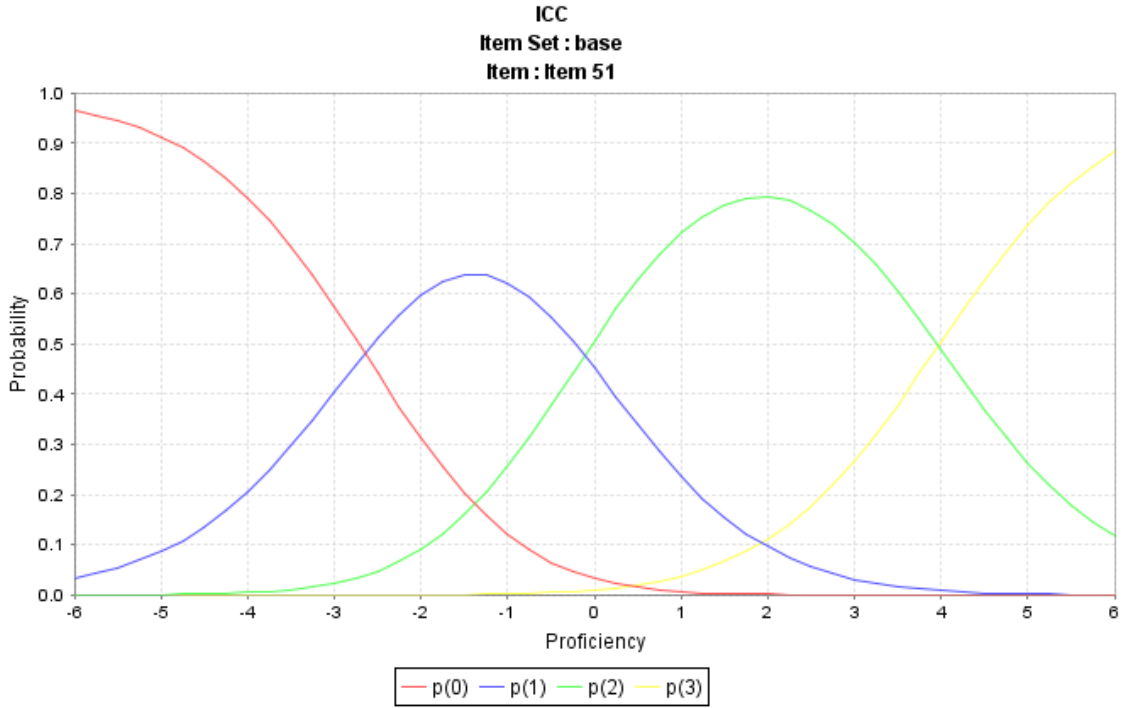
ICC
Item Set : base
Item : Item 49



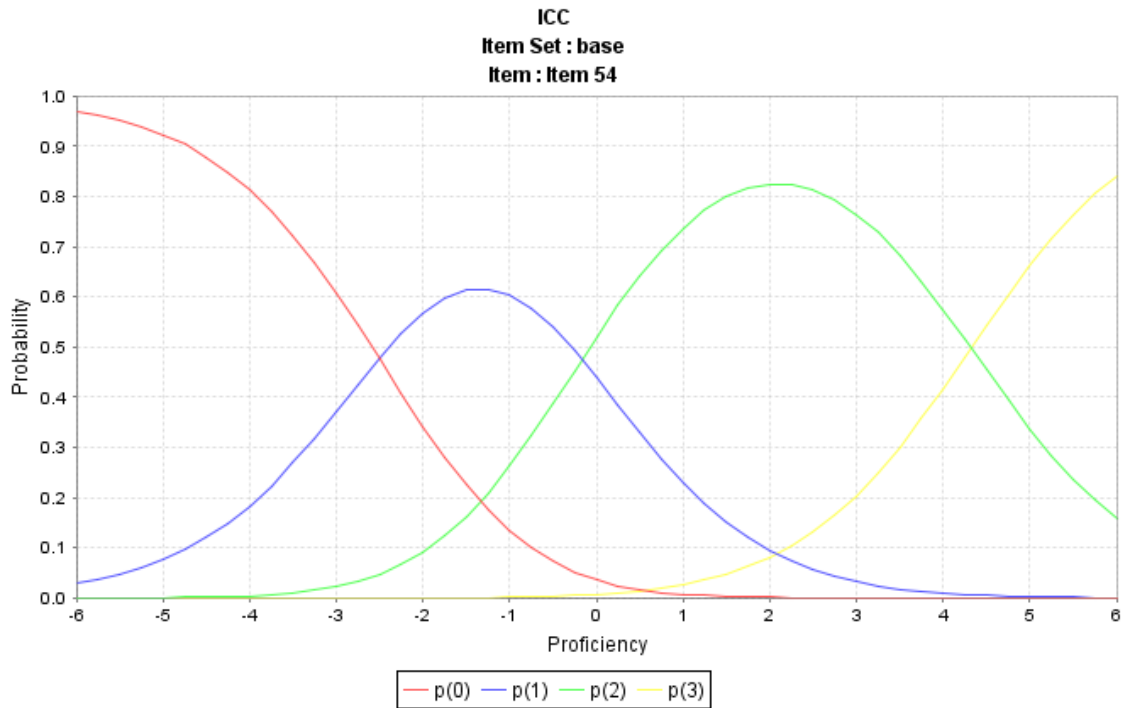
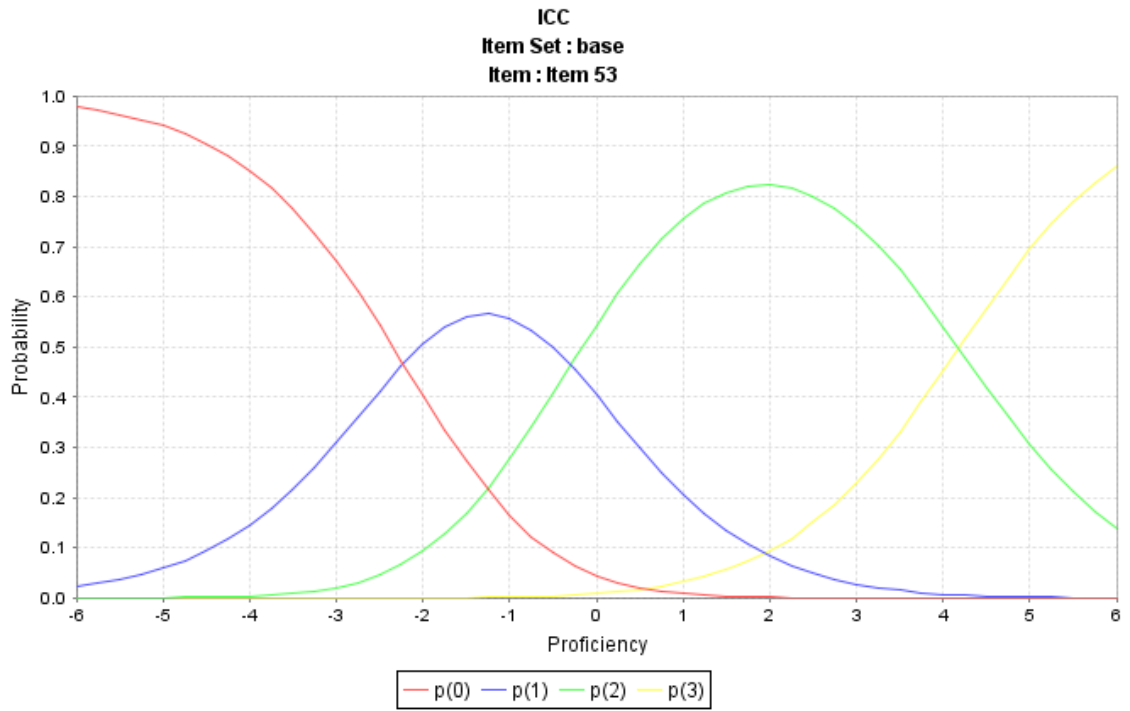
ICC
Item Set : base
Item : Item 50



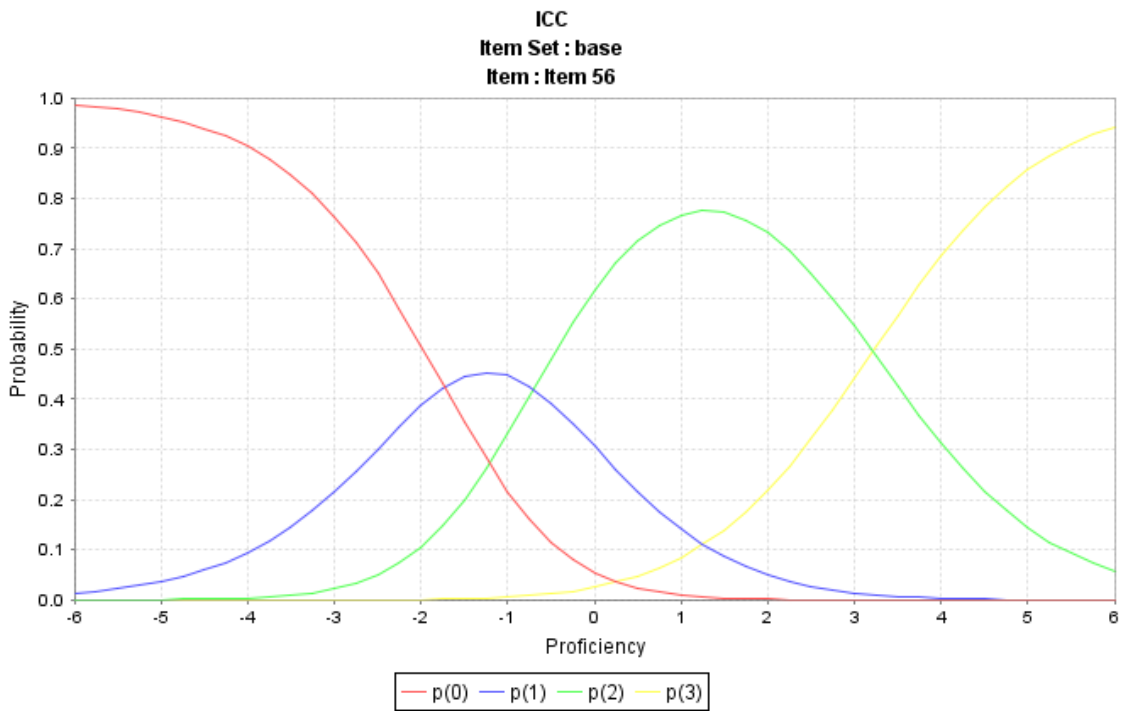
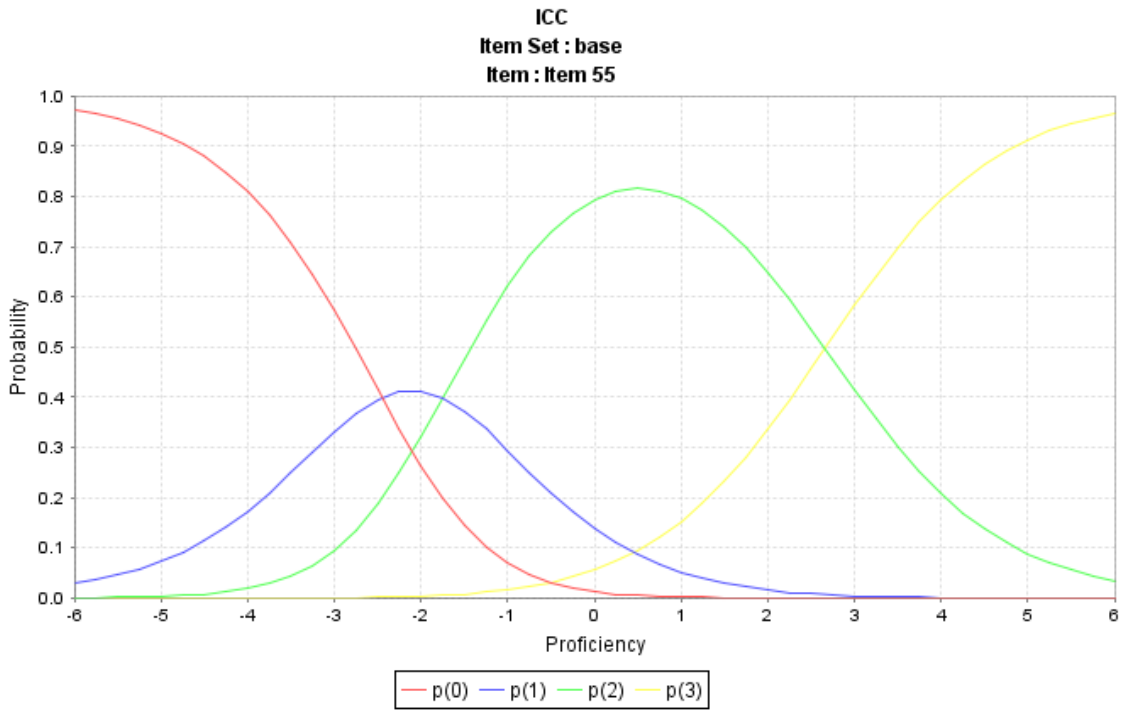
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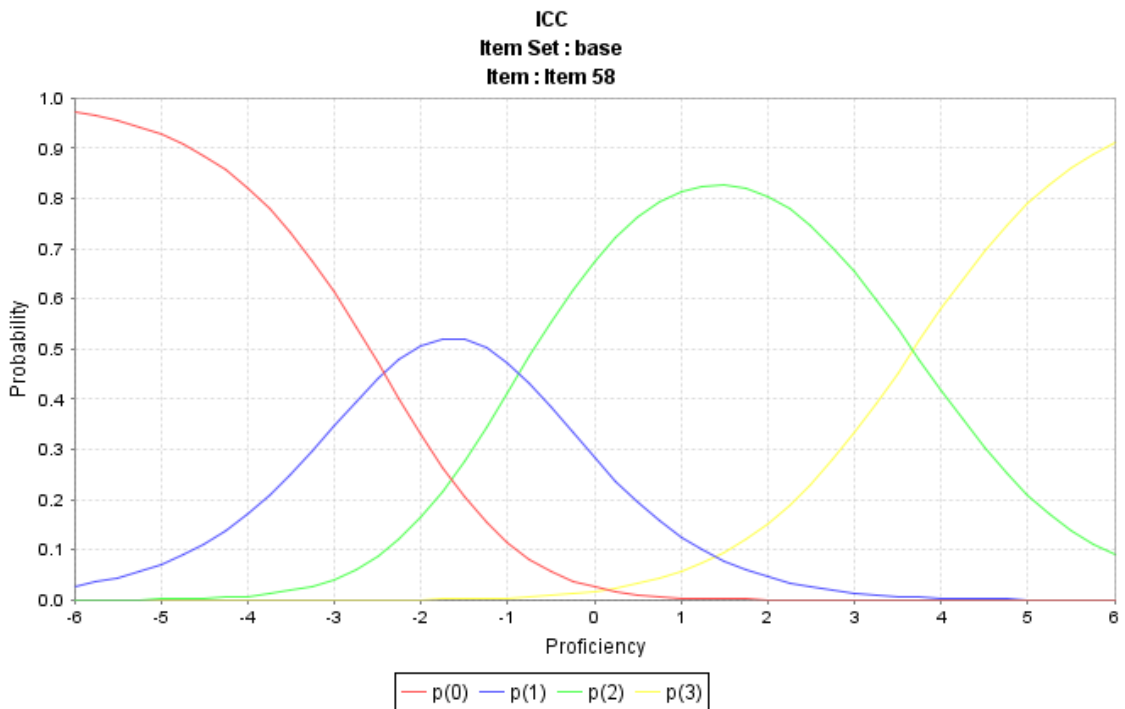
