



## The Impact of Teachers' Inquiry-based Instruction Method on The Academic Performance of students in Kunar University, Afghanistan.

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**ABSTRACT:** The motivation behind this study was to investigate the effect inquiry-based instruction methodologies had with respect to students' achievement. Besides, the review recognized a university that showed elevated degrees of performance in the Sayed Jamaluddin Afghani university, Kunar province 2022. These recognized university lecturers, who were lined up with detailed victories, were welcome to take part in this review. The participants who partook in the review gave a record of the educational methodologies operated among those students who generally showed elevated degrees of achievement. The collected information permitted the researcher to sum up the picked techniques and besides report on the serious level of recurrence in which request-based methodologies were utilized. It was presumed that request-based educational methodologies were successful systems lined up with successful students.

**KEYWORDS:** direct instruction approach, inquiry-based instruction, practical Constraints, student-center approach, teaching and learning, traditional pedagogy.

### INTRODUCTION

Inquiry-based learning (IBL) is a pedagogy which best enables students to experience the processes of knowledge creation and the key attributes are learning stimulated by inquiry, a student-center approach, a move to self-directed learning, and an active approach to learning. Students should develop research skills and become life-long learners. Having acknowledged the constructivist reasoning in education, beginning from 2001 in Afghanistan start the new regime of democratic government, the essential point of the guidance has become to assist students with obtaining abilities as opposed to acquiring logical information (MoE, 2019). The early stages of our education system was not very good but now it is a little bit improved and has a better education system in Afghanistan. In Afghanistan, higher education is providing by public and private higher education institutions. Afghanistan now has 39 public and more than 128 private higher education institutions. MoHE (2017) stated that as a result of delightful growth seen in private higher education institutions, the MoHE is presently resulting and policy hesitant the formation of private universities. The education curriculum is drawn up by the MoHE. Universities generally only offer bachelors and master's degree programs. Afghanistan has hardly been able to develop master's programs due to countless wars. Under the National Higher Education Strategic Plan (NHEP), Afghanistan has scheduled to establish a variety of master's (MA) degree programs indoors a few years. Master's degree programs presently are in teaching and engineering. M. (2009), stated that in the previous year few private universities also launched master's degree programs.

Inquiry-based learning falls under the realm of 'inductive' approaches to teaching and learning, an excellent review of which is provided by Prince and Felder (2006). Academic trials are, naturally, inquiry-based exercises; students should figure out how to propose speculations, plan analyses, and select suitable materials (Correio, Griffin, and Hart, 2008). These exercises will positively add not exclusively to students' logical request abilities yet additionally how they might interpret scientific ideas. Hofstein and Lunetta (2004) add to this rundown by accentuating the focal pretended by the science lab in adding to students' impression of science and mentalities by animating interest and happiness and spurring students to learn their subjects. The study on the capability of (Inquiry-based-learning) on student's learning, revealed improvement in students' understandings (Wu and Krajcik, 2006). There means that students attitudes towards learning are further developed in the wake of having been associated with IBL conditions (Gibson and Chase, 2002). There are concentrates on that research on the impacts of request put inquiry-based-learning with respect to university student's comprehension and logical interaction abilities (Stout, 2001). Stout (2001) revealed that the opposed to planning a request put IBL with



respect to an entire educational program unit as main matter. This study was thusly planned altogether that a showing mediation in light of IBL methodologies could be created and assessed with the points of advancing reasonable comprehension of the issue and develop the education system with IBI.

## REVIEW OF LITERATURE

The purpose of this literature review was to organize published research supporting the topics of teaching and learning. Furthermore, there was a specific focus to share literature about inquiry-based learning. The literature cited in this review revealed important people and events that have influenced instructional delivery methods present in classrooms during the present time which this study took place. This literature review was written with the purpose to tell a story to the reader that provides background information related to the implementation and delivery of classroom instruction. At the conclusion of this chapter, readers will have been provided with enough information to best understand the basis of this study on inquiry-based delivery methods and their impact on student learning. Jacobs (2010) indicated that the instructors that are devoted to inspire students to become productive citizens, hold true beliefs that students are taught the value of hard work while utilizing a process to solve problems in the classroom. Since the early published records of teaching practices, the classroom environment and methods for directing or inspiring student learning has been a topic closely examined by researchers and leaders in the field of education. Students in a classroom are successfully engaged in the process of learning when they are able to monitor their own academic progress and when they are able to make what has been taught by their teacher. Within the journey to uncover the best way to teach students, research has uncovered the use of specific strategies to address student achievement. For example, King and Gurian (2006) conduct research to address ways to engage males in their own learning. Arends and Castle (2003) revealed that a classroom situation that views the students as empty vessels to be filled under the direct guidance of the teacher are referenced as practicing a direct instruction approach to teaching and learning.

