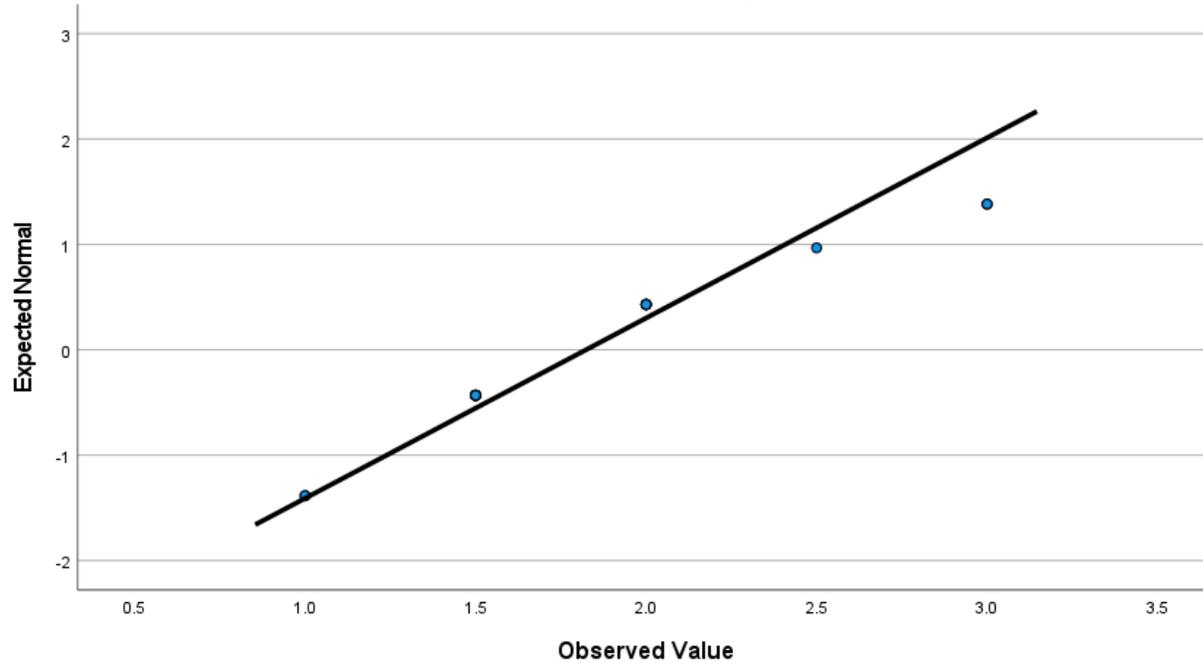


## Normality Tests

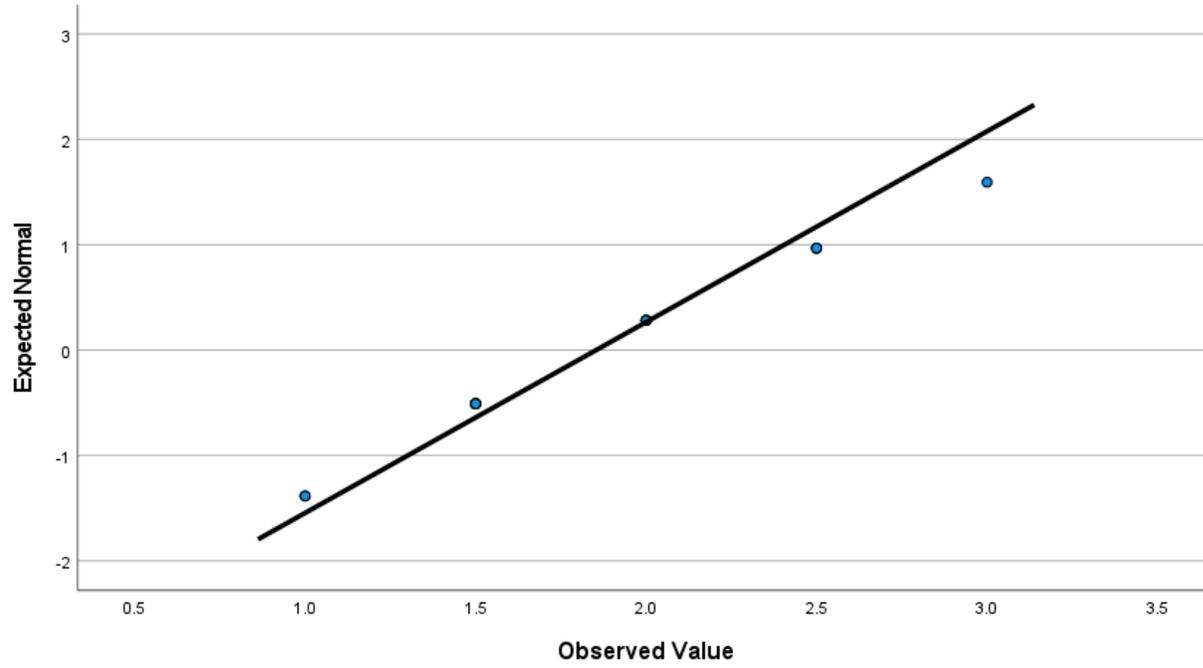
Variable	Shapiro-Wilk Statistic	df	Sig.
Pre Overarching Concept	0.875	17	0.026*
Pre Knowledge of Students	0.923	17	0.168
Pre Knowledge of Curriculum	0.874	17	0.025*
Pre Instructional Strategies	0.948	17	0.419
Pre TPACK Overall Mean	0.958	17	0.587
Pre MCOP <sup>2</sup> Student Engagement Mean	0.934	17	0.253
Pre MCOP <sup>2</sup> Teacher Facilitation Mean	0.952	17	0.486
Pre MCOP <sup>2</sup> Overall Mean	0.942	17	0.343
Post Overarching Concept	0.854	17	0.012*
Post Knowledge of Students	0.898	17	0.064
Post Knowledge of Curriculum	0.871	17	0.023*
Post Instructional Strategies	0.790	17	0.002*
Post TPACK Overall Mean	0.888	17	0.044*
Post MCOP <sup>2</sup> Student Engagement Mean	0.971	17	0.829
Post MCOP <sup>2</sup> Teacher Facilitation Mean	0.940	17	0.319
Post MCOP <sup>2</sup> Overall Mean	0.960	17	0.640
Gain TPACK Overarching Concept	0.936	17	0.279
Gain TPACK Knowledge of Students	0.876	17	0.027*
Gain TPACK Knowledge of Curriculum	0.897	17	0.06
Gain TPACK Instructional Strategies	0.948	17	0.422
Gain TPACK Overall Mean	0.949	17	0.446
Gain MCOP <sup>2</sup> Teacher Facilitation	0.934	17	0.256
Gain MCOP <sup>2</sup> Student Engagement	0.955	17	0.537
Gain MCOP <sup>2</sup> Overall Mean	0.976	17	0.914

\*p < 0.05.