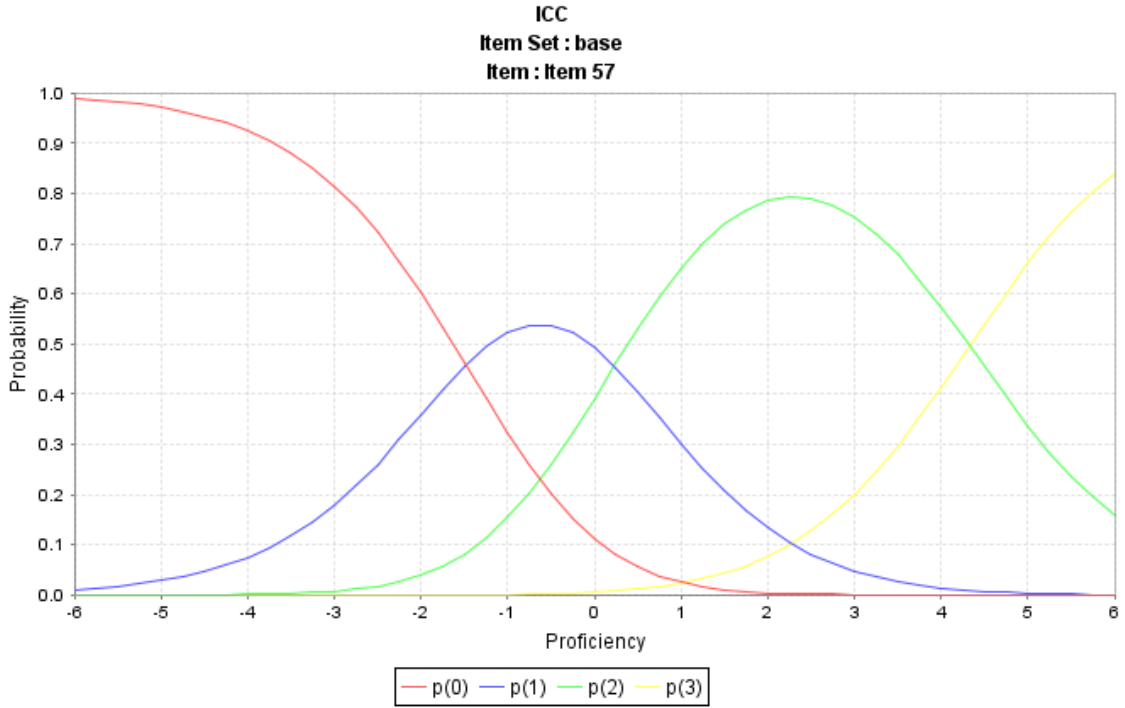
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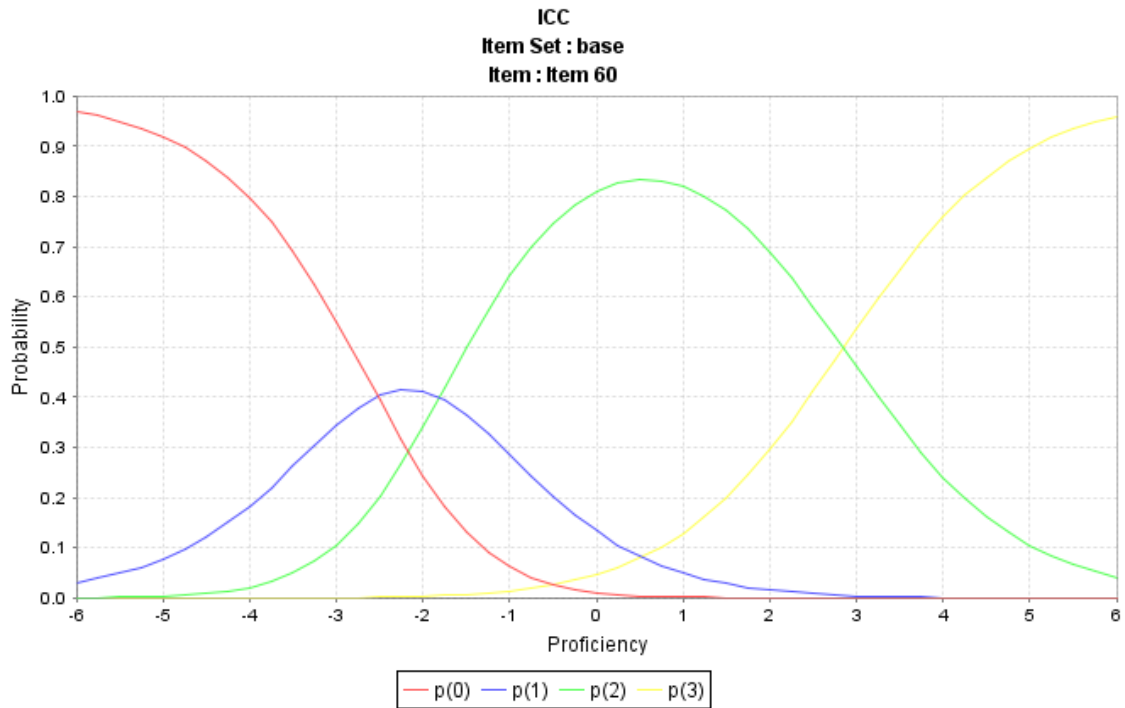
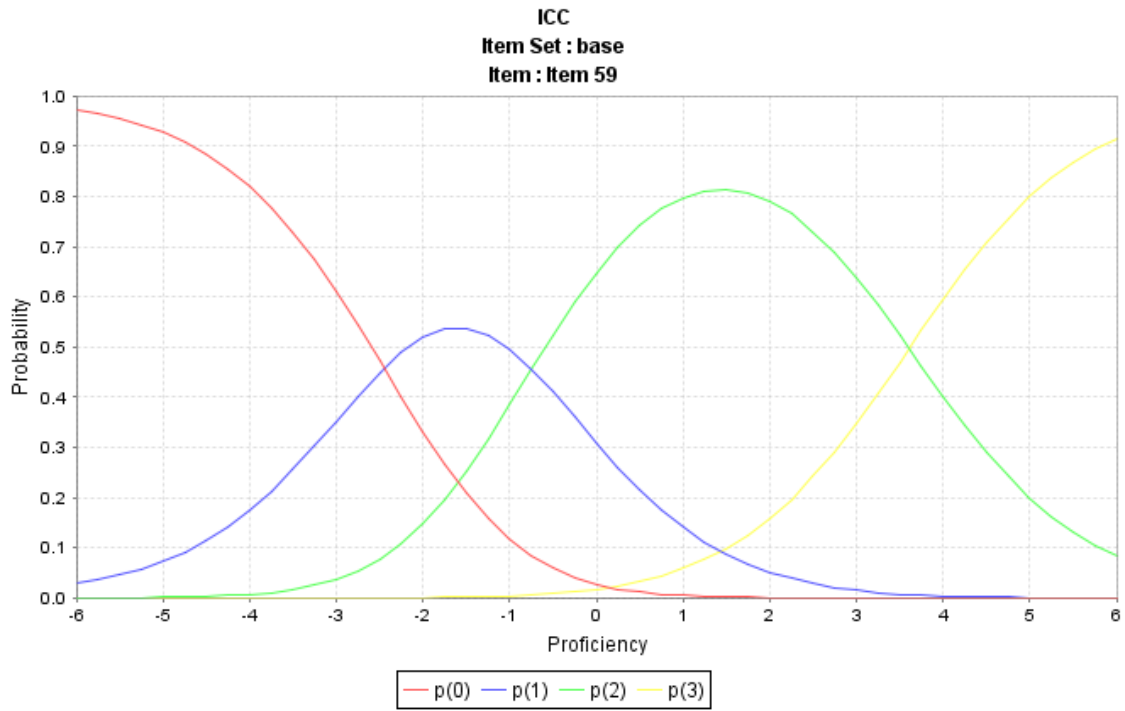
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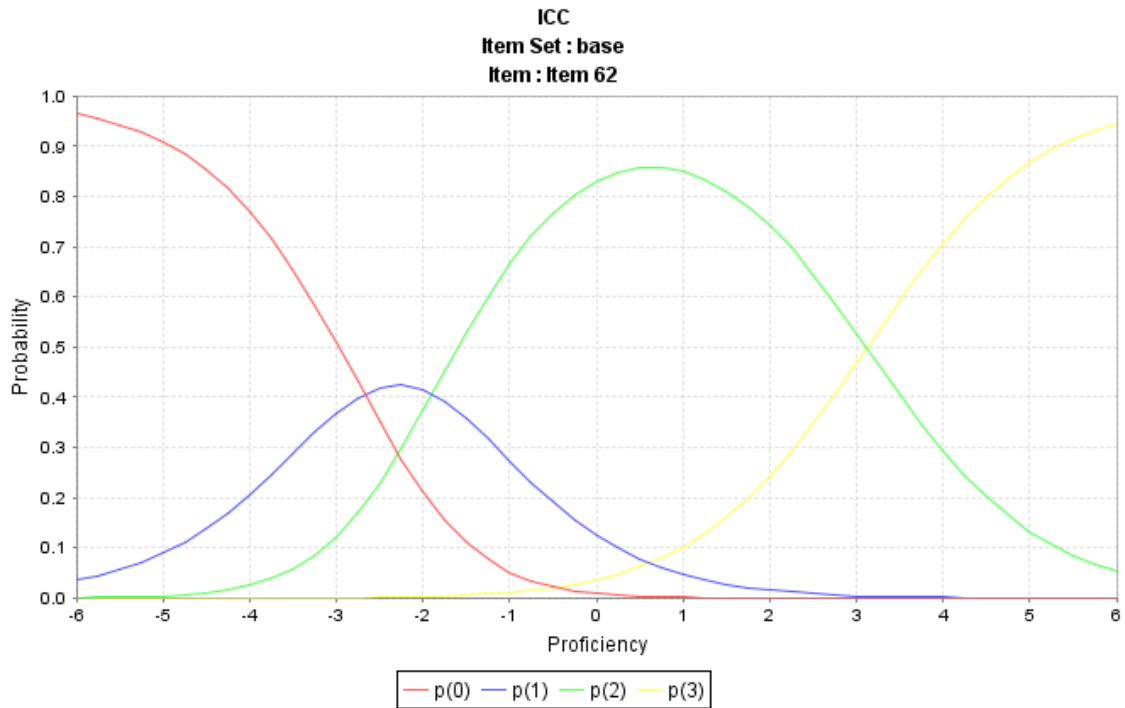
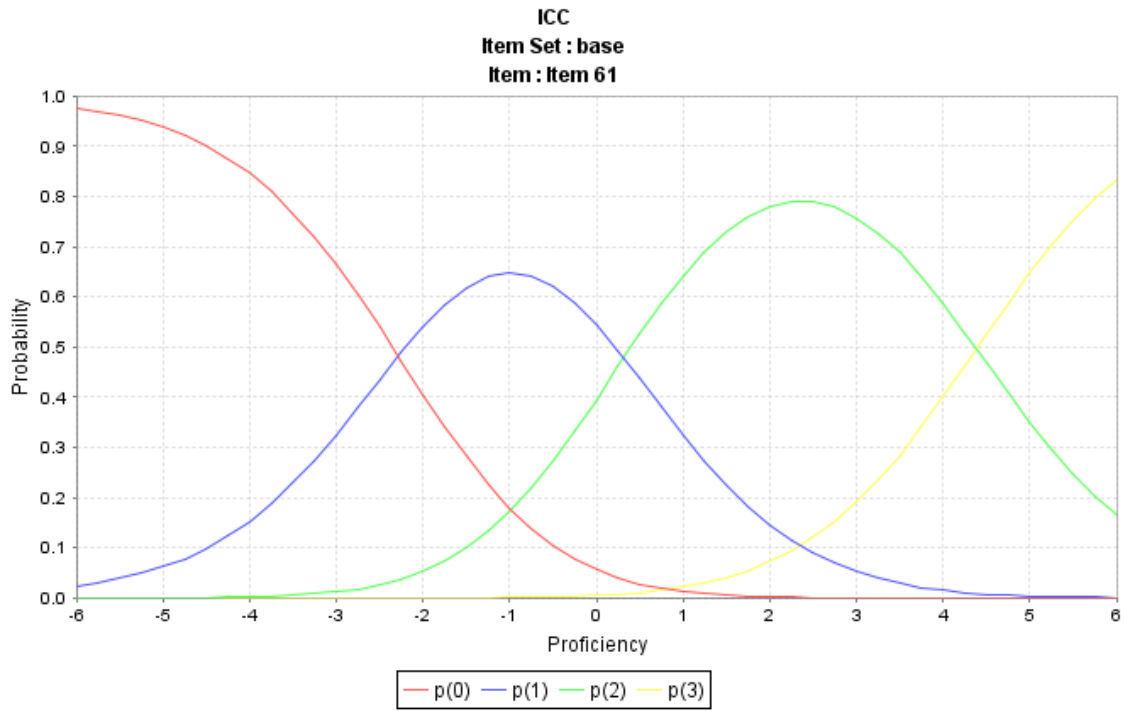
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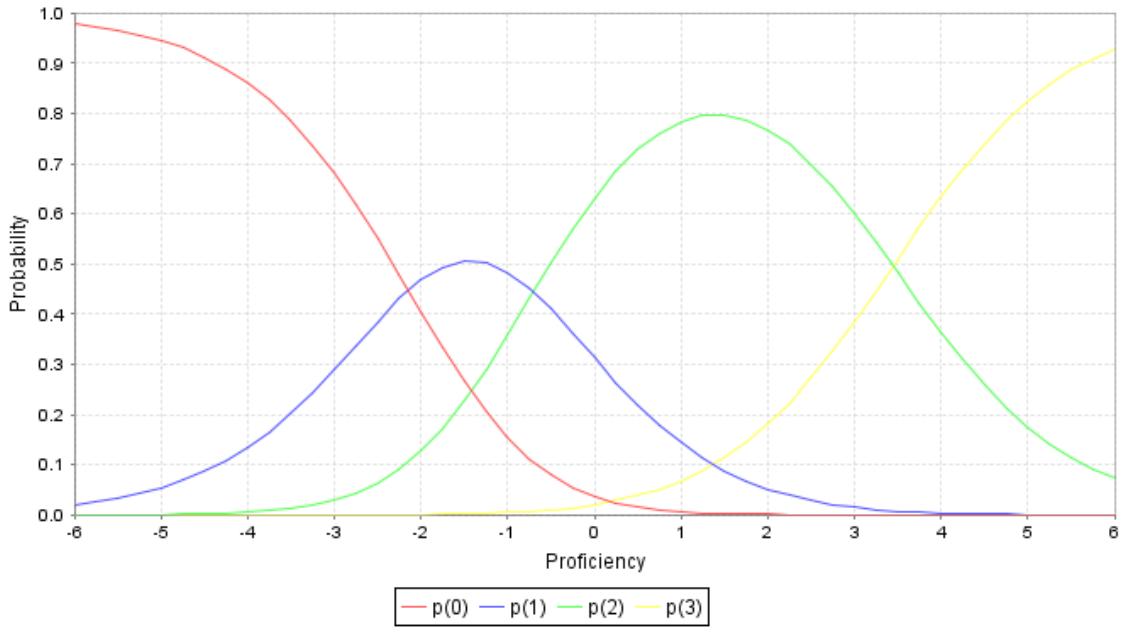


