

<p>Key Literature</p> <ul style="list-style-type: none"> Currie (2007) Bose (2007) Keefe (200) Wakefield (1999) <p>Important Lit Reviews</p> <ul style="list-style-type: none"> Anderson (2005) Heath (2002) BECTA (2003) <p>Constructivism</p> <ul style="list-style-type: none"> Hayden (1999) Sweeney (2007) 	<p>Theoretical Frameworks p. 6</p> <ul style="list-style-type: none"> Owston (2007) <p>Others p. 6 & 28</p> <ul style="list-style-type: none"> Baber (1996) culture-process-technology framework for implementation French & Raven (1959) expert & referent power Aten (1996) educational tech leadership: interpersonal relationships 	<p>Ex Post Facto p. 41</p> <ul style="list-style-type: none"> "after the fact" Comparing varying conditions with behavior Independent variable (utilization) can't be manipulated; already occurred Inability to manipulate indep. variables Lack of power to randomize Risk of improper interpretation 	<p>Limitations p. 62</p> <ul style="list-style-type: none"> Who responded to the survey (volunteers) Unable to know if the sample was representative of the population No way to know who would respond. Perhaps only certain people respond online. Ex post facto doesn't allow for interpreting causation. Measurement error such as reliability & validity 	<p>Delimitations p. 17</p> <p>How the study was delimited / defined / narrowed</p> <ul style="list-style-type: none"> Just to VC coordinators Just to the VC coordinators on the VC listservs who responded <p>Methods</p> <ul style="list-style-type: none"> Identify population & sample Create the survey Statistical analysis 	<p>Population & Sample p. 42-45</p> <ul style="list-style-type: none"> Population: 5,500 coordinators on VC listservs Sample: 277 participants in 6 countries; 31 states 90% confidence level would need 259 for 6000 Newman & McNeil 1998 <i>Conducting Survey Research</i> Did volunteering affect my results? <i>Possibly. See Limitations.</i>
<p>Variables</p> <p>Predictor variables or independent variables (demographics etc)</p> <p>Criterion (outcome) variable or dependent variable (utilization)</p> <p>(I have 44 variables)</p> <p>Online Survey p. 53</p> <ul style="list-style-type: none"> Developed from previous qualitative study Table 1 connects questions to supporting research Zoomerang 3 week window in May 2008 	<p>Validity p. 58</p> <p>Definition: Measures what you intend it to measure</p> <ul style="list-style-type: none"> Expert judge validity: 1st round on survey; 2nd round on table of specs (each 5 expert judges) Content validity: table of specifications: (Table 1) & 5 expert judges Construct validity: factor analysis found 2 constructs; Table 8&9 Scale explains 67% variance Predictive validity (Table 28) $R^2=.210$ <p>Newman & McNeil 1998 p. 40</p>	<p>Reliability p. 58</p> <p>Definition: same response would be obtained on repeated attempts.</p> <ul style="list-style-type: none"> Cronbach's Alpha (an average correlation among all the items measuring the same construct; internal consistency) (.851 / individuals) <p>.8 for individuals; .6 for groups – McMillan & Schumacher 2001 <i>Research in Education</i> p. 249)</p> <ul style="list-style-type: none"> Stability; Test / retest method: r=.950 <p>Newman&McNeil p39</p>	<p>Factor Analysis p. 73</p> <p>Determines the components being measured; how much variance is accounted for</p> <ul style="list-style-type: none"> Two concepts (Tables 8 & 9) – coordinator's ability; staff support Explains 67% of the variance all the items <p>How well do these constructs/factors predict all the variance of all the items</p>	<p>Correlation vs. Prediction</p> <ul style="list-style-type: none"> Correlation looks for relationships Prediction includes assumptions, hypotheses, theoretical framework Correlations: one variable with utilization Multiple regression prediction models: a set of variables taking into consideration the relationships between the variables (simultaneous prediction) 	<p>Multiple Regression p. 62</p> <p>Definition: Creates a multiple regression prediction equation, which adds together the predictive power of each variable.</p> <p>Why?</p> <ul style="list-style-type: none"> Covarying variables More flexible than ANOVA Can write models that reflect the research question Easily test relationships between categorical and continuous variables <p>Terms</p> <p>Beta weights</p> <p>Adjusted R^2 adjusts for the ratio of subjects to</p>