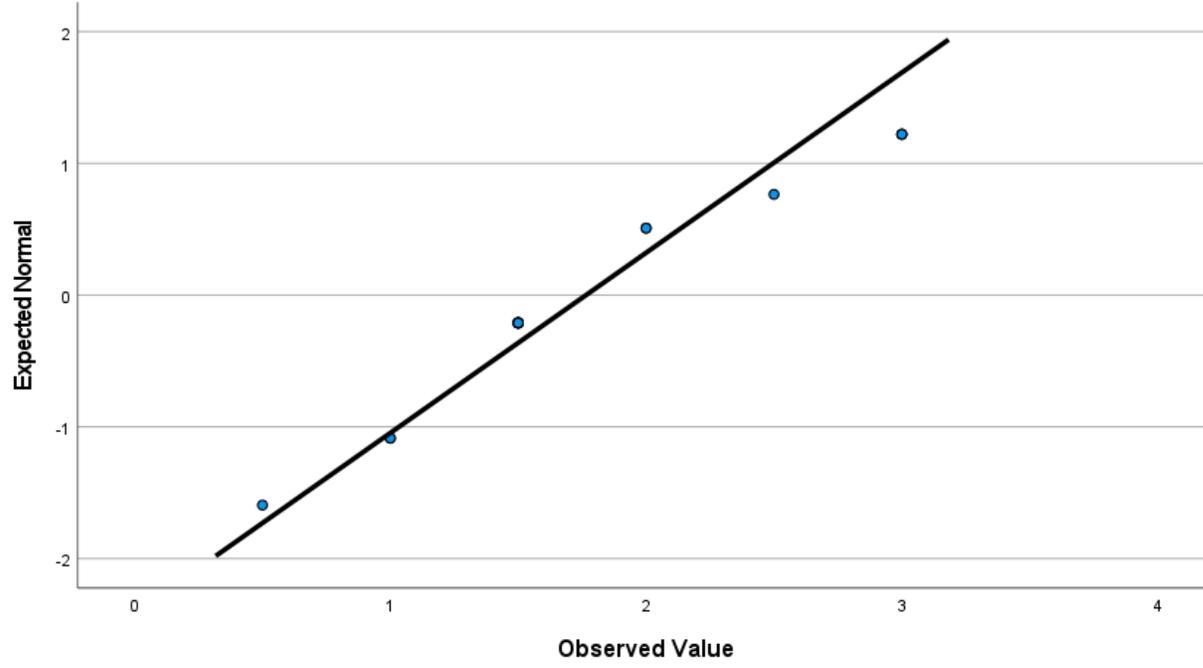
Normal Q-Q Plot of Pre Overarching Concept



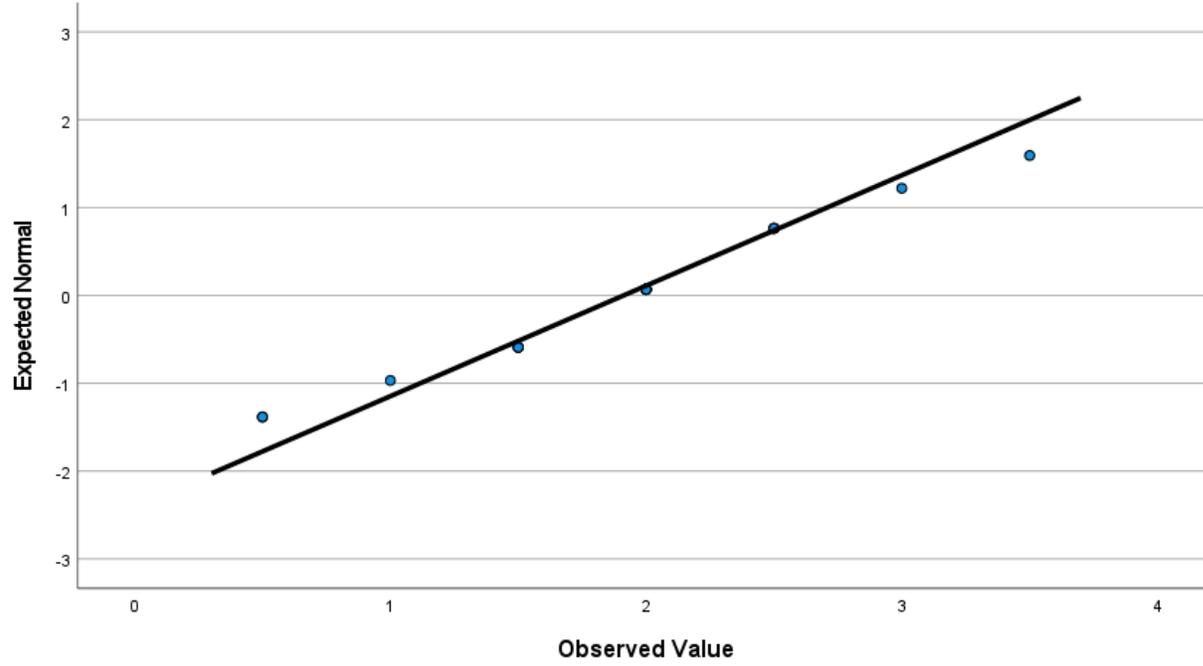
Normal Q-Q Plot of Pre Knowledge of Students



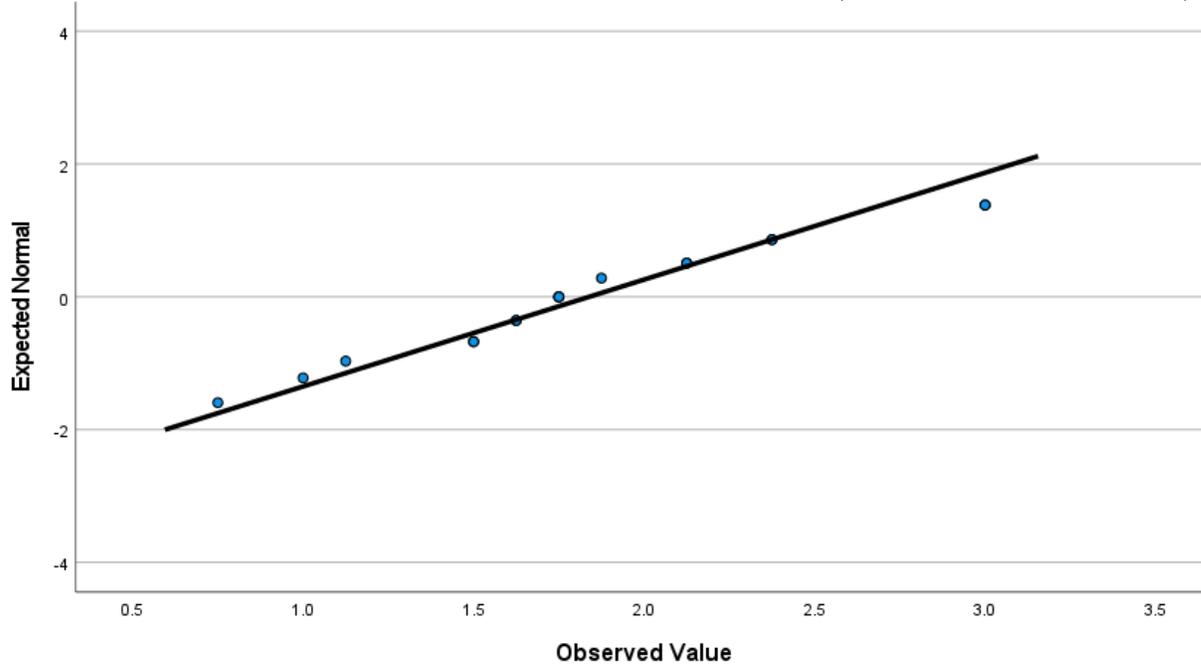
Normal Q-Q Plot of Pre Knowledge of Curriculum