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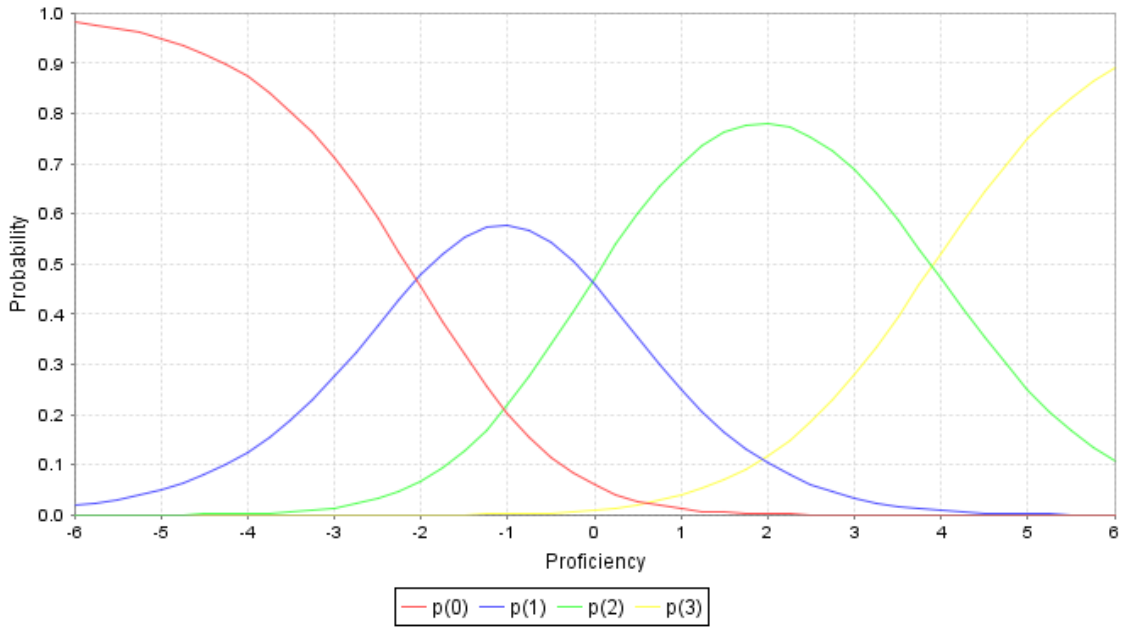


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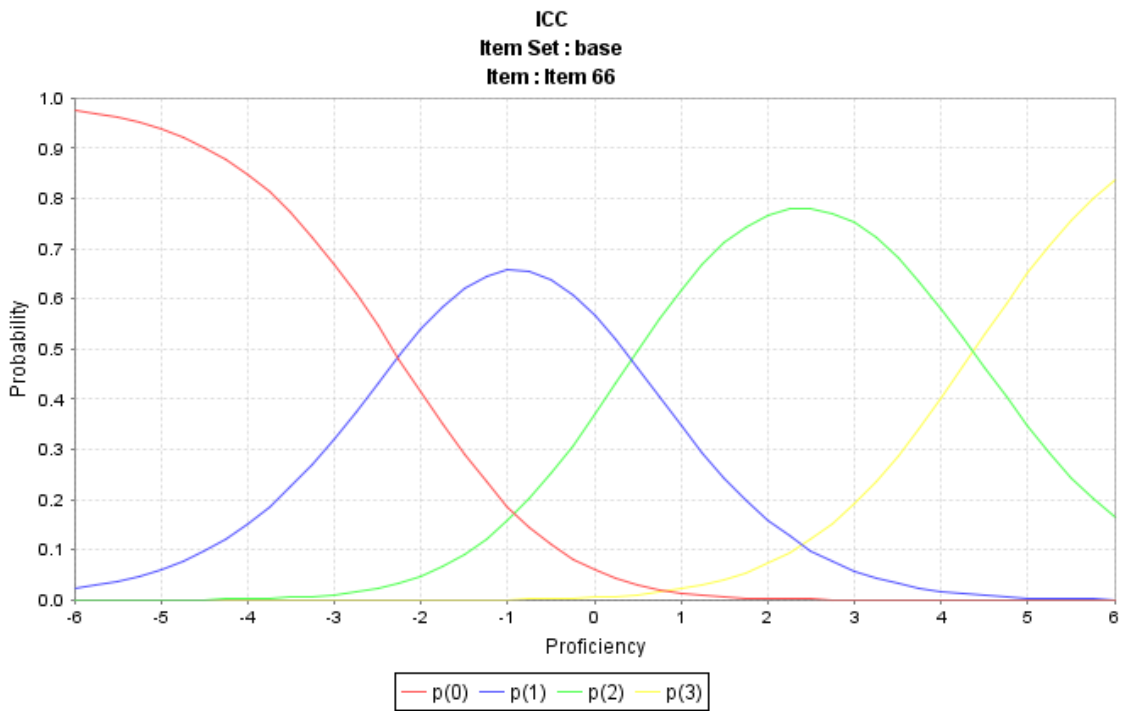
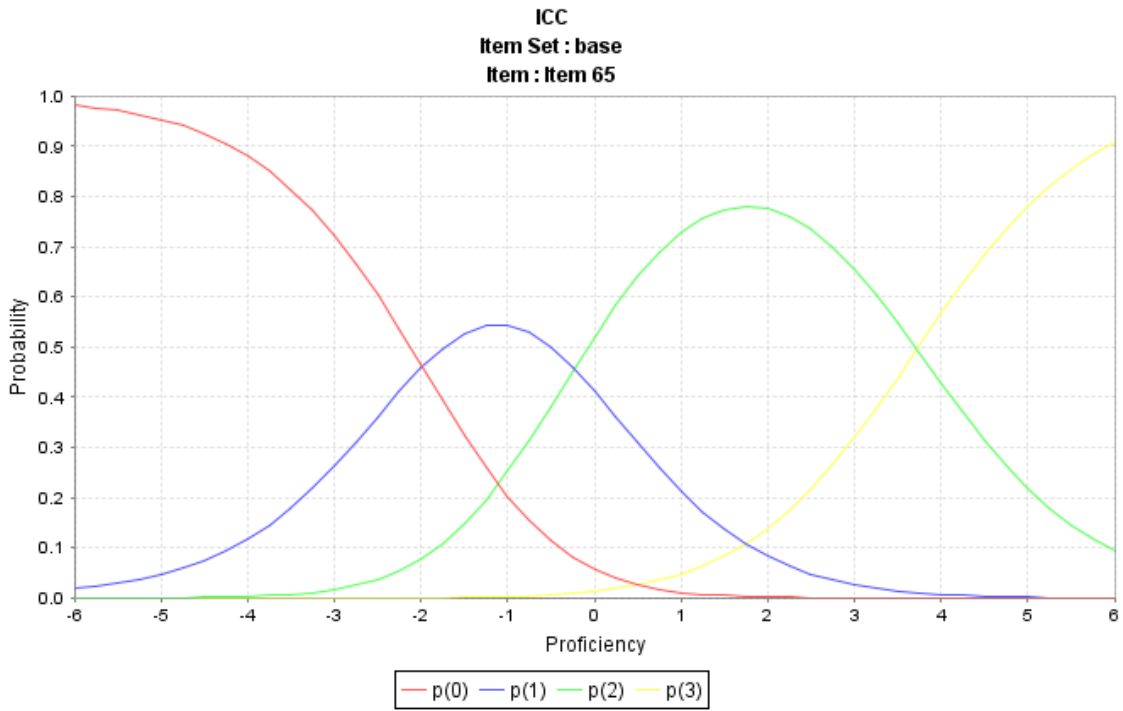
ICC
Item Set : base
Item : Item 63



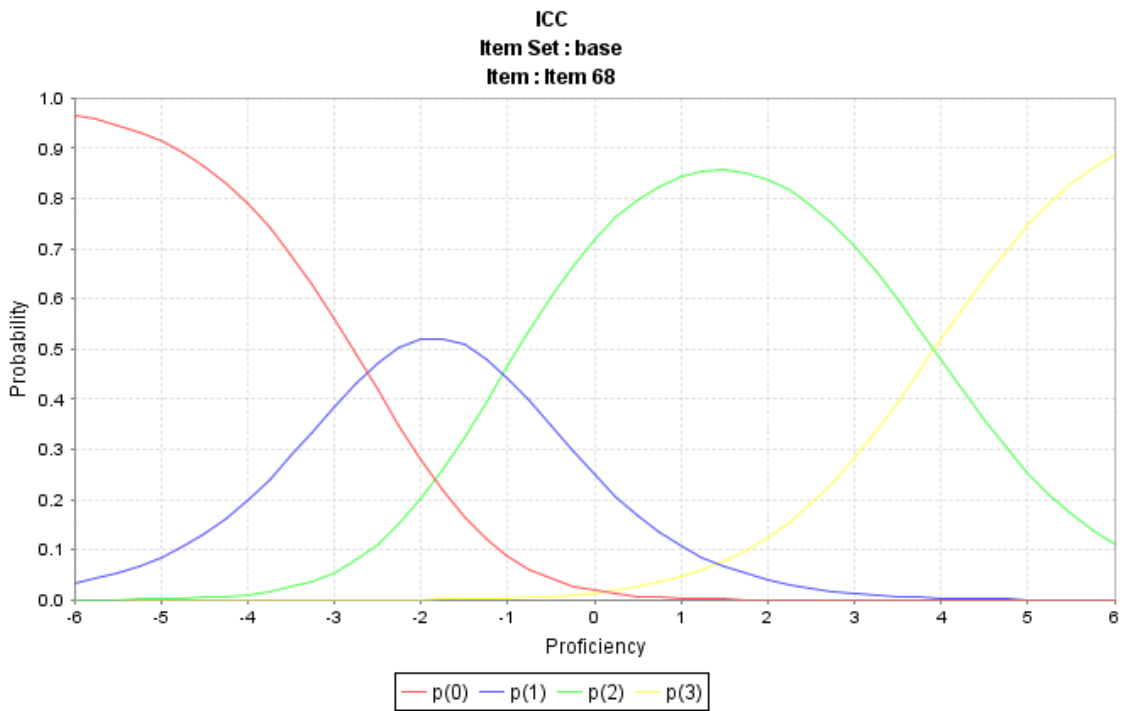
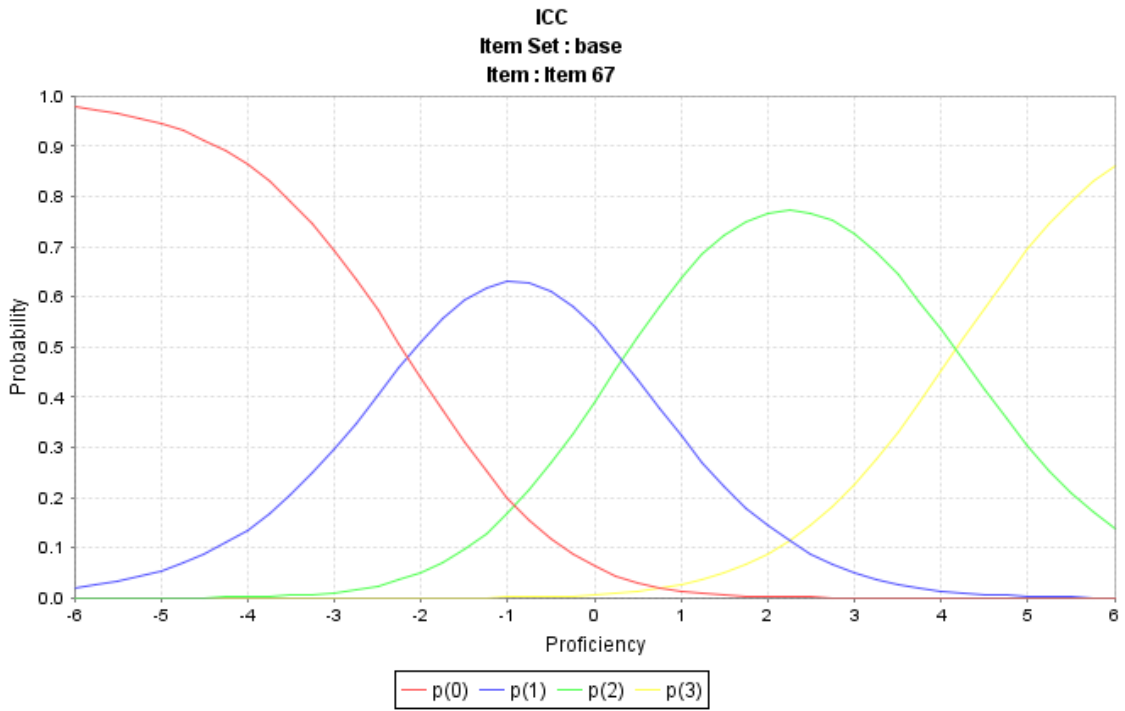
ICC
Item Set : base
Item : Item 64