Therefore, all students are viewed as equals in their capacity to learn. A direct instruction approach to guide teaching is very organized with clear expectations and no student choice in the approach to learning (Kirschner, 2006). In the twentieth century, some educators swayed away from direct instruction while others were committed to its practices. It was important for a continuum of learning to be the focus in the lesson plan development since the experiences of the students were controlled and used to build upon one another. An inquiry-based instructional model is one that is constantly growing with the needs of students through reflecting on accomplishments and examining the process of learning in Afghan universities. Schools are unable to conclude that learning is occurring without supporting data (Schmoker, 2006); hence, researchers utilize historical data to examine successful practices in delivering education. Inquiry-based strategies can be traced back to ancient Greece with instructional methods endorsed by Socrates (Arends & Castle, 2003). Some of the instructional methods used in ancient Greece are still used today, like the questioning strategy used by Socrates, which facilitated independent discovery of truths (Spring, et al. 2005). This inquiry strategy is still used today and commonly referred to as the Socratic Method; and is revered as a best practice by many educators.

Inquiry, as an instructional model, focuses on the process of learning and solving problems using a hands-on approach that involves reflection and evaluation in a cyclical manner (Van Deur, 2010). Hence a teacher may not be able to read a script to successfully employ this model of instruction. The inquiry model has been and is still used in many classroom, which show that some teachers have and still value this model. A school that encourages teachers to use inquiry-based methods to instruct their students must have a commitment by its leadership to provide support and appropriate training (Deur, 2010). Therefore, shifting to instructional models of inquiry needs to be a collaborative effort among staff and administration in a university.

When students have the ability to make choices, they may not all pick the same strategies, but they will choose one that fits with their preferred learning styles. The focus on differentiated instruction allows teachers to develop strong connections with students and invites them to focus on the process of learning (Heron, 2003). An example can be seen in the early documented educational practices of the Native Americans which were based on a holistic approach to educate and empower the children while instilling confidence and independence (Villa & Thousand, 2005). Therefore, students who are confident learners become empowered to learn with and from one another. Dating back to the late 1500s, many educators believed that learning was not simply for the sake of knowing, but a means to foster connections in learners and allow them to solve problems in meaningful ways (Villa & Thousand, at el. 2005). This demonstrated that educators valued problem solving



as an instructional component. Additionally, Harvey and Daniels (2009) reported that inquiry-based instructional practices date back to the 1590s as students were provided authentic problems to solve in the academies of Rome and Paris. Students were tasked with problems, such as constructing a building or monument, and then guided to focus on the process of achieving the goal. This learning model allowed students to make deep connections with the prescribed benchmarks. Valuable connections produce greater opportunities for students to become inquirers in the classroom, as they are more personally connected to the learning process.

All in all, inquiry-based teaching methods are without argument a means to inspire students to utilize thinking strategies and reflect on their problem solving strategies. Tools to measure the use of inquiry-based teaching methods and analyze the alignment of student performance would be a means to make schools more confident in the decisions they make regarding what framework to adopt to best serve the needs of their students.

## RESEARCH QUESTIONS AND HYPOTHESES

The following research questions/hypothesis guided this study:

R1: To what extent do teachers have yielded historically high rates of student proficiency as measured by the Kunar state public university, use inquiry-based instructional strategies in the classroom?

H0: There is no correlation between high rates of student proficiency on the Kunar state public university and the presence of inquiry-based instructional strategies in the classroom.

H1: There is a correlation present between the high rates of student proficiency on the Kunar state public university and the presence of inquiry-based instructional strategies in the classroom.

R2: To what extent do teachers, have yielded historically high rates of student proficiency as measured by the Kunar state public university, use direct instruction teaching strategies in the classroom?

H0: There is no correlation between high rates of student proficiency on the Kunar state public university and the presence of direct instruction teaching strategies in the classroom.

H2: There is a correlation present between the high rates of student proficiency on the Kunar state public university and the presence of direct instruction teaching strategies in the classroom.

R3: What common method(s) of instructing students are employed by teachers have yielded historically high rates of student proficiency as measured by the Kunar state public universities?

H0: There is no correlation between the common chosen method(s) of instruction among teachers who have yielded historically high rates of student proficiency as measured by the Kunar state public university.

H3: There is a significant correlation between the common chosen method(s) of instruction among teachers who have yielded historically high rates of student proficiency as measured by the Kunar state public university.