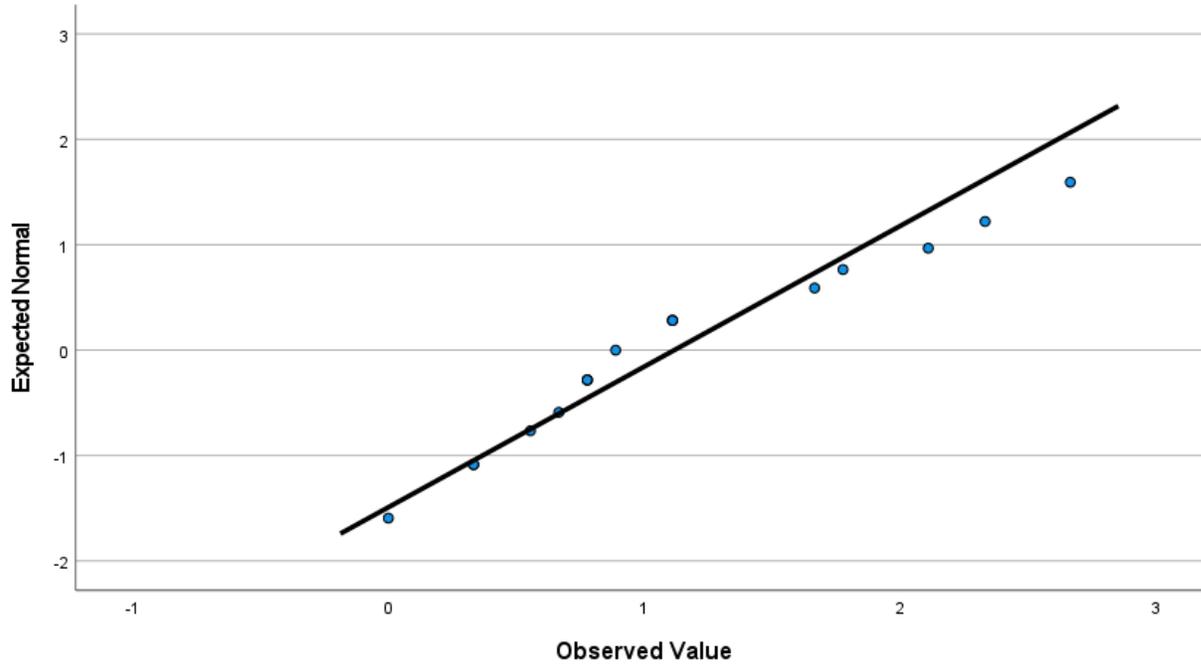
Normal Q-Q Plot of Pre Instructional Strategies



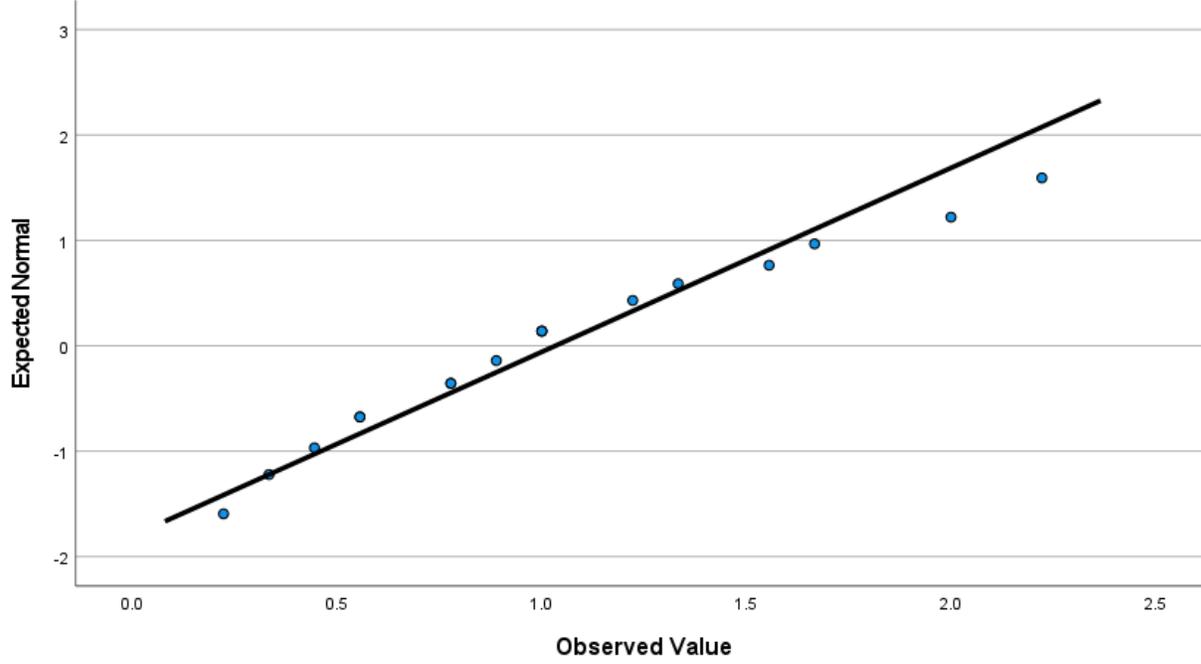
Normal Q-Q Plot of PreTPACKMean (Pre TPACK Overall Mean)



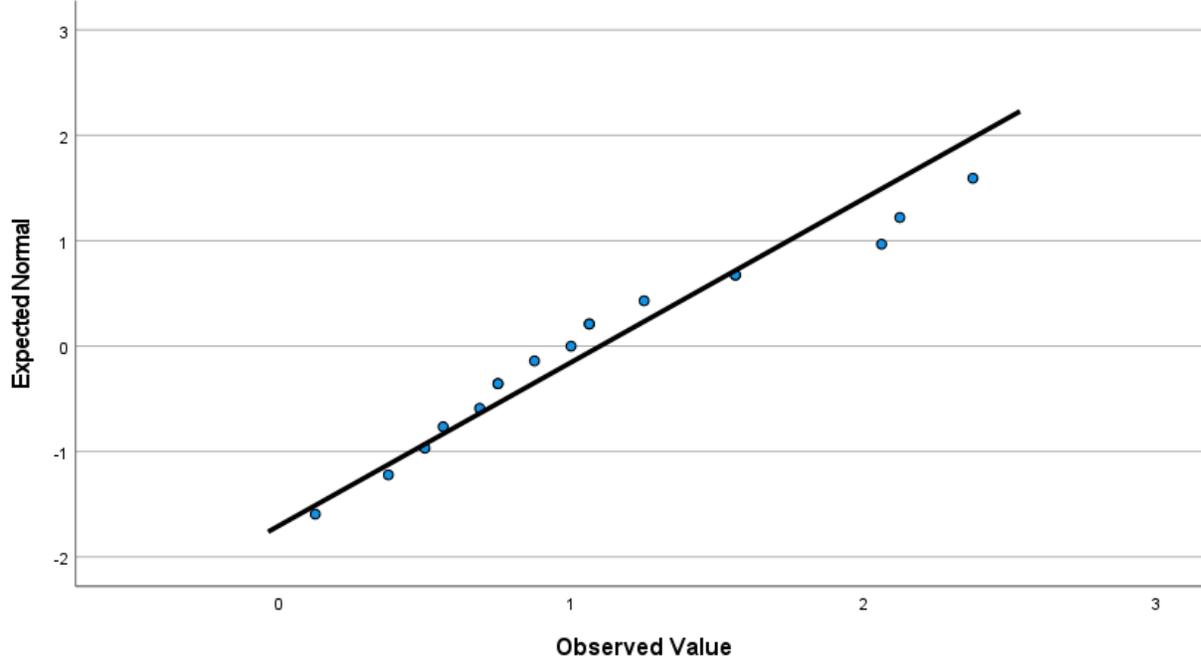
Normal Q-Q Plot of Pre MCOP2 Student Engagement Mean