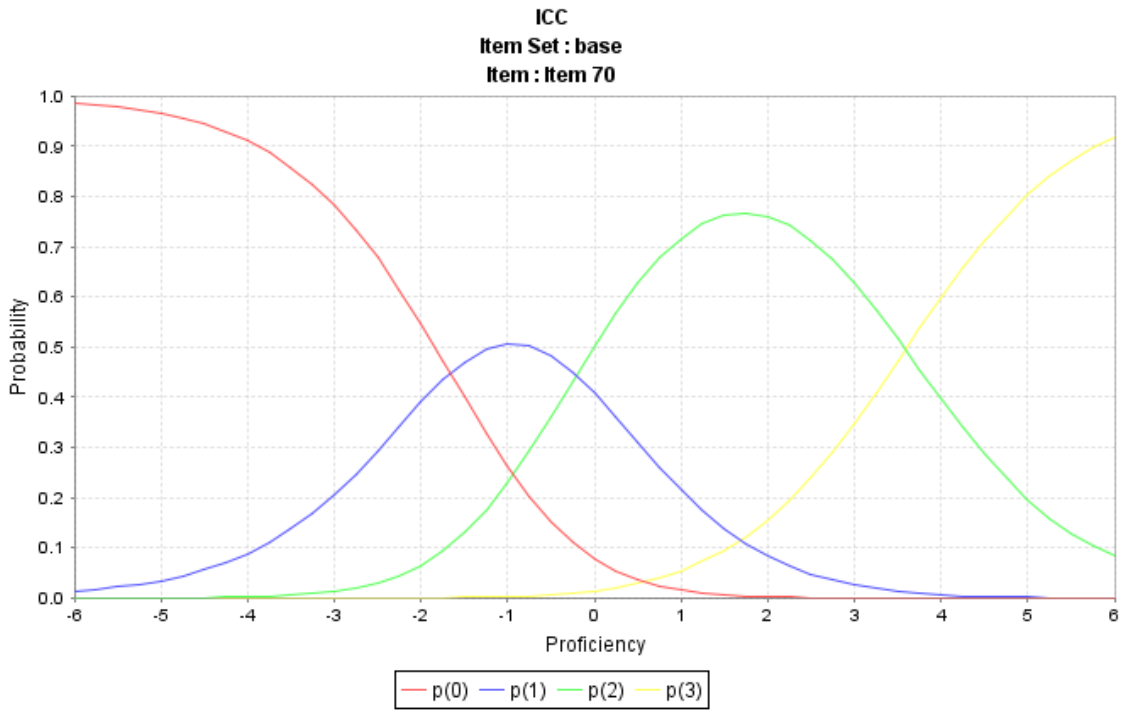
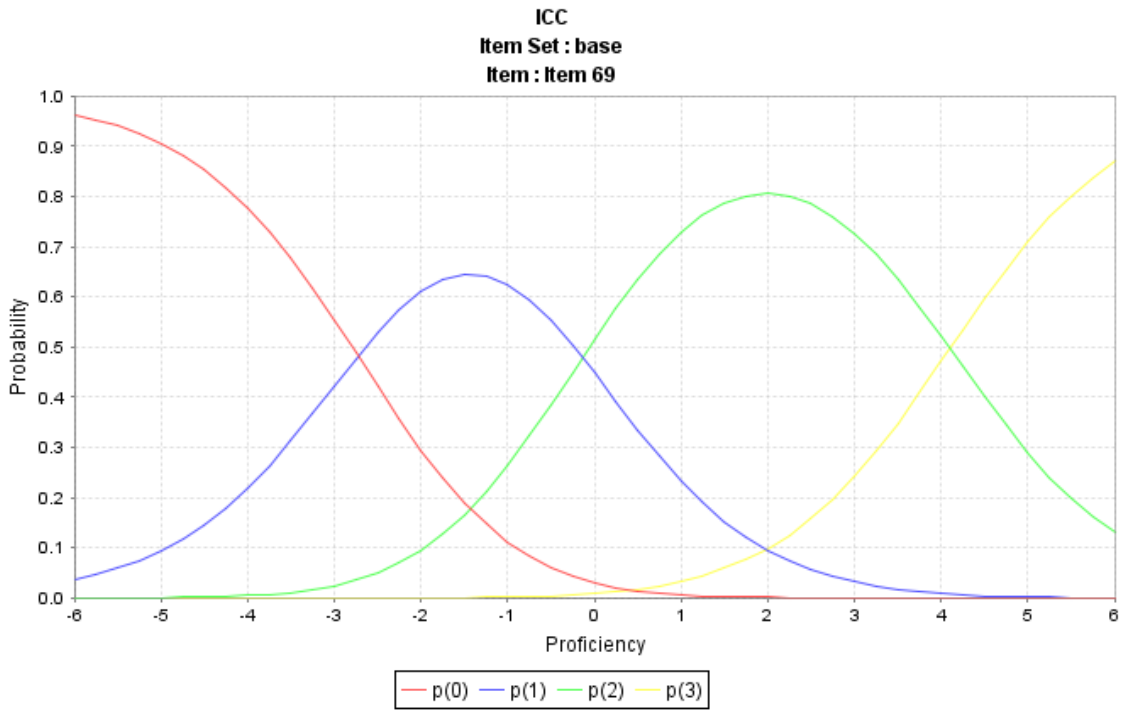
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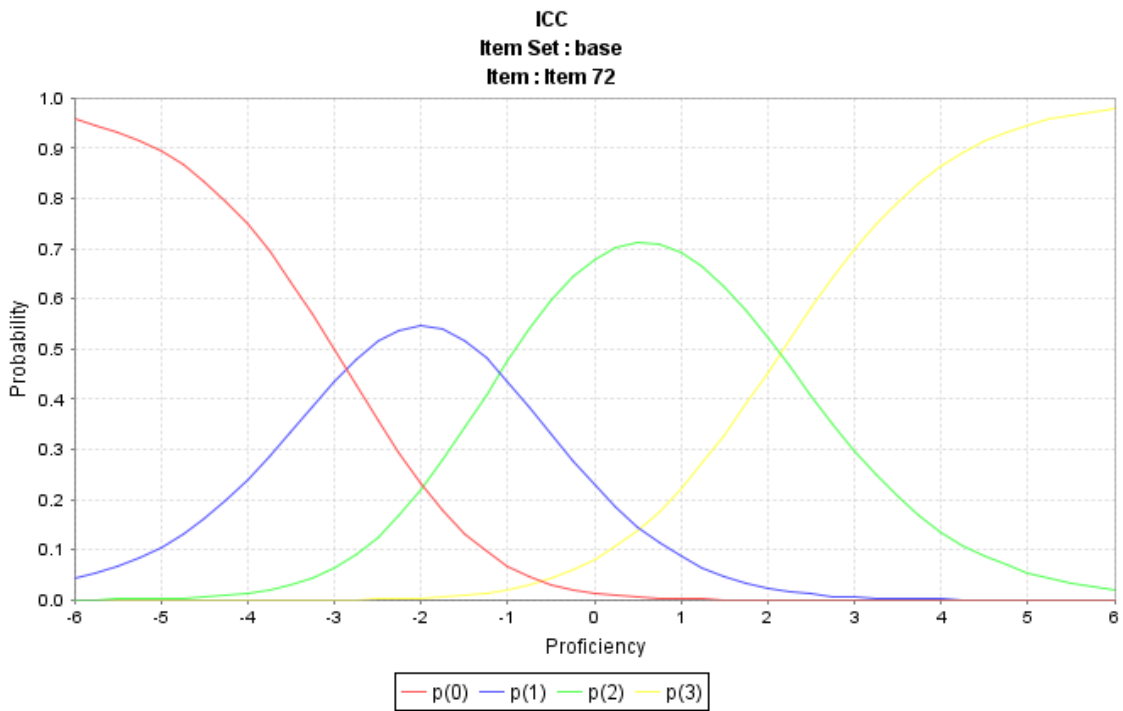
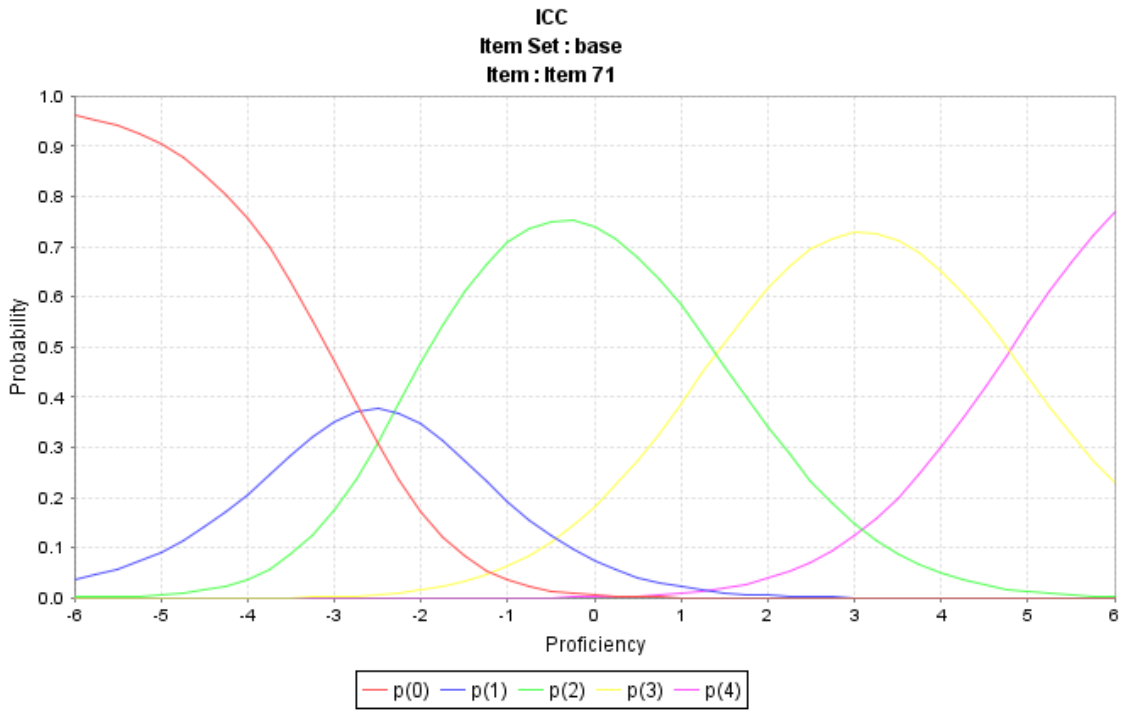
Teacher Perception Survey Technical Report



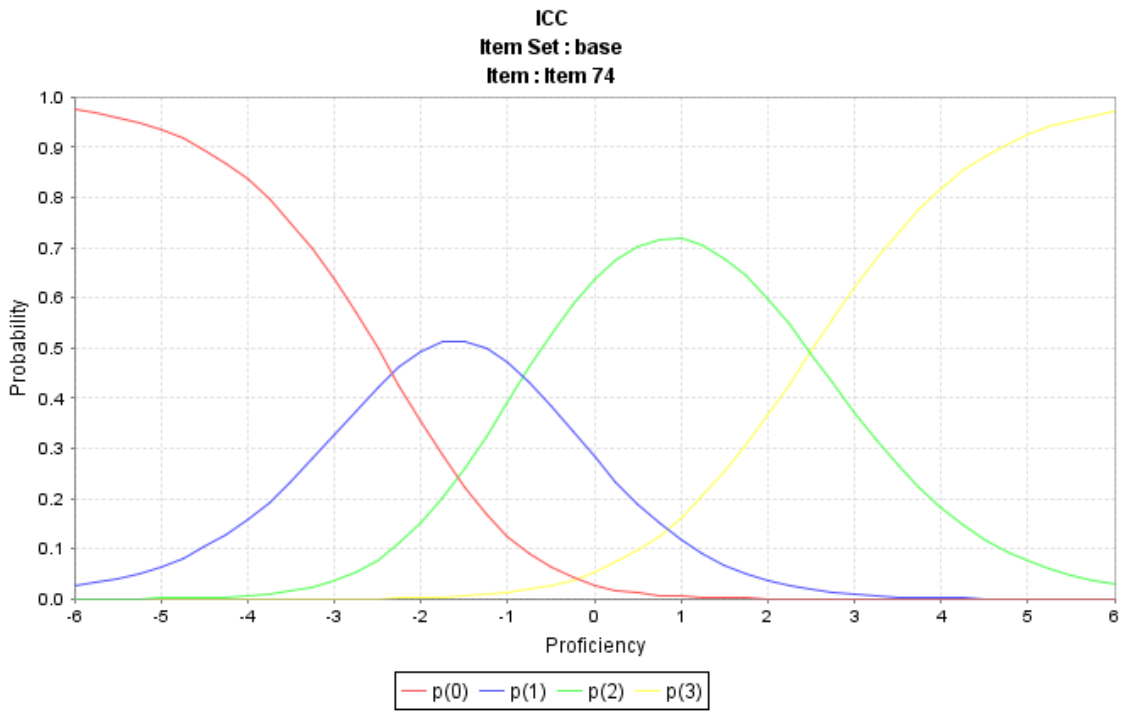
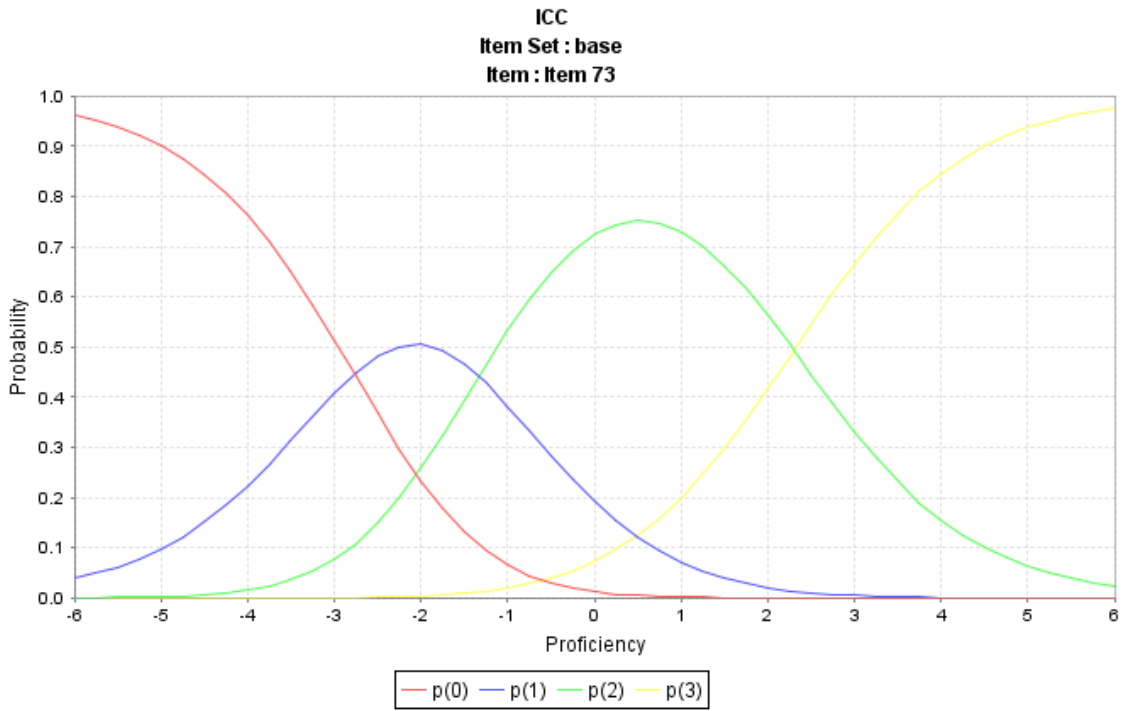
