



Research Brief: Exact Path Diagnostic Scale Scores Predict ILEARN Performance Levels

Summary

This research brief provides tables that predict student performance on Indiana Learning Evaluation Assessment Readiness Network (ILEARN) tests for Mathematics and Reading in grades 3 through 8 based on students' Exact Path diagnostic scores. An independent research organization, HumRRO, established these tables with a linking study, which is a psychometric method to predict scores on one test (e.g., ILEARN) from scores on another test (e.g., the Exact Path diagnostic).



Results indicate a strong relationship between Exact Path diagnostic scores and ILEARN scores, which **yield highly accurate predictions of student performance on ILEARN.**

Background

Because different tests use different scales to report student scores, it can be difficult to understand how student scores on multiple tests relate to each other. For examples, educators ask "Based on a student's Exact Path diagnostic score by testing window, how is the student likely to perform on ILEARN by season"? This research study answers that question through a psychometric method known as linking.

Data

The linking study included approximately 20,000 students per subject in mathematics and reading across the state of Indiana that took both the Exact Path diagnostic and ILEARN during the 2018-2019 and 2020-2021 academic years. The ILEARN is administered only in spring, whereas Exact Path assessment can be completed by students anytime during the academic year. Thus, linking results are provided for fall, winter, and spring Exact Path testing windows to show how the relationship between performance on the two assessments varies by season.



20,000 Indiana students per subject included in linking study



Representative of 6 demographic variables

SPED, ELL, socioeconomic status, 504, race/ethnicity, gender

Students in the study were representative of the state of Indiana according to six different demographic variables including special education status, English language learner status, socioeconomic status, section 504 status, race/ethnicity, and gender. For more details on methods, see the full research study.

Results

Because of the large sample size used in the linking study and the psychometric rigor of both the Exact Path diagnostic and ILEARN, predictions of ILEARN performance from the Exact Path diagnostic are highly accurate. More specifically, when classifying students into two levels with “At Proficiency and above” as one group and “Approaching Proficiency or below” as a second group in the spring sample, predictions of proficiency / not proficiency on ILEARN were accurate for about 83-87% of students.

Educators should remember that many factors affect student test performance, and sometimes predicted performance may not match actual performance. Results also indicated strong positive correlations, ranging from .77 to .86, between Exact Path diagnostic scores and ILEARN scores; this result provides strong predictive validity evidence for the Exact Path diagnostic.

Educators can use the tables below to predict student performance on ILEARN based on students’ Exact Path diagnostic scores by testing window. For example, based on the mathematics table on the next page, a grade 3 student scoring 930 on the Exact Path diagnostic on winter testing window falls within the 900 to 935 range corresponding to the “Approaching Proficiency” ILEARN performance level on the winter season. Thus, this example student likely needs additional instruction before taking ILEARN in order to score “At Proficiency” or higher on ILEARN.



Predictions of proficiency on ILEARN were accurate for about **83-87% of students.**

Exact Path Diagnostic Scale Scores Corresponding to ILEARN Performance Levels

Exact Path Mathematics

Grade	Below Proficiency	Approaching Proficiency	At Proficiency	Above Proficiency
Fall				
3	847 and below	848-882	883-936	937 or above
4	918 and below	919-957	958-1012	1013 or above
5	971 and below	972-1018	1019-1087	1088 or above
6	1040 and below	1041-1086	1087-1160	1161 or above
7	1074 and below	1075-1158	1159-1231	1232 or above
8	1123 and below	1124-1198	1199-1255	1256 or above
Winter				
3	899 and below	900-935	936-989	990 or above
4	960 and below	961-996	997-1056	1057 or above
5	1008 and below	1009-1061	1062-1132	1133 or above
6	1071 and below	1072-1117	1118-1185	1186 or above
7	1087 and below	1088-1185	1186-1263	1264 or above
8	1155 and below	1156-1229	1230-1285	1286 or above
Spring				
3	927 and below	928-965	966-1018	1019 or above
4	984 and below	985-1021	1022-1089	1090 or above
5	1028 and below	1029-1087	1088-1157	1158 or above
6	1084 and below	1085-1140	1141-1214	1215 or above
7	1099 and below	1100-1189	1190-1268	1269 or above
8	1161 and below	1162-1242	1243-1302	1303 or above

Exact Path Reading

Grade	Below Proficiency	Approaching Proficiency	At Proficiency	Above Proficiency
Fall				
3	970 and below	971-1032	1033-1098	1099 or above
4	1012 and below	1013-1078	1079-1142	1143 or above
5	1040 and below	1041-1107	1108-1197	1198 or above
6	1076 and below	1077-1154	1155-1230	1231 or above
7	1090 and below	1091-1171	1172-1251	1252 or above
8	1103 and below	1104-1187	1188-1271	1272 or above
Winter				
3	1008 and below	1009-1065	1066-1132	1133 or above
4	1049 and below	1050-1111	1112-1175	1176 or above
5	1065 and below	1066-1133	1134-1222	1223 or above
6	1092 and below	1093-1165	1166-1240	1241 or above
7	1104 and below	1105-1182	1183-1263	1264 or above
8	1106 and below	1107-1198	1199-1285	1286 or above
Spring				
3	1032 and below	1033-1089	1090-1157	1158 or above
4	1058 and below	1059-1122	1123-1188	1189 or above
5	1082 and below	1083-1149	1150-1237	1238 or above
6	1103 and below	1104-1182	1183-1263	1264 or above
7	1106 and below	1107-1191	1192-1272	1273 or above
8	1109 and below	1110-1205	1206-1297	1298 or above