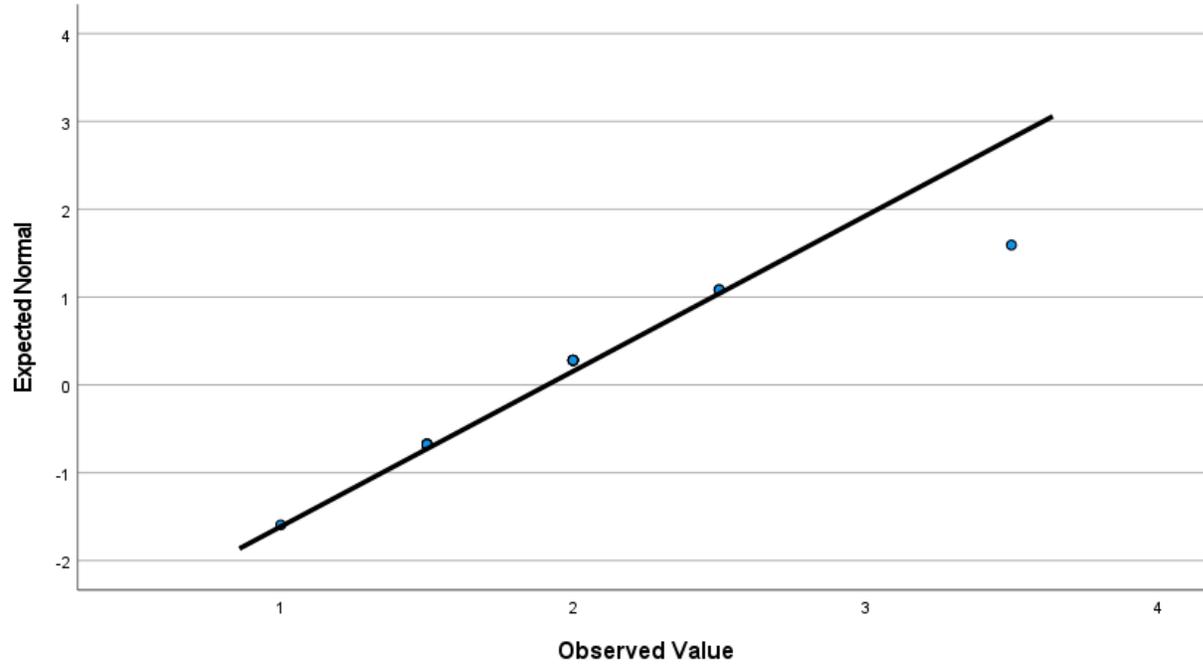
Normal Q-Q Plot of Pre MCOP2 Teacher Facilitation Mean



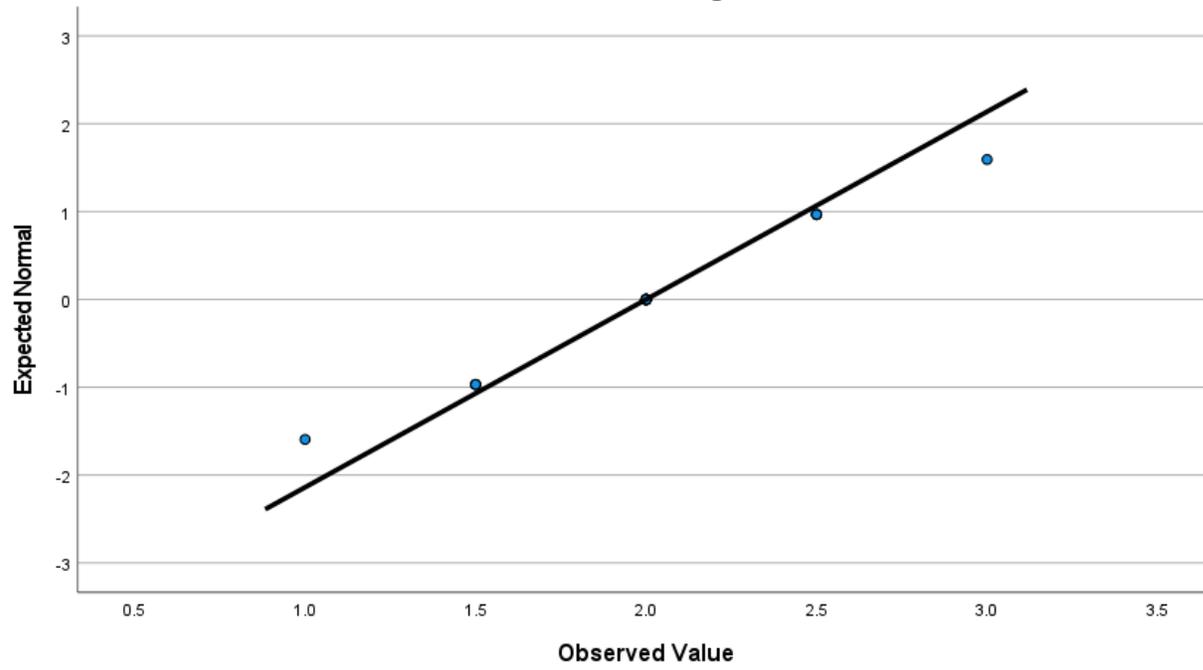
Normal Q-Q Plot of Pre MCOP2 Total Mean (Pre-MCOP<sup>2</sup> Overall Mean)



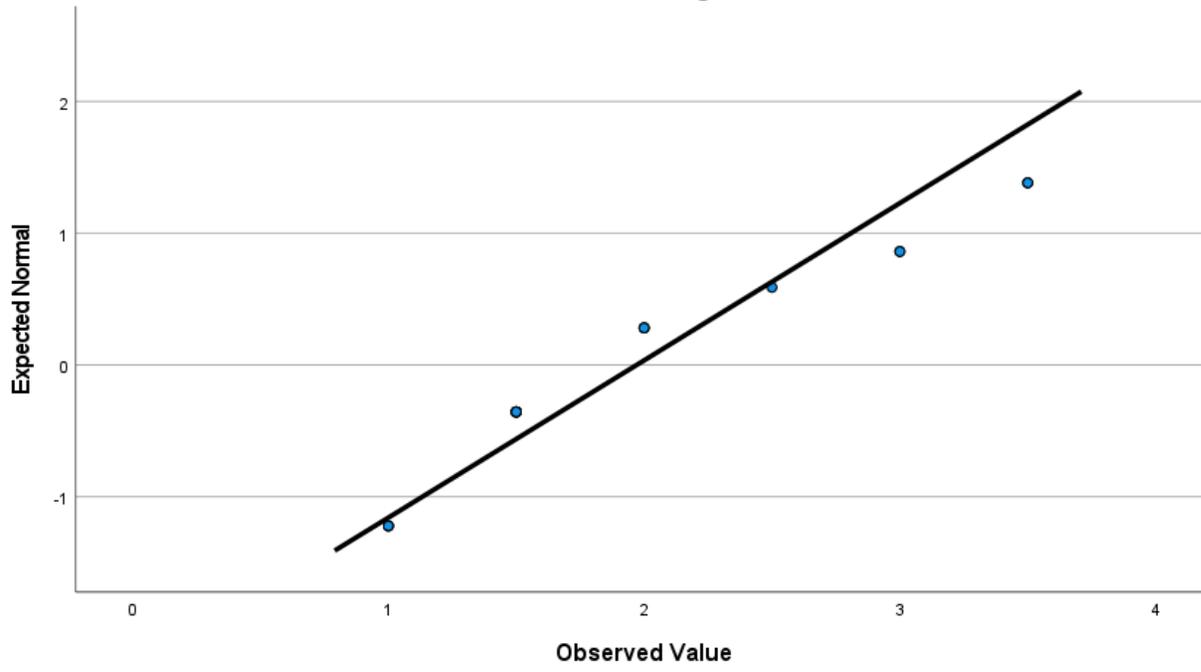
Normal Q-Q Plot of Post Overarching Concept