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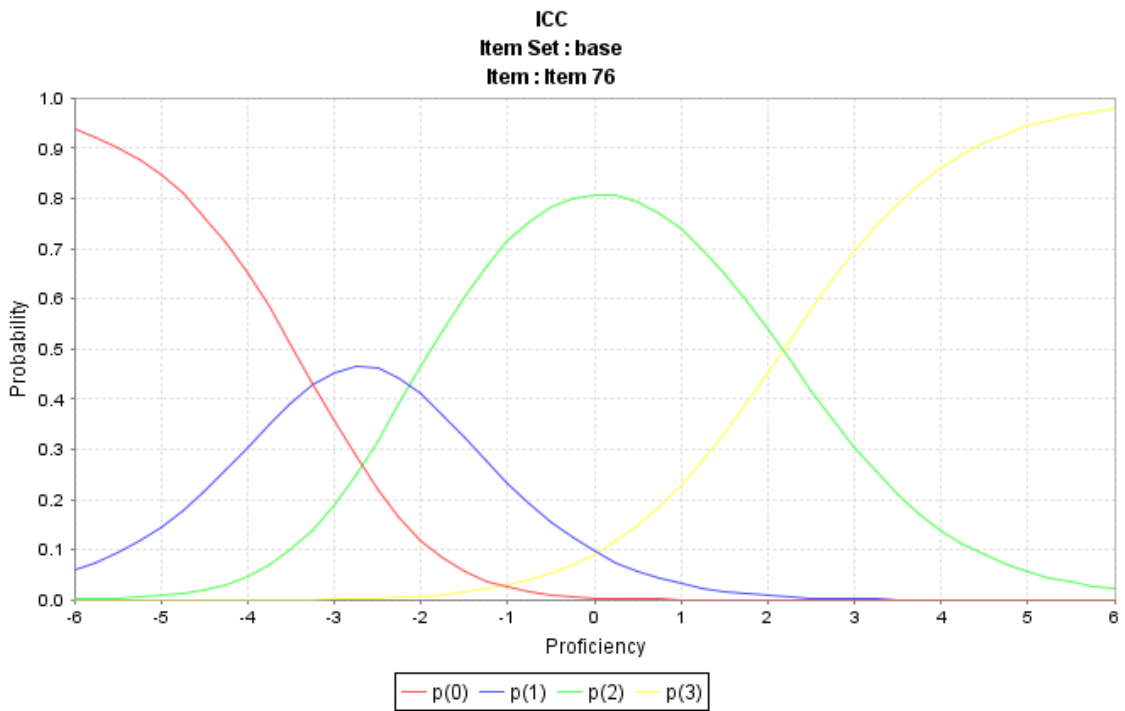
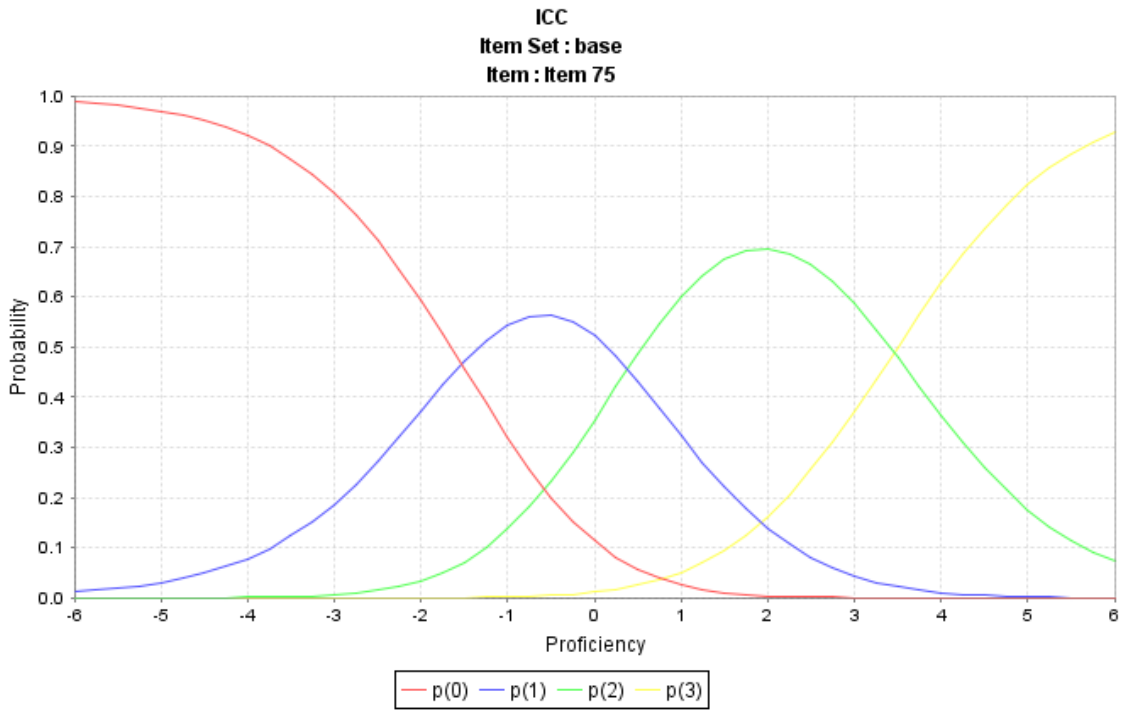
Teacher Perception Survey Technical Report



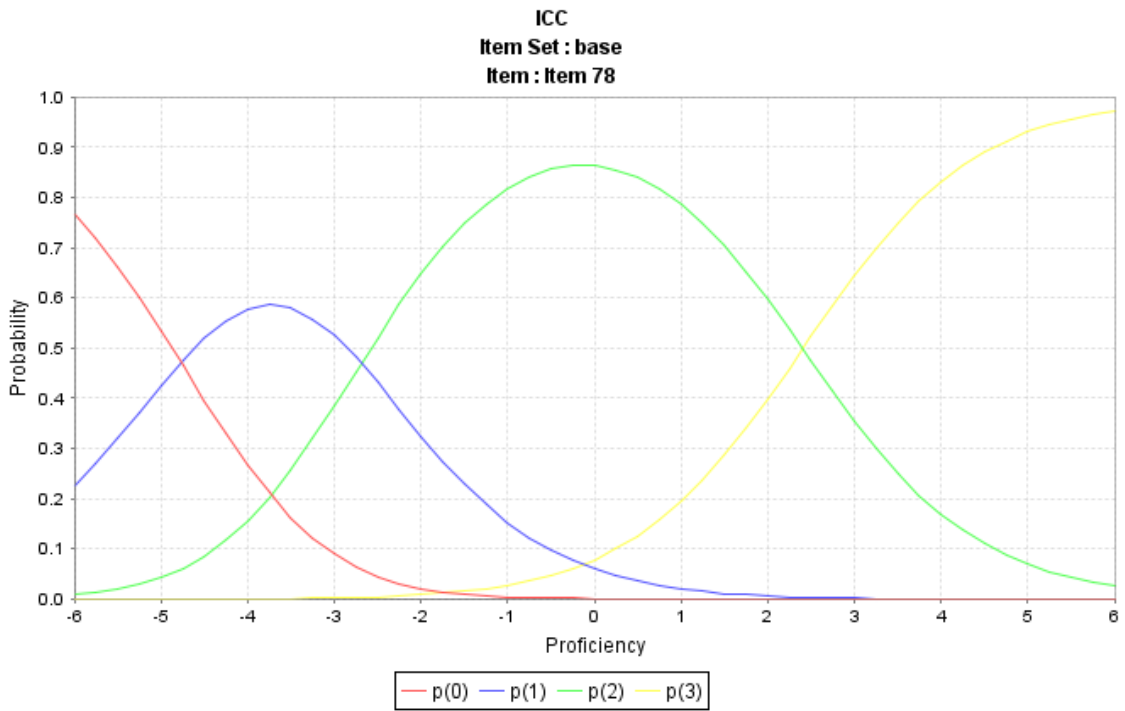
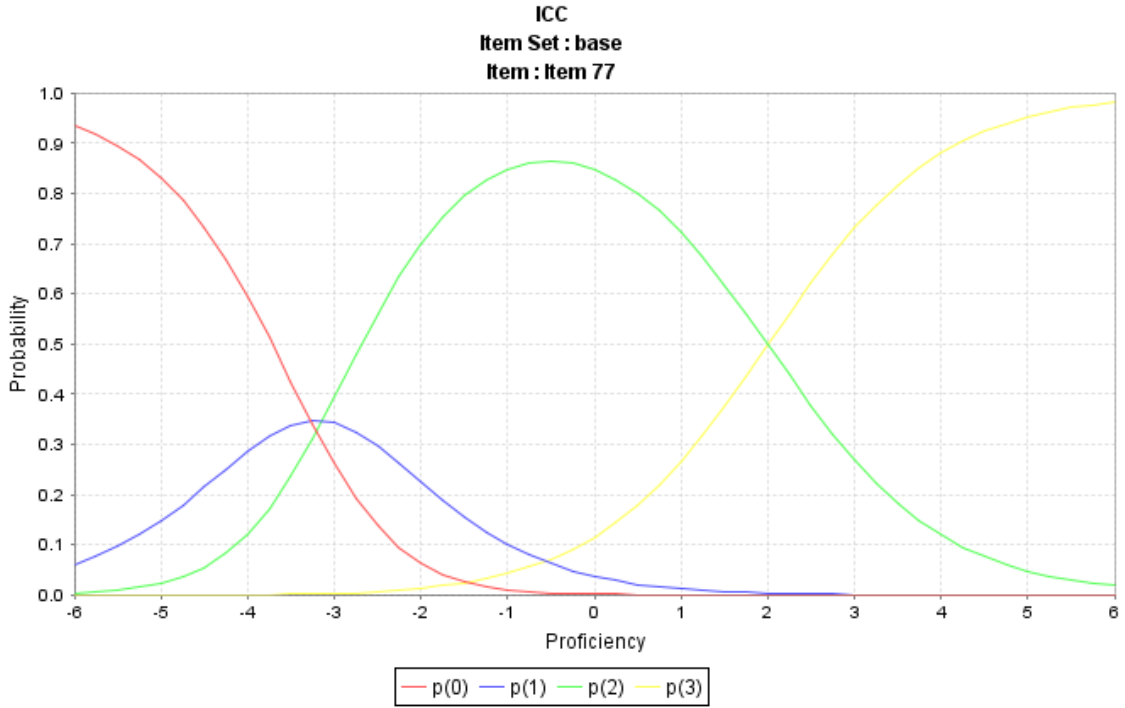
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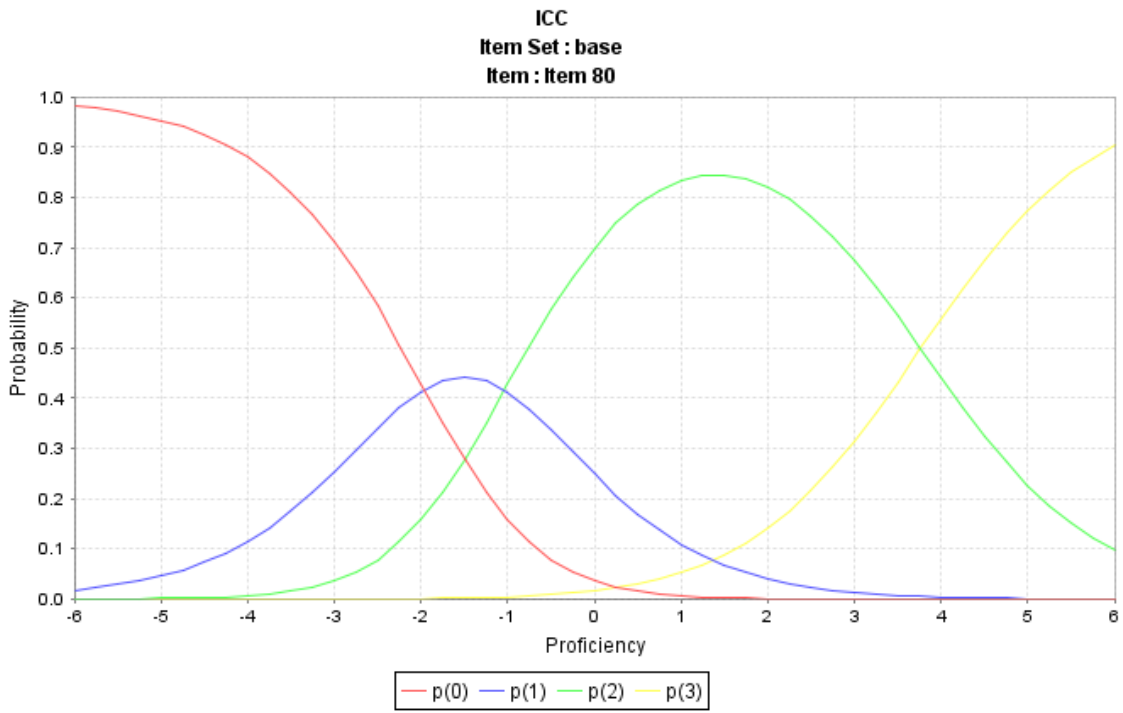
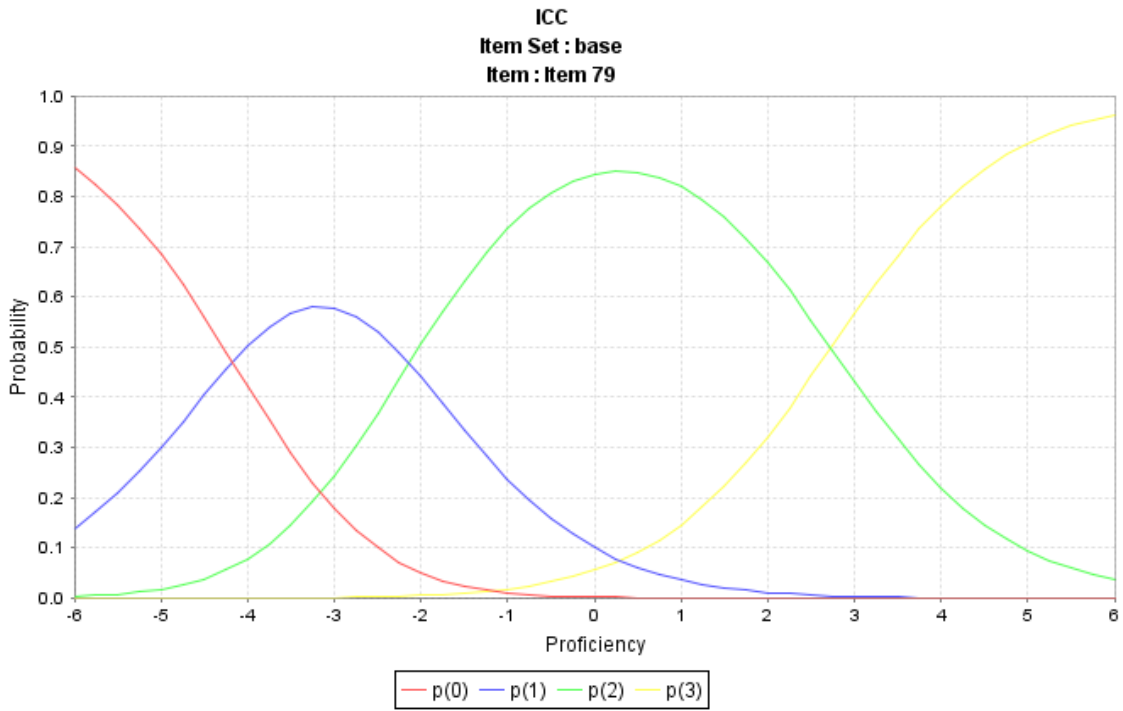