## METHODOLOGY

This was a small quantitative study wherein collecting data with adopted questionnaire took on from one more research study concentrates by John J. Cafagna, 2013 that the survey instrumentation used in her review, the concentrate likewise uncovered the IBL in their own country. The questionnaire was led with the lecturers in a public university of Kunar province in Afghanistan. One of the standards educating the plan regarding the showing intercession connects with experiences acquired by different analysts who have researched inquiry-based learning (IBL). We explored the writing on IBL with an exceptional spotlight on its viability in advancing reasonable comprehension. The results from past analyses were drawn upon in choosing the kind of IBL and planning issues to be looked at during a showing in the Kunar University. One more standard attracted on to educate the plan regarding the instructing includes a pedagogy constructivist point of view (Vygotsky, 1978). This viewpoint helped in organizing the instructional method that the educator



will take on during education mediation. Inside this model of education, the educator utilizes language to shape, select and accentuate the thoughts presented by the class to make shared significance. In the line with this viewpoint, the showing mediation was intended to urge understudies to express their thoughts and remark on the thoughts of others while completing the request. At last, the past examination discoveries on understudies' understandings of the matter (Barker, 2000; Smith, Wisner, Anderson, and Krajcik, 2006) were inspected to figure out applied challenges experienced by understudies. These were drawn upon in deciding the learning objectives of the showing mediation and the educational exercises.

A survey was adopted to find out highlights present in teacher used instructional strategies. The questionnaire took on from one more research study concentrates by John J. Cafagna, 2013 that the survey instrumentation used in her review, the concentrate likewise uncovered the IBL in their own country. The survey members had answer situations utilizing a four-point scale toward demonstrating once in a blue moon, the survey was directed in a Kunar university lecturers. The showing mediation was tried in the university classes. All through the showing intervention, understudies worked in their group gatherings, they were urged to impart their plans to their colleagues, talk about their perceptions and decipher the discoveries of the analyses completed. What's more, the information acquired through the instruments referenced above was broken down with SPSS 24.0 program. The mean and standard deviations of the grades were determined. It was seen that the scores are conveyed typically. Subsequently, the matched examples T-test and connection tests were led to sort out whether there is a huge distinction between the pre and posttests scores of the understudies engaged with the review.

## FININGS

This part of the study contains the findings of this research study that had the purpose of evaluating the effectiveness of inquiry-based instructional strategies in university. The intention of this research study was to determine if inquiry-based instructional strategies are used, and if so to what degree, in schools that have demonstrated high levels of academic achievement as measured by standardized testing. Furthermore, the intention of the research was to conclusively determine if a correlation exists between inquiry-based learning strategies and student academic achievement. Three themes of analysis became evident and align with the three research questions that have guided this study. The three themes include the use of inquiry-based instructional strategies, the use of direct instruction teaching strategies, and common instructional methods used by teachers who teach in university that have yielded high rates of student academic achievement on standardized assessments.

All three questions were addressed with the data obtained from a survey completed by lecturers who met criteria stipulated within the study. It is also noted that historical data, collected from the Kunar Sayed Jamaluddin Afghani university, Kunar province, were used to define high rates of student proficiency to appropriately address the three research questions through quantitative approach. Quantitative data were gathered within the instructional methods survey. Descriptive statistics were utilized to conclude frequencies of the demographics aligned with the participants in this study. Nominal demographic variables such as primary role, gender, and years teaching experience were reported. Although, 48 lecturers responded as qualified participants in the study. The study combined the views of both teachers and administrators related to reporting on instructional strategies and practices used in university. It was a goal of the researcher to have representation from both roles among the participants to gain more perspectives and insight into what instructional practices were valued and being used. The survey used in this study was organized into three categories by its original authors. The three categories were aligned with sections and allowed findings to be analyzed with a stronger focus on their meaning. Dai (2011) revealed that the survey questionnaire identify the three sections as: (1) "practicing inquiry pedagogy"; (2) "beliefs and values"; (3) "practical. The researcher used these three sections to better understand and interpret data gathered from the survey.

## DATA ANALYSES

This study used quantitative method to test three research questions and their hypotheses. This section reports on the quantitative method used to analyze the data thorough a quantitative approach. Historical data, aligned with Sayed Jamaluddin Afghani University Kunar summative reports were gathered and analyzed using quantitative methods.



**Table 1:** shows the role of participants positions

Position		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lecturer	37	77.1	77.1	77.1
	Administrator	11	22.9	22.9	100.0
	Total	48	100.0	100.0	

Table 2 reports of those who participated in the study, 79.2% ( $n = 38$ ) were male and 20.2% ( $n = 10$ ) were female. No significant trends have been identified by use of these data.