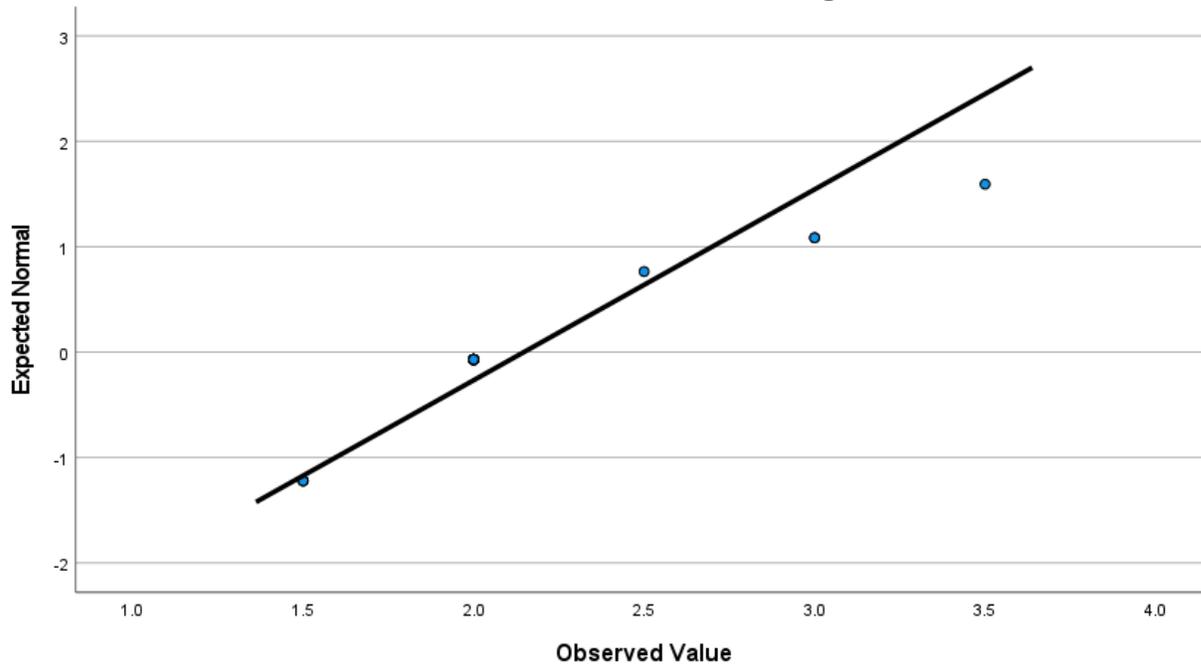
Normal Q-Q Plot of Post Knowledge of Students



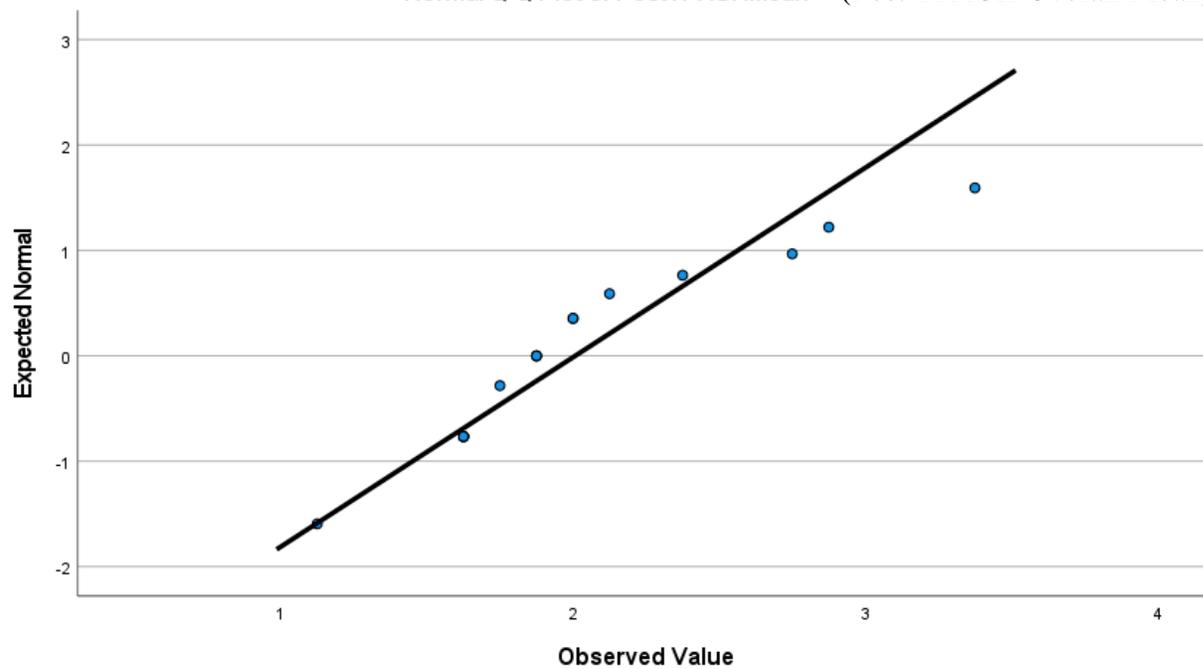
Normal Q-Q Plot of Post Knowledge of Curriculum



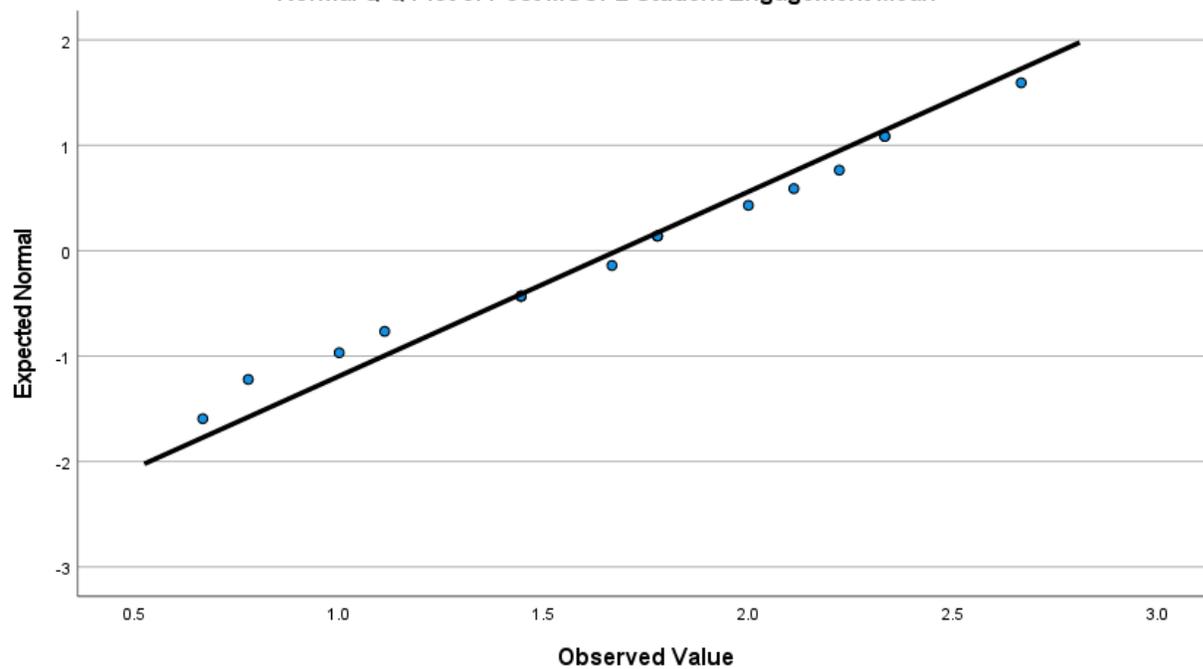
Normal Q-Q Plot of Post Instructional Strategies