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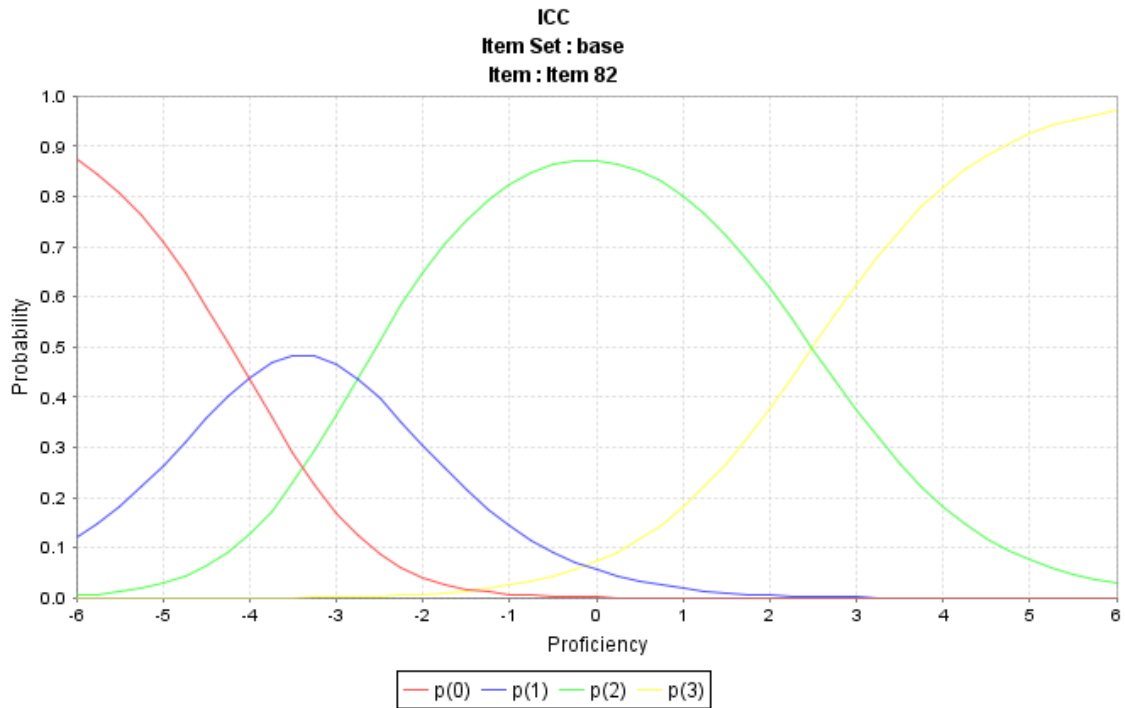
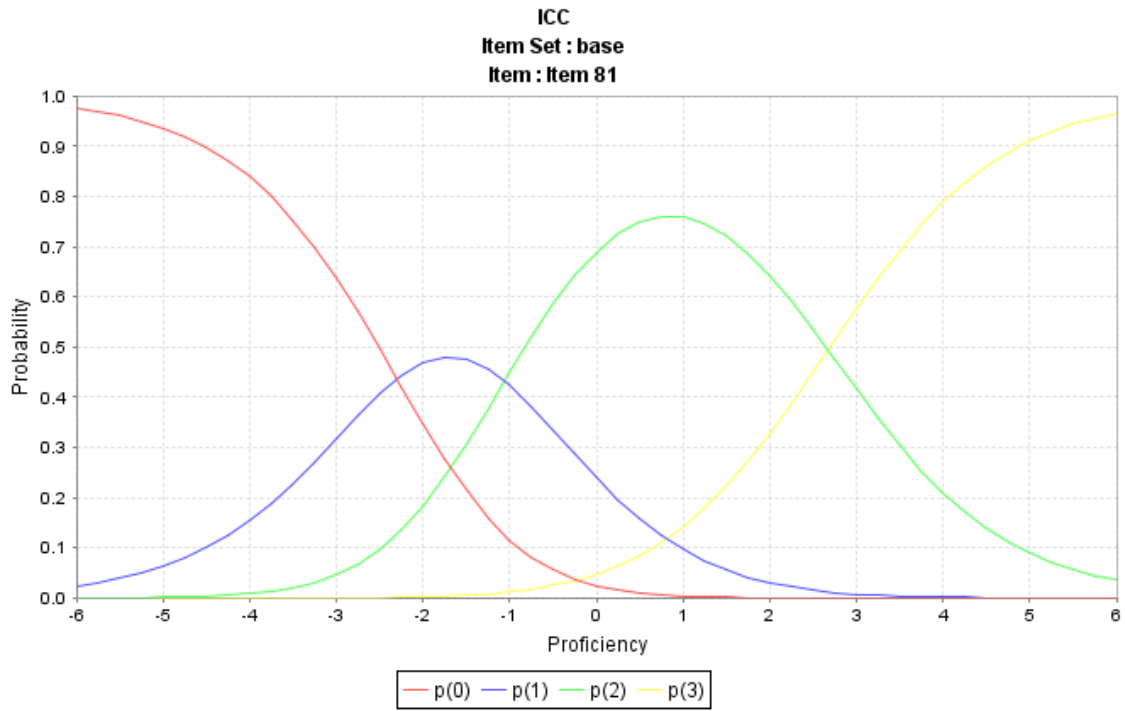
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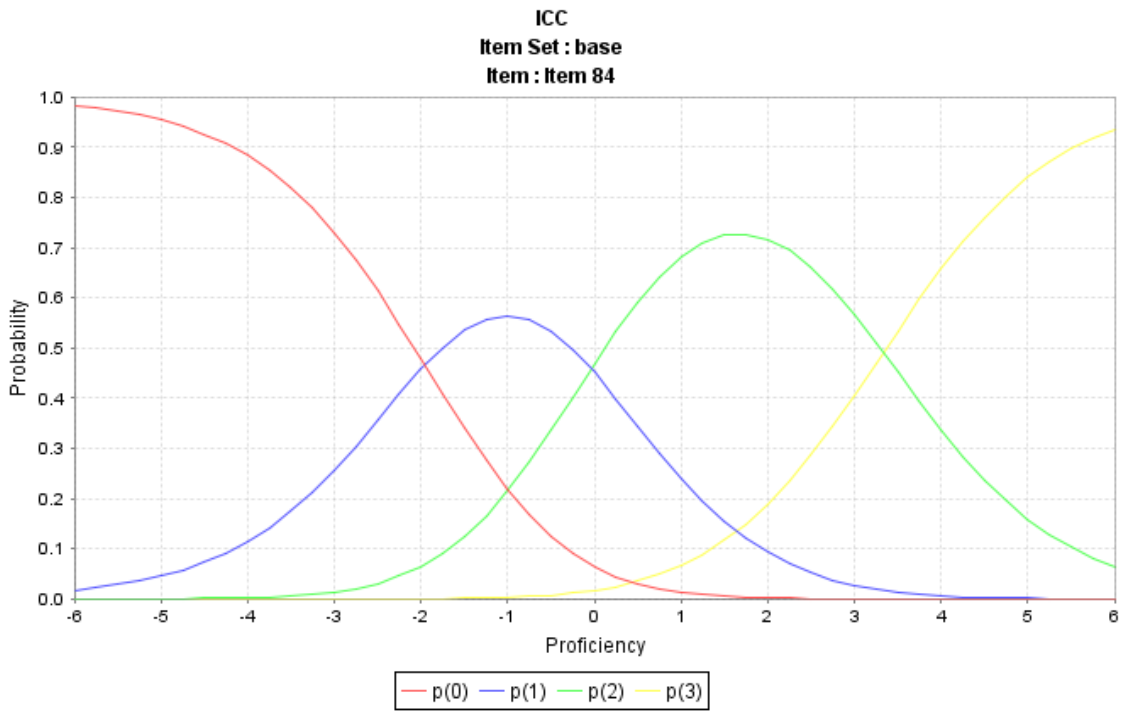
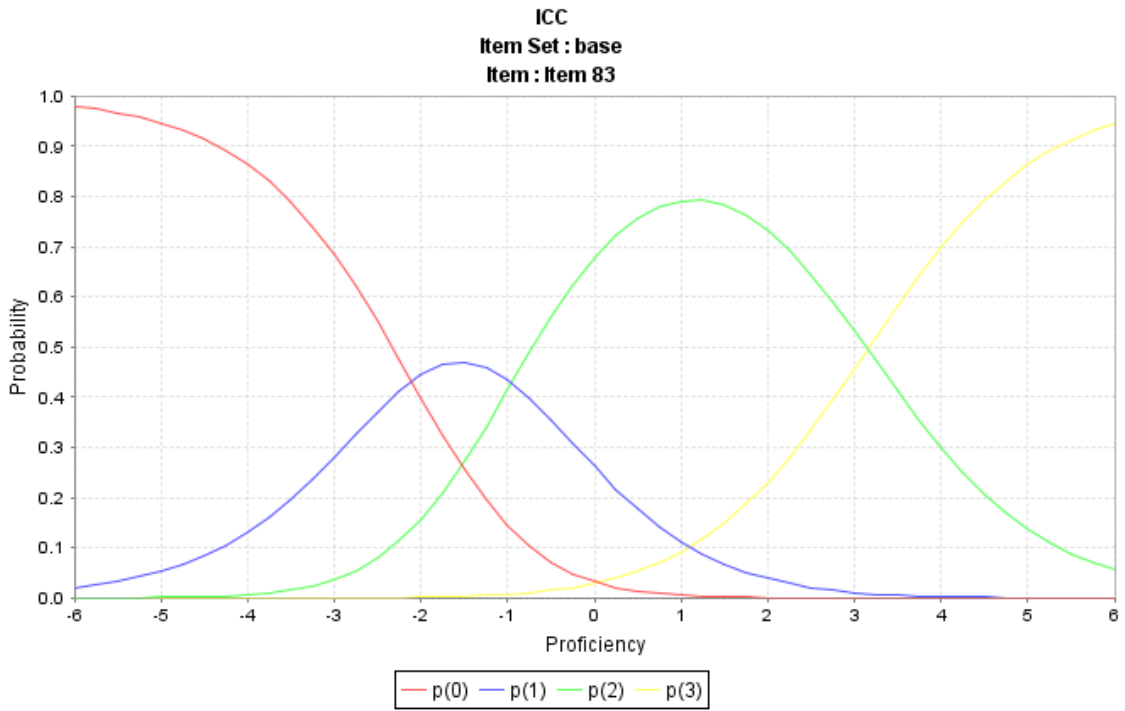
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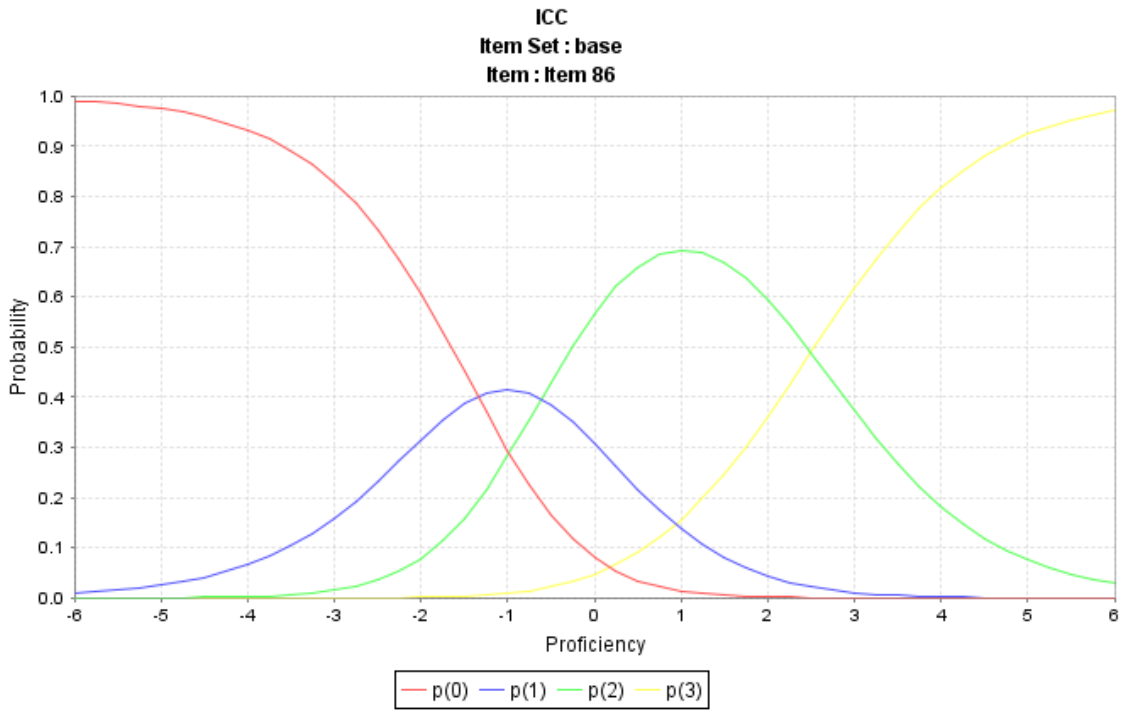
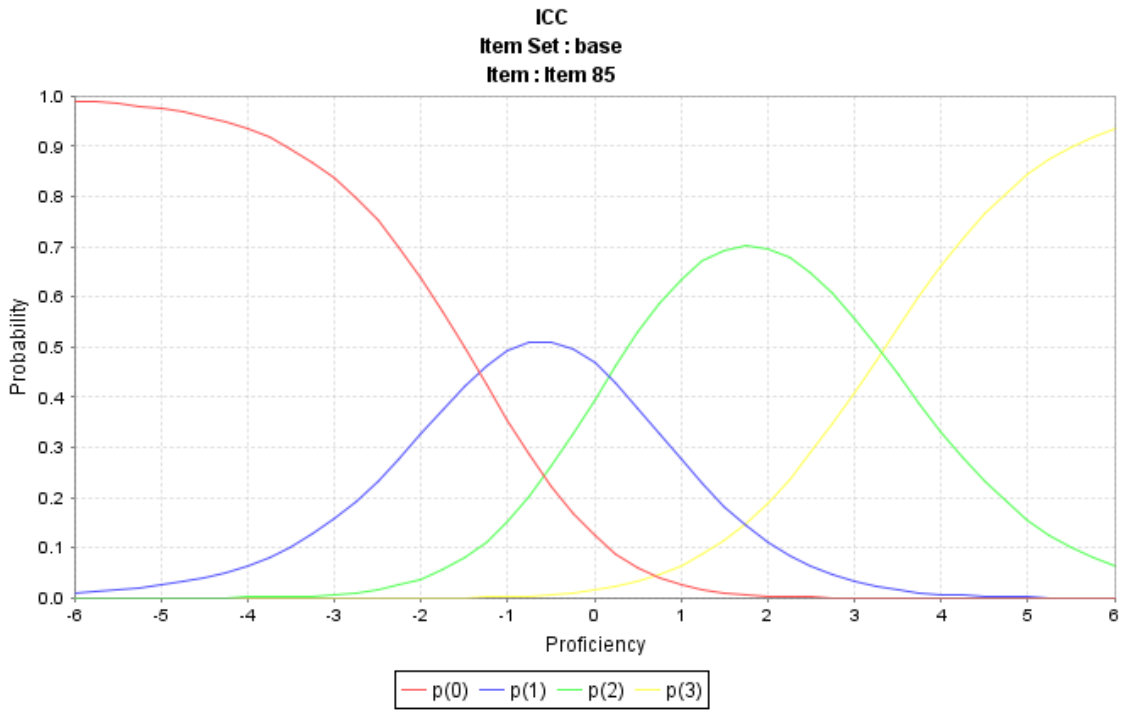
