Quantitative reasoning and analysis week 3

The posting made was an elaborate discussion of Cheng’s study made in 2009. First of all, the details of the experiment were adequately illustrated in which the posting can be considered as a good summary of the study. Moreover, important issues were presented such as establishing the reliability and the validity of quasi- experimental designs. Indeed, quasi-experimental designs are the next most ideal research method when real-world settings are involved, which is why this type of method is used in educational settings. In scientific laboratory settings, randomness is important when testing drugs that explain why a double-blind placebo is used to reduce bias. However, the case of learners is very much different, which makes Cheng a good researcher because using real-world settings have factors that differ from controlled settings. To support this argument, many studies pursued in relation with No Child Left Behind Act were quasi-experimental designs. The rationale behind this according to Angrist (2003) was that numerous studies done before in the classroom that involved technology (computer-aided instruction) “ relies on uncontrolled measurements, such as the level of satisfaction experienced by technology users”. Angris (2003) also noted that the subjects reported satisfaction in using new technology (who wouldn’t after all?). Joshua Angrist has made several studies that focused on educational research specifically using CAI and used quasi-experimental design. Like Cheng, he has also considered the numerous aspects that can affect validity and came up with high validity. In conclusion, when it comes to educational research that uses technology in real-world settings, quasi-experimental method would be the most suited approach to have a credible research. Angrist, J. (2003) Randomized Trials and Quasi-Experiments in Education Research . The National Bureau of

Economic Research. Retrieved March 25, 2011, from http://www. nber. org/reporter/sum A quasi-experimental design can be maximized to yield good results (validity and reliability) in a study as proved by Cheng (2003). The posting emphasized the failures of the Frankfort-Nachmnias research because it used a " non-equivalent control group". The failure could have been prevented at the earlier part of the study by formulation appropriate questions that grouped students according to their learning styles. Those with similar learning styles could be the controlled variable which be considered as the subjects in the study. However, the posting was also right when it argued that teacher factor or classroom learning experience could also affect the experiment. Indeed, the whole research is not even considered as an experimental design. As for the time-series design suggestion, that seems feasible but it would entail more time to conduct because data gathering from the pre-test and post-test results is extensive. Yohlund and Ong (2010) reinstated in a summary that testing and instrumentation can be threats to internal validity. Why is this so? First, there is always a difference between taking two tests. Second, any change in scorers or instrument can also affect the outcome. Aside from being-time-consuming this can even undermine the validity of the research. Furthermore, assuming that it is done properly, the research would put its focus on this step alone, which is not the purpose of the study. The suggestion of a one-shot case study is more workable because it emphasizes attitudes toward problem solving, which is observable and relevant to the case. Lastly, aside from the suggestions posted in that would increase the validity, I believe that acquiring a set of learners who have the same level of computer expertise would eliminate the cumbersome process of filtering the

participants. Yu, C. h., & Ohlund, B. (2010.). Threats to validity of Research Design. Website of Dr. Chong Ho (Alex) Yu. Retrieved March 25, 2011, from http://www. creative-wisdom. com/teaching/WBI/threats. html