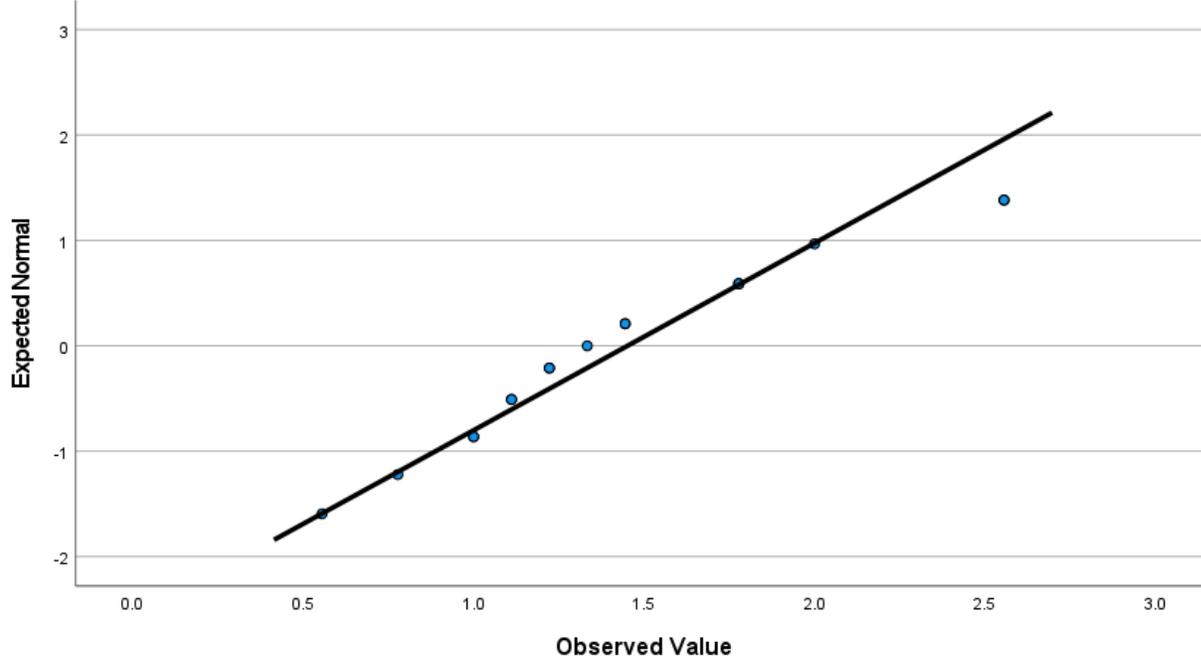
Normal Q-Q Plot of PostTPACKMean (Post TPACK Overall Mean)