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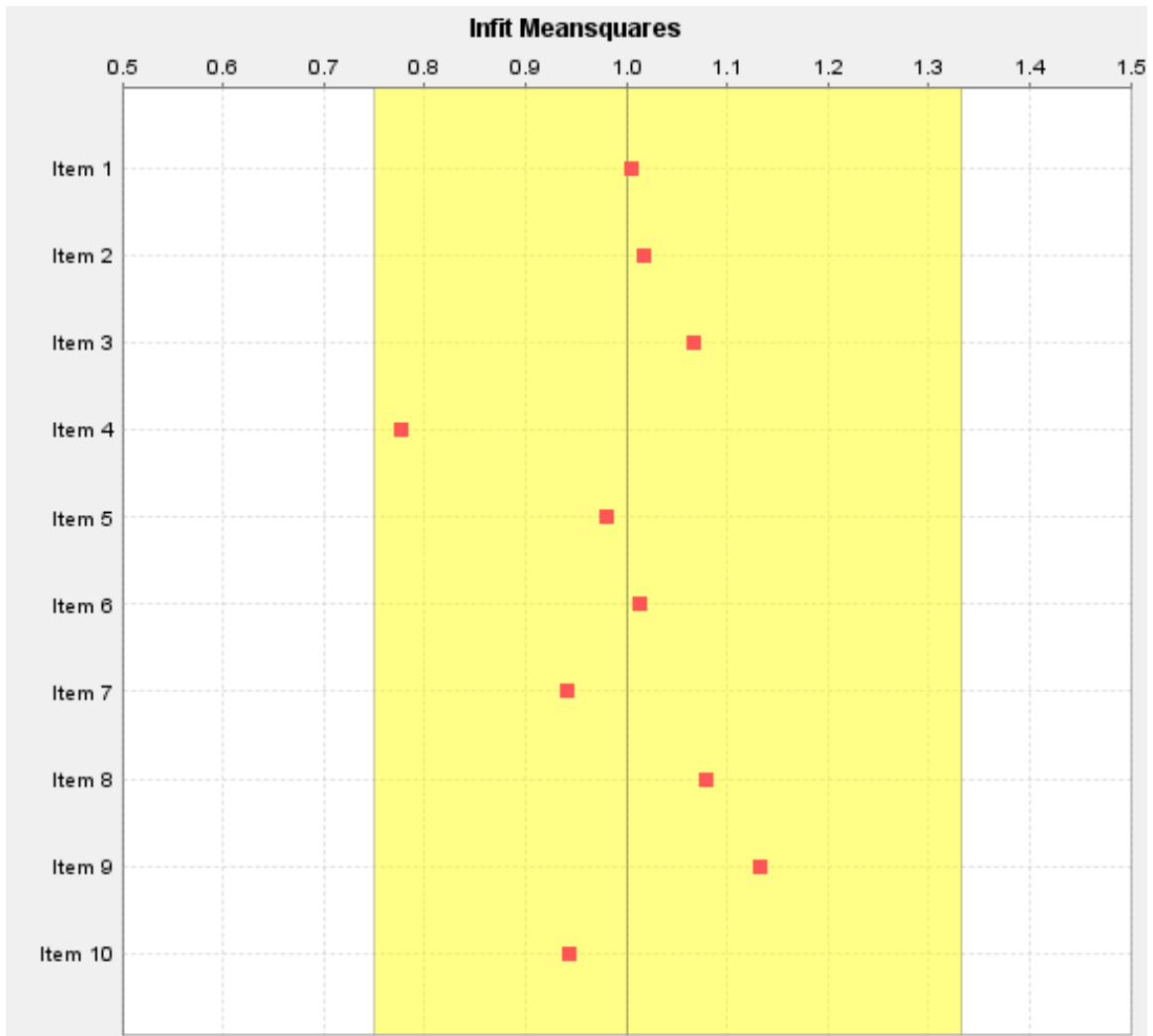


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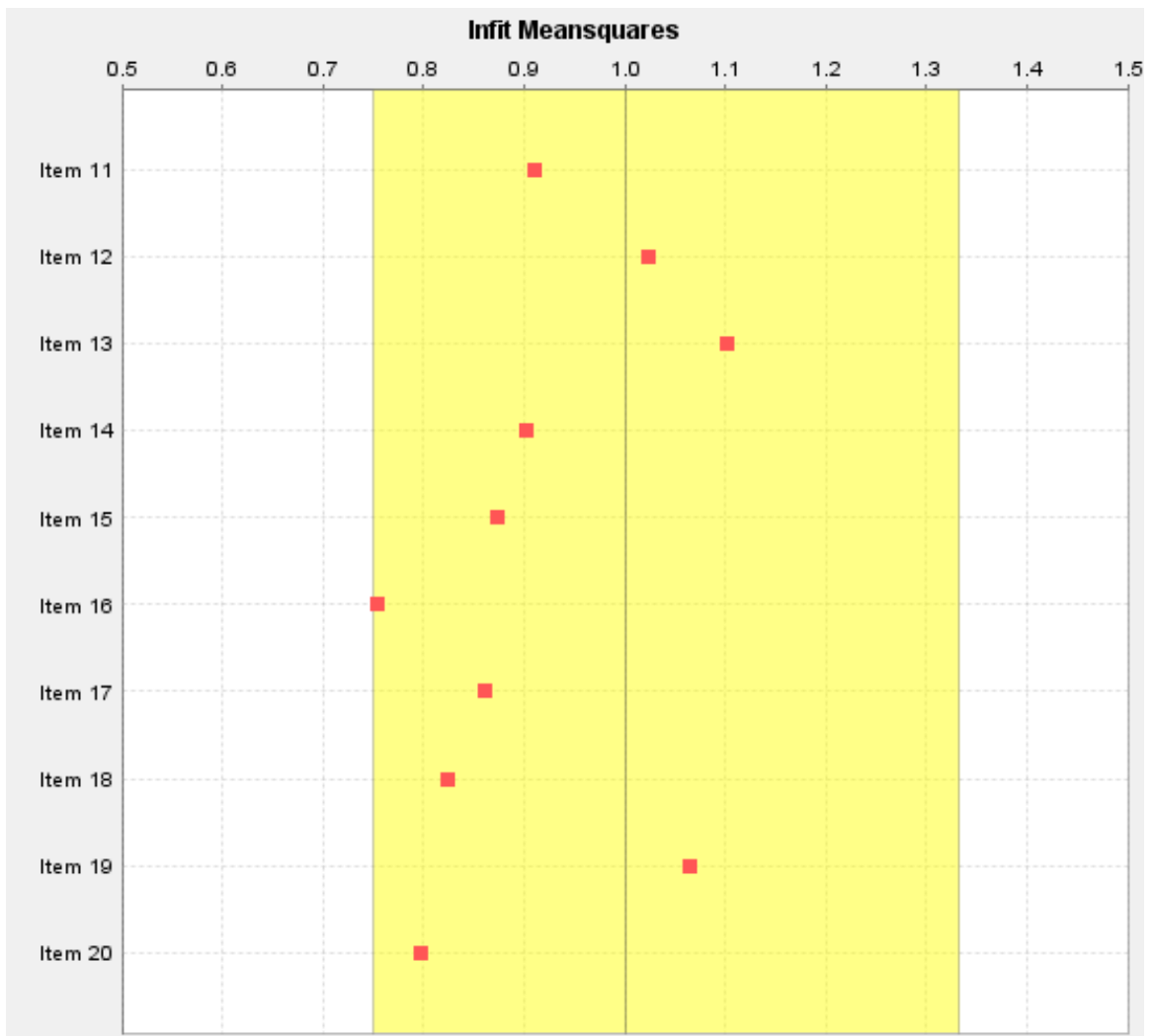


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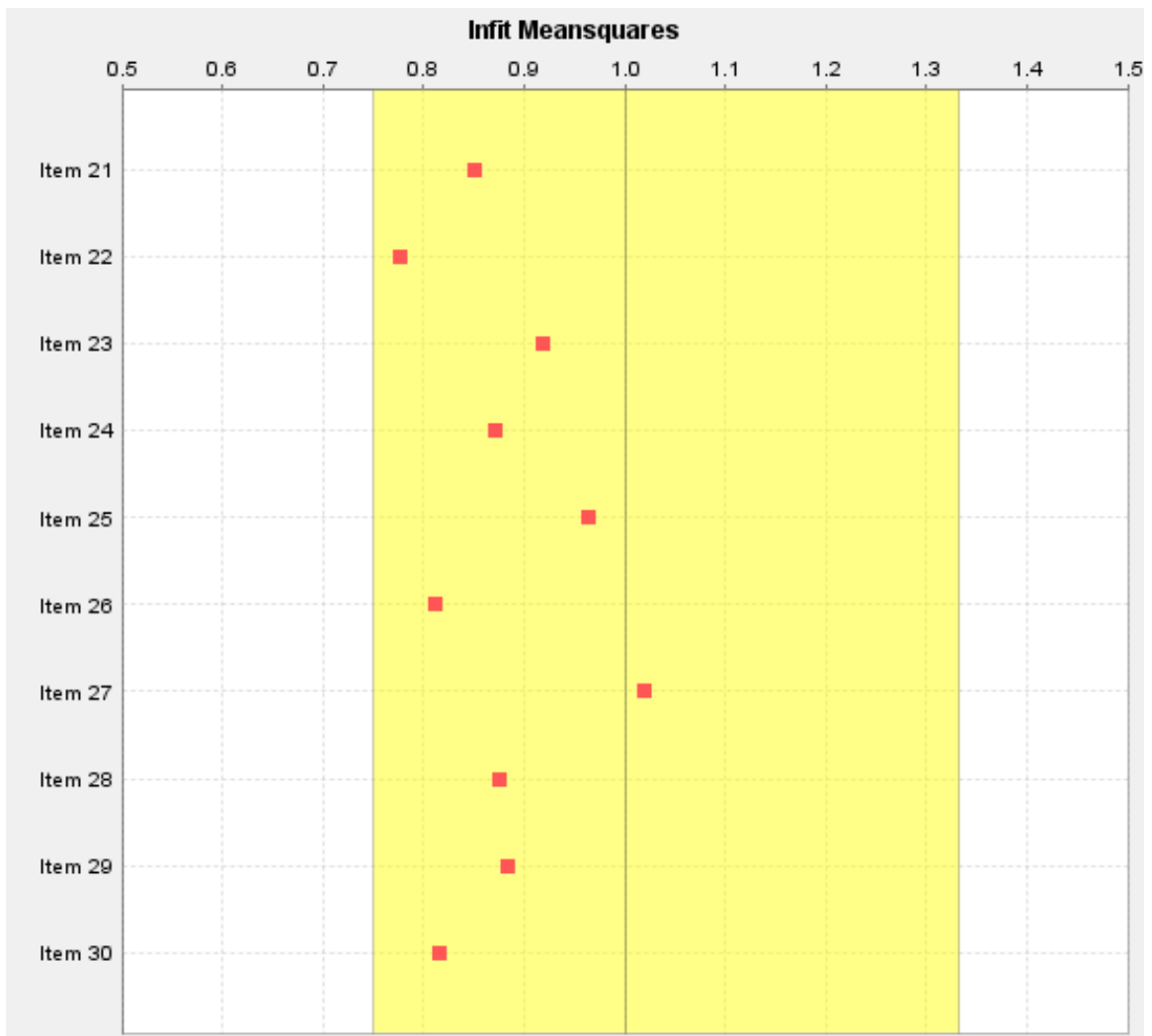
Appendix F: Infit Meansquares



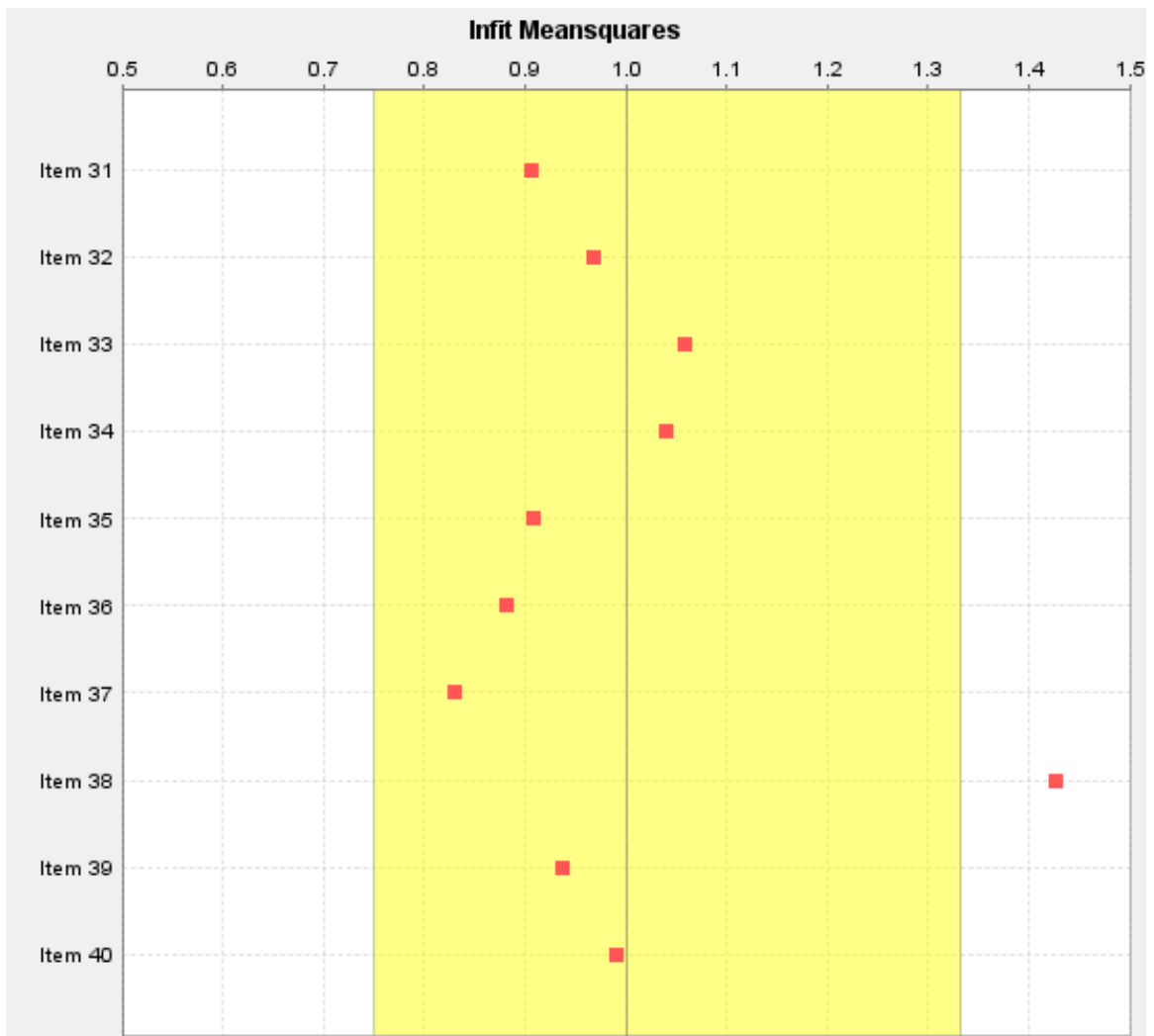