<p>Cross Validation p. 103 & Table 32 Determines the stability of the regression model</p> <ul style="list-style-type: none"> Split data in half, use the model to predict, see if the R^2 is close Random sample #1 1% shrinkage; #2 had 3% shrinkage; <i>when I took out Michigan it shrank 13% (p. 127)</i> 	<p>Bonferroni Correction (some correlation & regression tables) <i>example Table 12 p. 79</i> Why? P. 62</p> <ul style="list-style-type: none"> To control for the Type 1 error rate for multiple comparisons Necessary because of multiple statistical tests <p>Type 1 error rate is when you reject a null hypothesis when null is actually true. With .05, there is a 5 in 100 chance of making a Type 1 error.</p> <p>How did I check for it? <i>Made a spreadsheet to calculate.</i></p> <ul style="list-style-type: none"> 0.05 / Number of variables in a set (i.e. school level); then check and see if the <i>p</i> for each variable is still significant i.e. with 5 variables the <i>p</i> would have to be .01 	<p>Surprising Findings p. 127</p> <p>Non-significant results</p> <ul style="list-style-type: none"> Hours spent supporting VC at work or at home (Table 15) School spent, grant funding Yes/No, Grant amount (Table 15 top row) <p>Negative correlations:</p> <ul style="list-style-type: none"> Years of experience (Table 13) <p>Negative b weights</p> <ul style="list-style-type: none"> Technical quality (Table 29) 	<p>Recommendations for Practice p. 128</p> <ul style="list-style-type: none"> Use the Scale for formative assessment & evaluating needs Role of VC Coordinator: Teacher or Parapro, "coordination", integration in the curriculum, rotate the position VC Coordinator training: integration, working with teachers, principal training, teacher training Teacher Attitudes & Principal Support Mobile Carts, Elementary Schools, one coordinator per system Free Collaborations ESA support: facilitate programs and tech support 	<p>Further Research ?s p. 135</p> <ul style="list-style-type: none"> Confirm results Why does use decline with coordinator experience? Does the scale hold up in new circumstances? Investigate administrative & financial support variables further Is the use of curriculum VC sustainable? Refine the instrument to have a higher correlation with utilization (currently .228) What is the impact of curriculum VC on student achievement? 	<p>variables</p> <p>Contribution to Knowledge</p> <ul style="list-style-type: none"> Multidimensional perspective to predict usage of videoconferencing: includes demographics, the support variables, and the Scale Prediction model Procedures for Scale development and testing The Scale A new measure of utilization <p>Weaknesses</p> <ul style="list-style-type: none"> Sample only those that responded to the survey; no way to know how to tell. (dealt with it by stating it & collecting demographic data) Could be measurement error, especially with a new instrument
<p>What I Learned</p> <ul style="list-style-type: none"> Results confirmed my experience supporting VC Statistical procedures How a researcher thinks & works Statistical knowledge is tentative 	<p>Advice to Others</p> <ul style="list-style-type: none"> Research journal (30 pages) started during stats classes Email summaries Adapt to advisor Ask questions! Take the initiative (regression) Know data well enough to see errors (curr; "other") 	<p>How I Changed</p> <ul style="list-style-type: none"> Brain popping with research questions Improved writing style Know how to review literature to inform practice & research Know APA better 	<p>Most Significant Result</p> <ul style="list-style-type: none"> Design of an effective VC support structure includes coordinator, teachers, principal, tech support, ESA support <p>What would I change</p> <ul style="list-style-type: none"> type of programs quest: field trips etc & student support 	<p>What Now?</p> <ul style="list-style-type: none"> Publish papers Blog the results & invite discussion "Friends defense" <p>Changes to my practice</p> <ul style="list-style-type: none"> Polish coordinator training – more on working with teachers Use research to assist principals in choosing coordinators Use scale for end of year evaluation Encourage others to use results when implementing 	