Normal Q-Q Plot of Post MCOP2 Student Engagement Mean

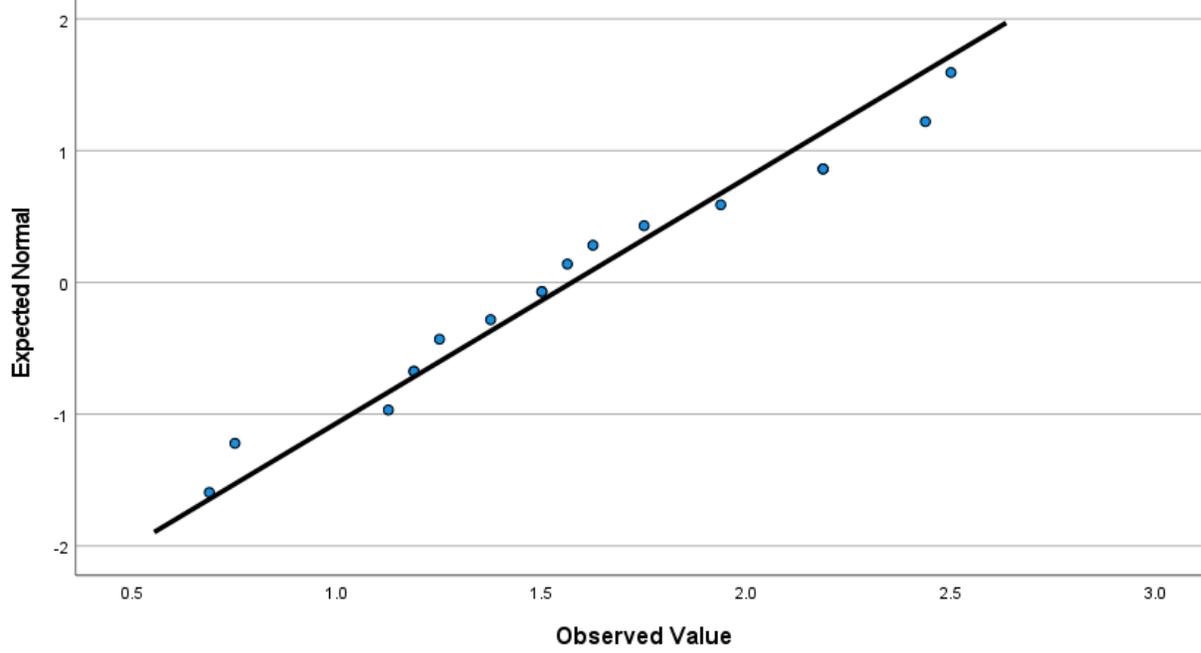


Normal Q-Q Plot of Post MCOP2 Teacher Facilitation Mean

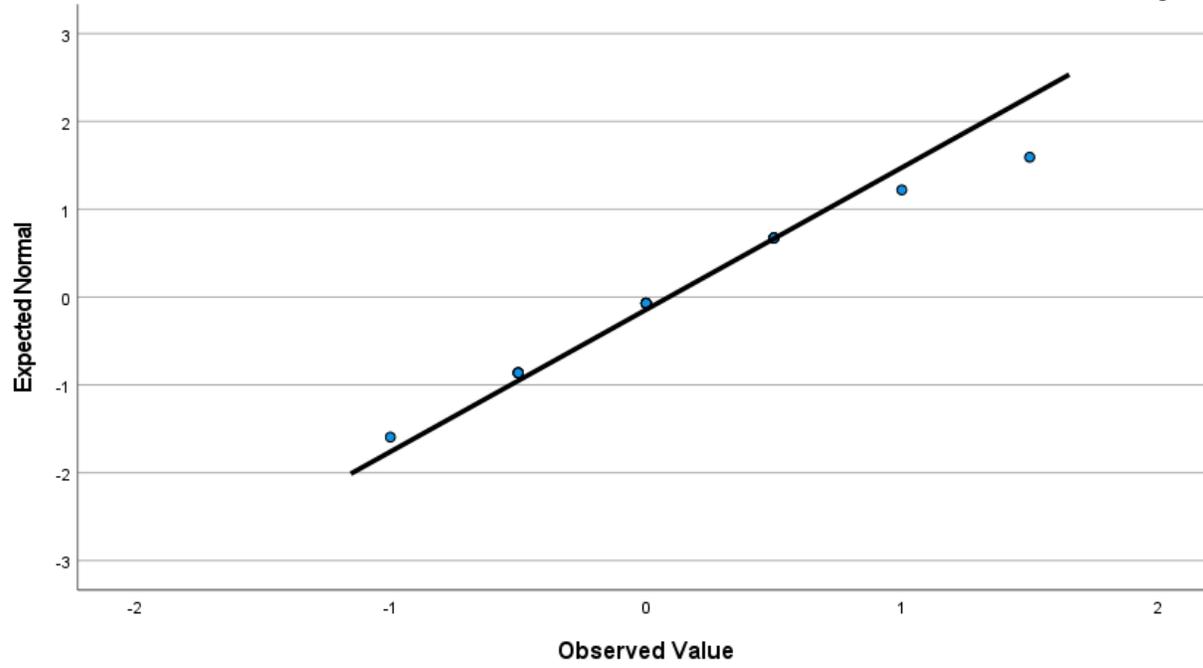


Normal Q-Q Plot of Post MCOP2 Total Mean

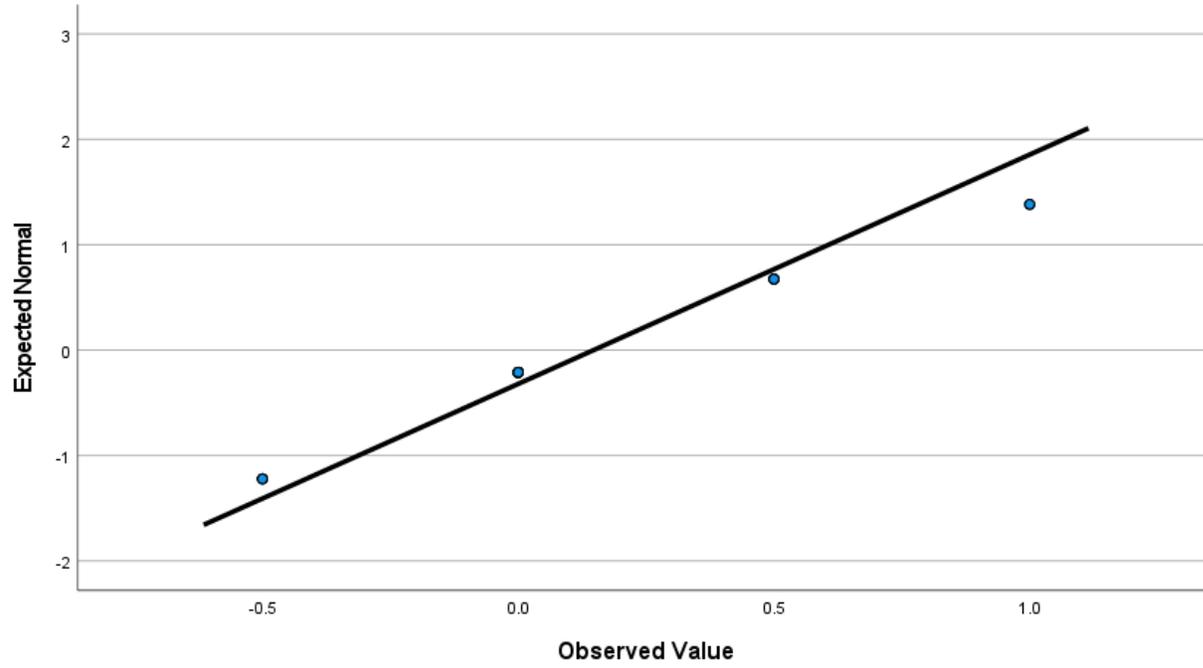
Post MCOP<sup>2</sup> Overall Mean



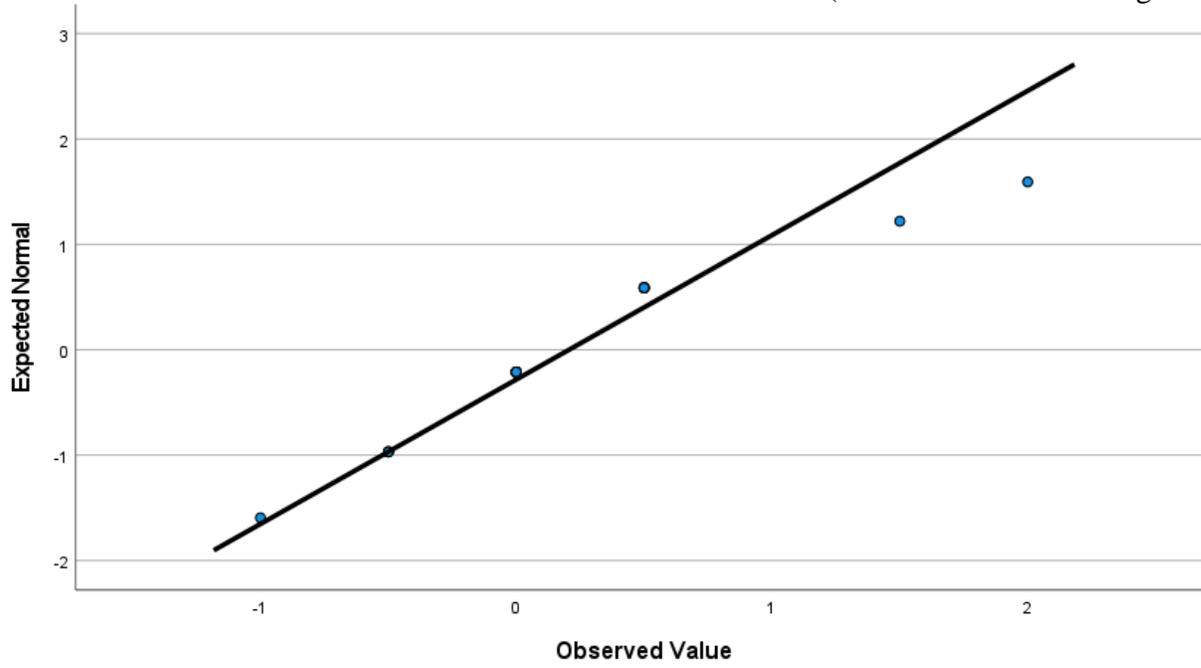
Normal Q-Q Plot of GainTPACKOC (Gain TPACK Overarching Concept)



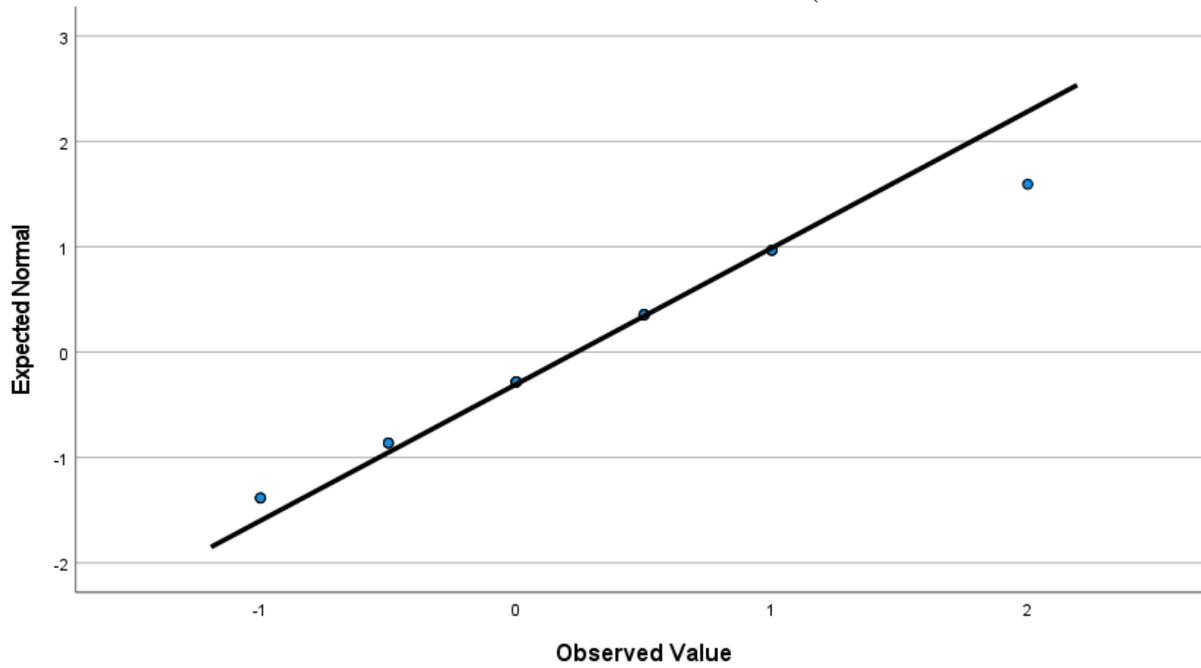
Normal Q-Q Plot of GainTPACKKoS (Gain TPACK Knowledge of Students)