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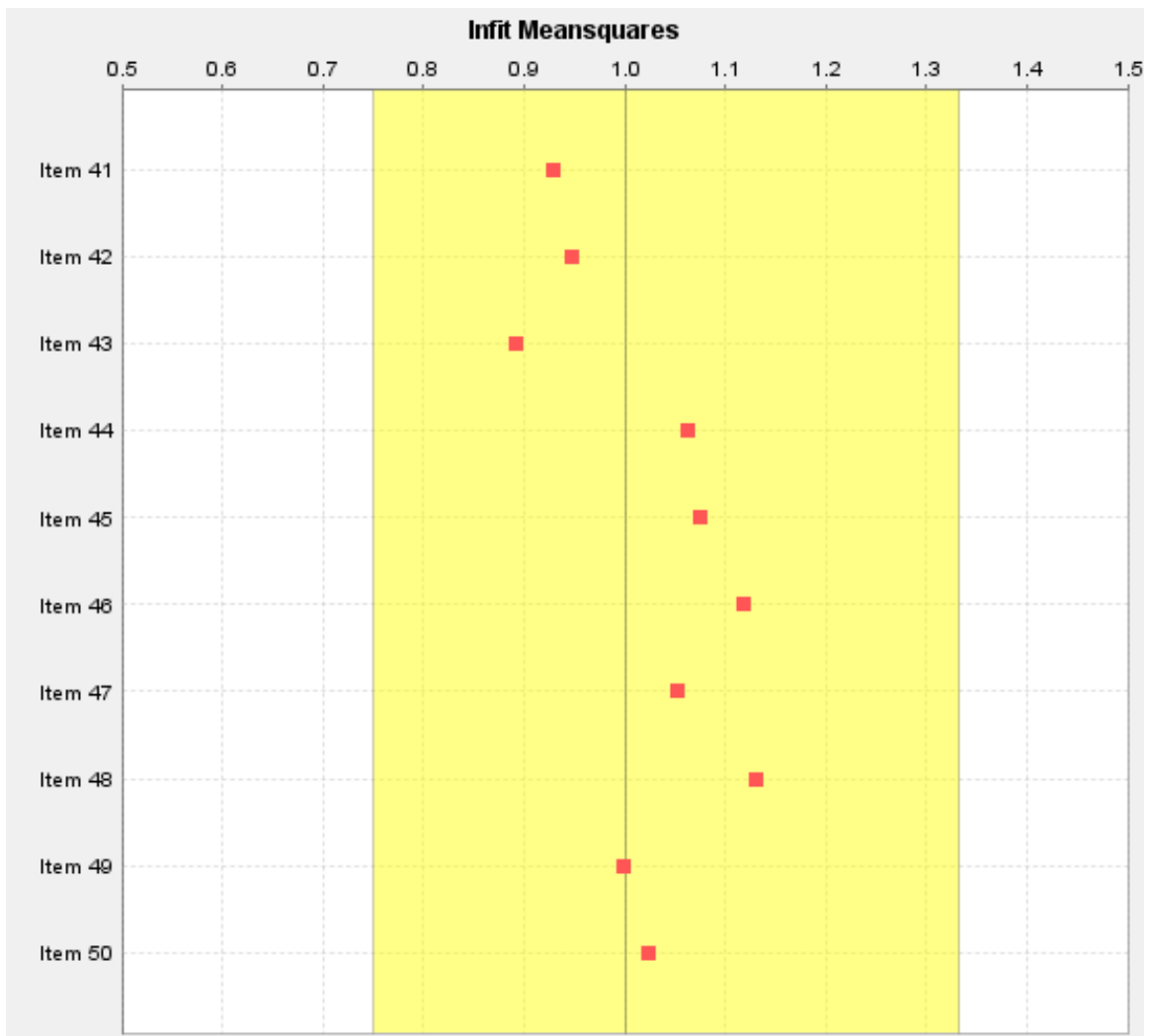
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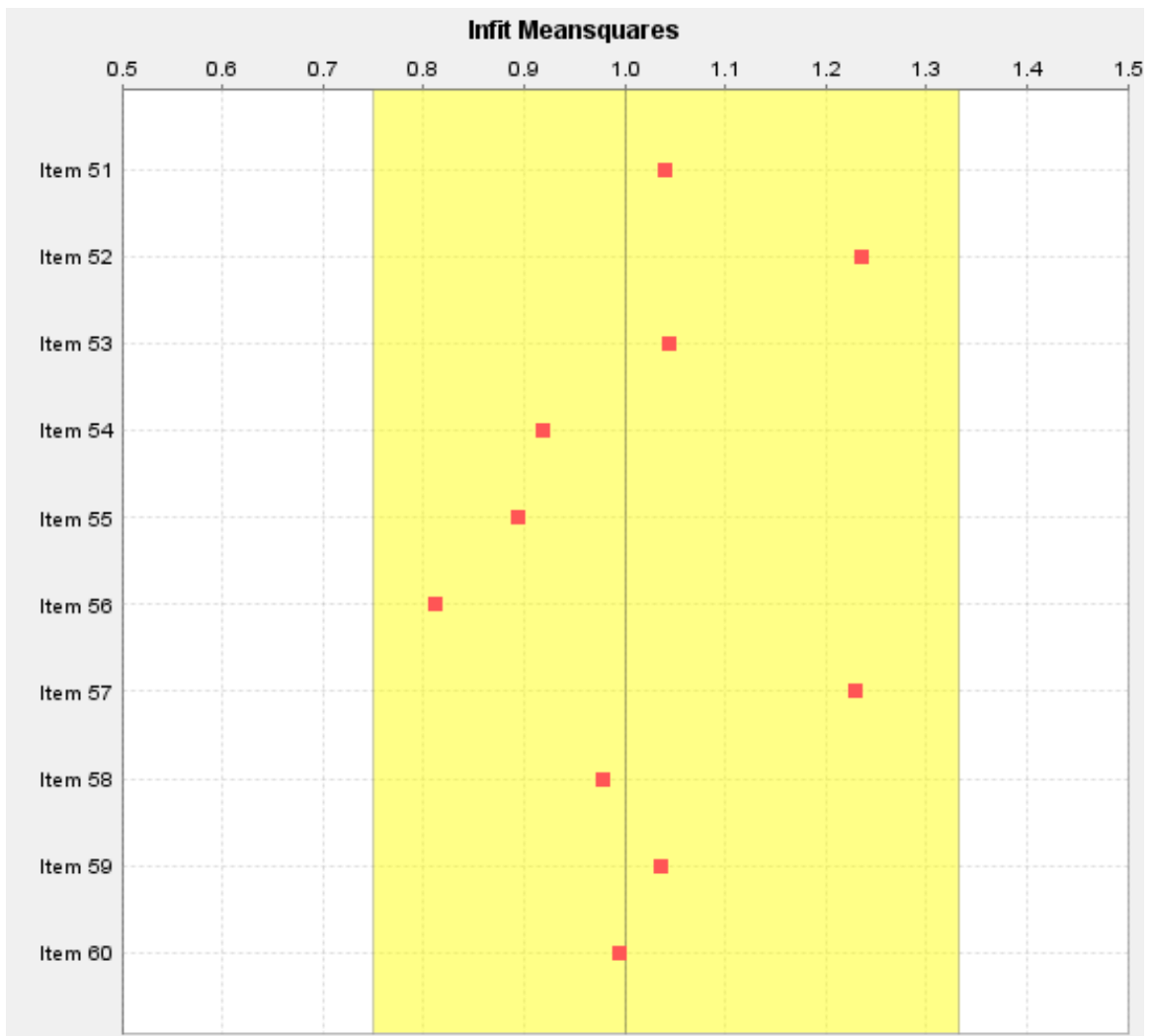
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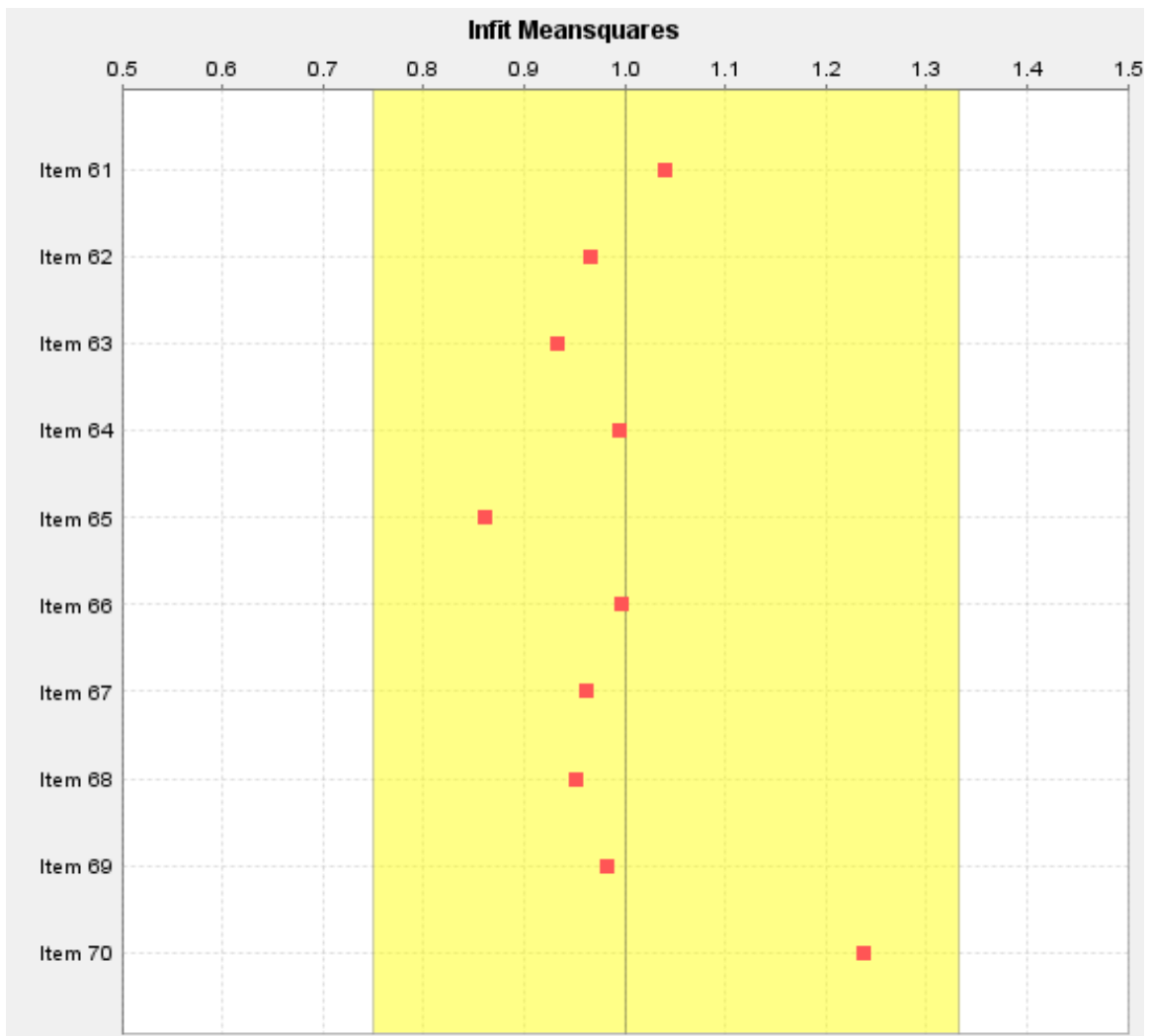
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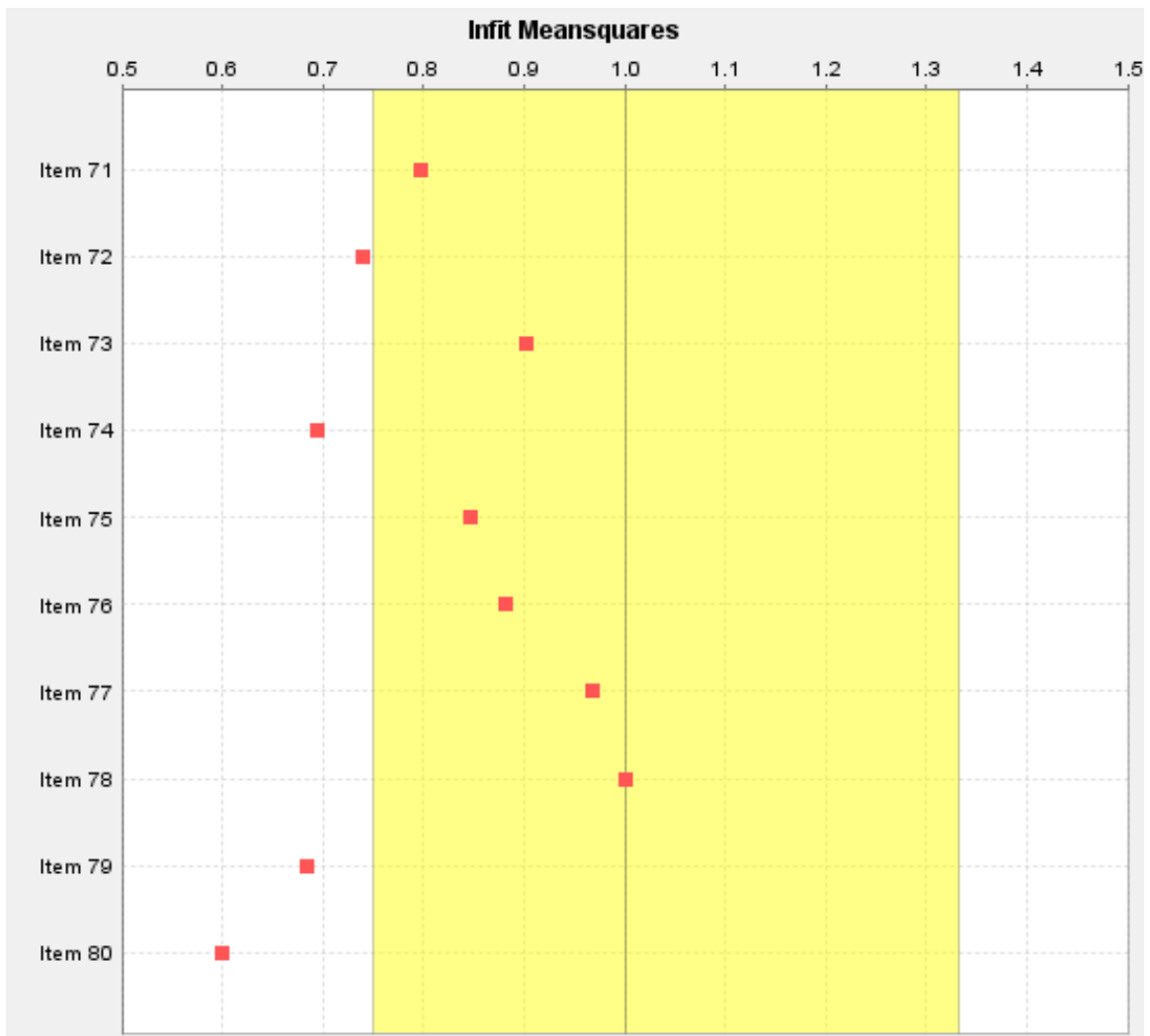
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