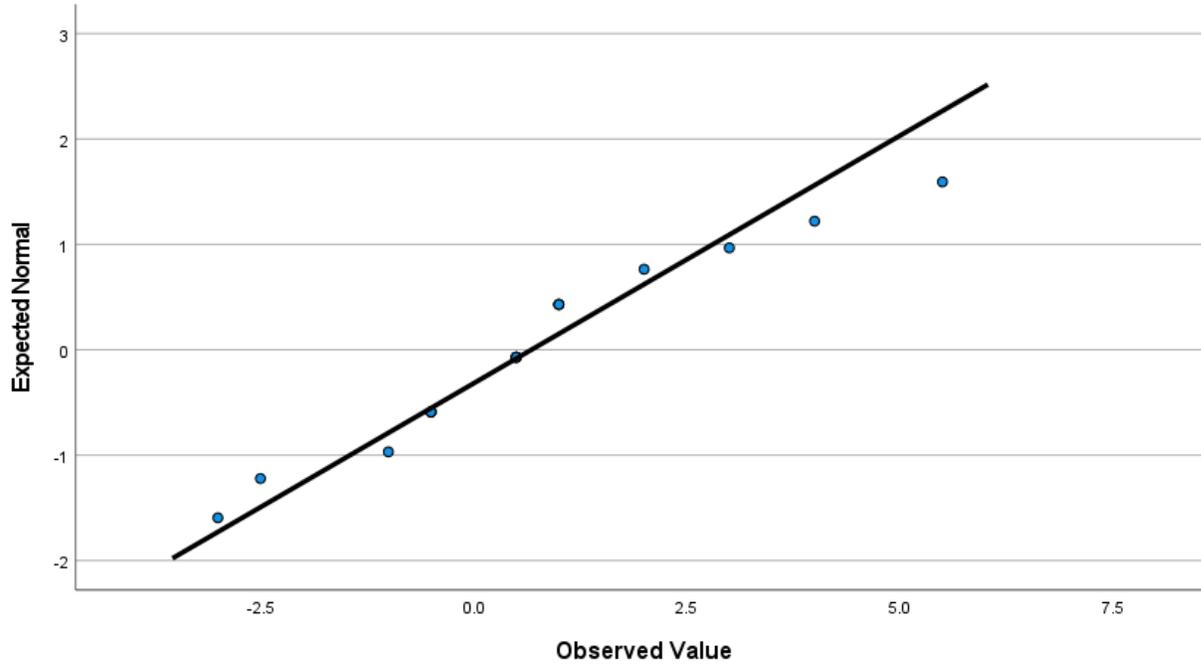
Normal Q-Q Plot of GainTPACKKoC (Gain TPACK Knowledge of Curriculum)



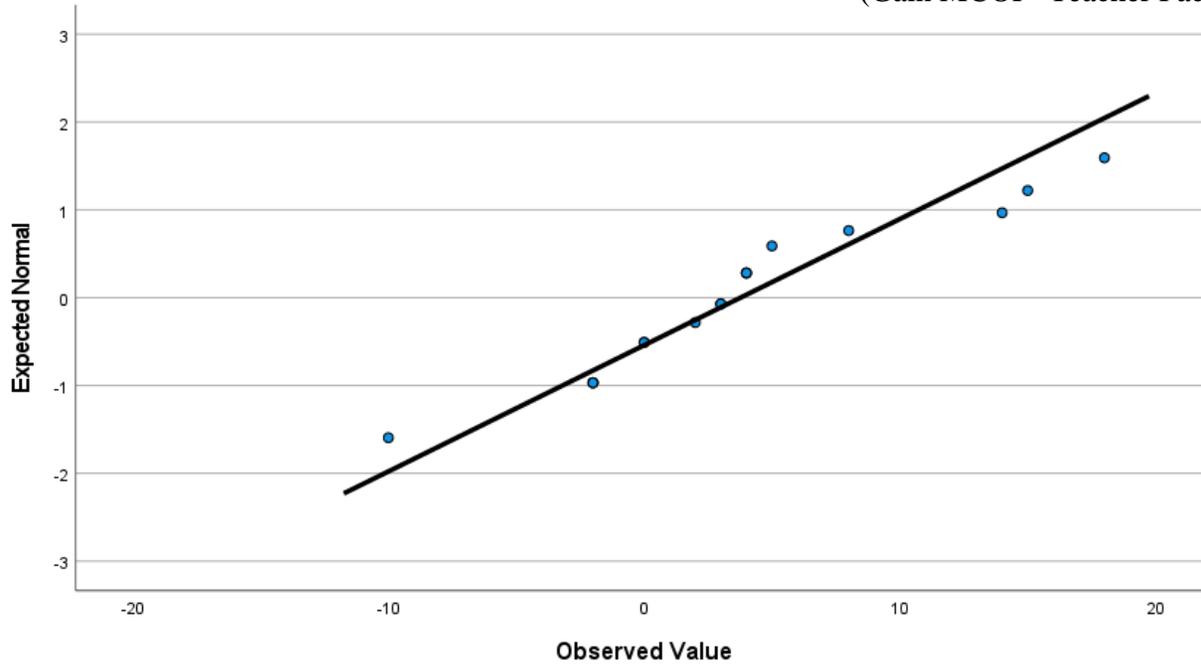
Normal Q-Q Plot of GainTPACKIS (Gain TPACK Instructional Strategies)



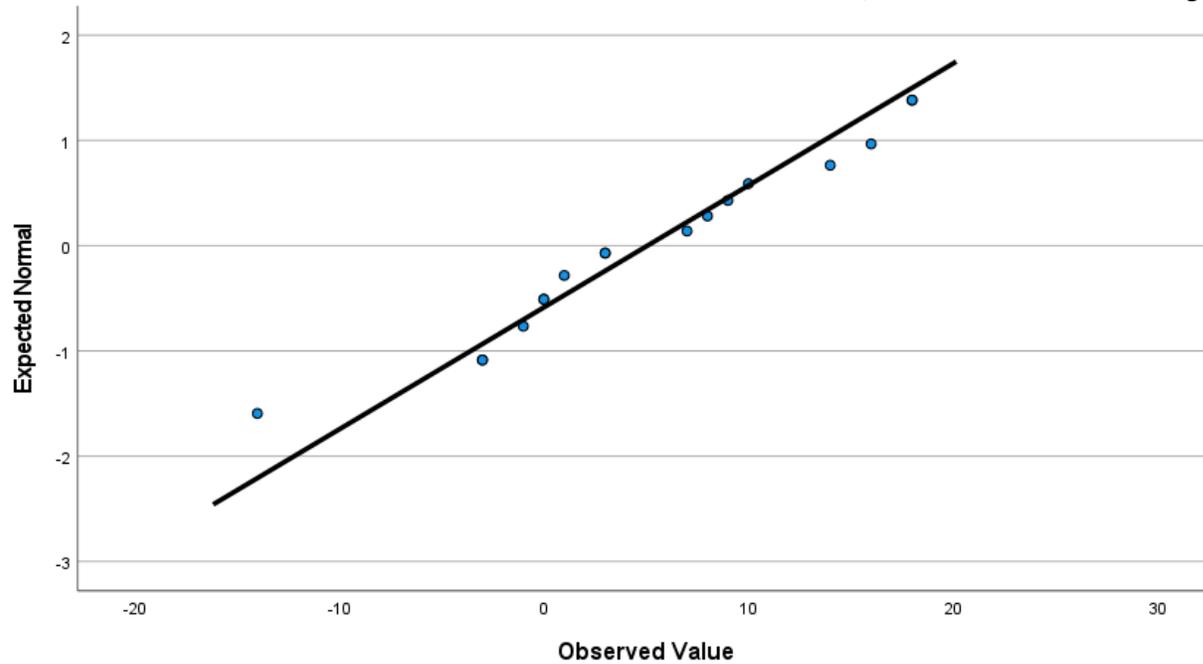
Normal Q-Q Plot of GainTPACK (Gain TPACK Overall Mean)



Normal Q-Q Plot of GainMCOP2Teacher (Gain MCOP<sup>2</sup> Teacher Facilitation)



Normal Q-Q Plot of GainMCOP2Student (Gain MCOP<sup>2</sup> Student Engagement)



Normal Q-Q Plot of GainMCOP2 (Gain MCOP<sup>2</sup> Overall Mean)