**Table 2:** shows the gender of participants

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	38	79.2	79.2	79.2
	Female	10	20.8	20.8	100.0
	Total	48	100.0	100.0	

Table 3 presents reported years teaching experience by the participants. The table shows that those who participated in the study, 27.1% ( $n = 13$ ) had between 1 and 5 years teaching experience, 58.3% ( $n = 28$ ) had between 6 and 10 years teaching experience, and 14.6% ( $n = 7$ ) had above 10 years teaching experience. It is noted that less than four years is not represented in this table since participants were required to have a minimum of four years teaching experience.

**Table 3:** shows the teaching experience of participants

Teaching experience		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 5	13	27.1	27.1	27.1
	6 to 10	28	58.3	58.3	85.4
	Above to 10	7	14.6	14.6	100.0
	Total	48	100.0	100.0	

The table 4 shows the entire questionnaire that consists of 39. The table indicates the inquiry based instruction level based on the perspective of faculty members. The average mean is 4.6915, with a standard deviation of .05783. The average mean for the competency level based on five items is high.

**Table 4:** shows the overall mean and SD of all-items

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Overall mean	39	1.04	2.63	2.2377	.31083
Valid N (listwise)	39				





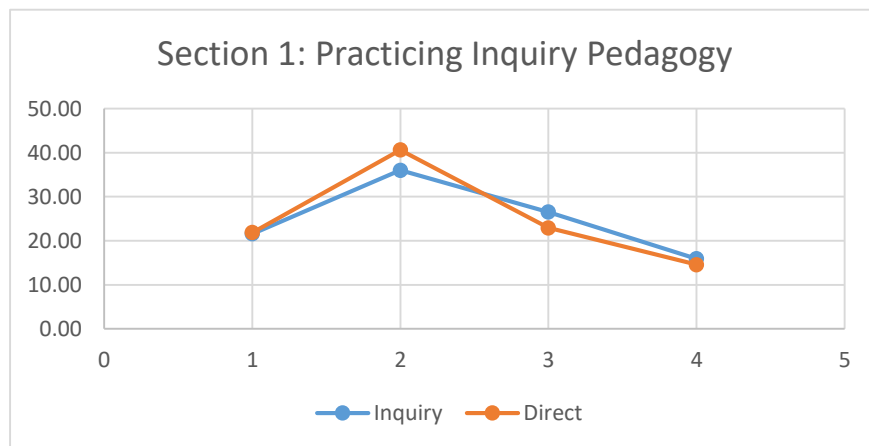
This section reports the finding of the first research question, which states, " To what extent do teachers have yielded historically high rates of student proficiency as measured by the Kunar state public university, use inquiry-based instructional strategies in the classroom? " Table 5 provides the statistics, including frequency, percentage, cumulative percentage, and mean of the respondents' perspective regarding the IBI at their universities. The RQ1 is examined through 14 item questions. The average mean for the RQ1 is 2.2273, with a standard deviation of .40337.

**Table 5:** shows the question one descriptive data

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Q1	11	1.04	2.52	2.2273	.40337
Valid N (listwise)	11				

**Findings of research Question 1:**

This section reports the finding of the first research question, which states, " To what extent do teachers have yielded historically high rates of student proficiency as measured by the Kunar state public university, use inquiry-based instructional strategies in the classroom? " Table 5 provides the statistics, including frequency, percentage, cumulative percentage, and mean of the respondents' perspective regarding the IBI at their universities. The RQ1 is examined through 14 item questions. The average mean for the RQ1 is 2.2273, with a standard deviation of .40337. This section: "practicing inquiry pedagogy". Within the survey, twelve questions were posed to the participants within section 1 of the survey referenced in Appendix B. Of the twelve questions, ten asked about practices aligned with inquiry-based instructional practices and two were aligned with direct instruction practices, also referred to as "traditional pedagogy". When analyzing the data collected within this section, a summative scale score was analyzed for each of the two represented methodologies. After the scores were charted, percentages and mean were calculated. Figure 3 represents the percentage of responses aligned with the series of questions aligned with inquiry-based and direct instruction practices in series labeled "Inquiry" for questions 5 - 14 and "Direct" for questions 1 and 15.



**Figure 1:** shows the first section of the questionnaire

In this section, questions 5-14, represented in figure 1 under the label of "inquiry", allowed for a total of 48 responses among the ten questions and questions 1 and 3, under the label "direct", allowed for a total of 48 responses among the two questions. The calculated percentages were based on the total responses for the items aligned with the features of either inquiry-based methodologies or direct instruction. It is noted that the questions in section 1 demonstrate no participants chose rarely in response to any of the inquiry-



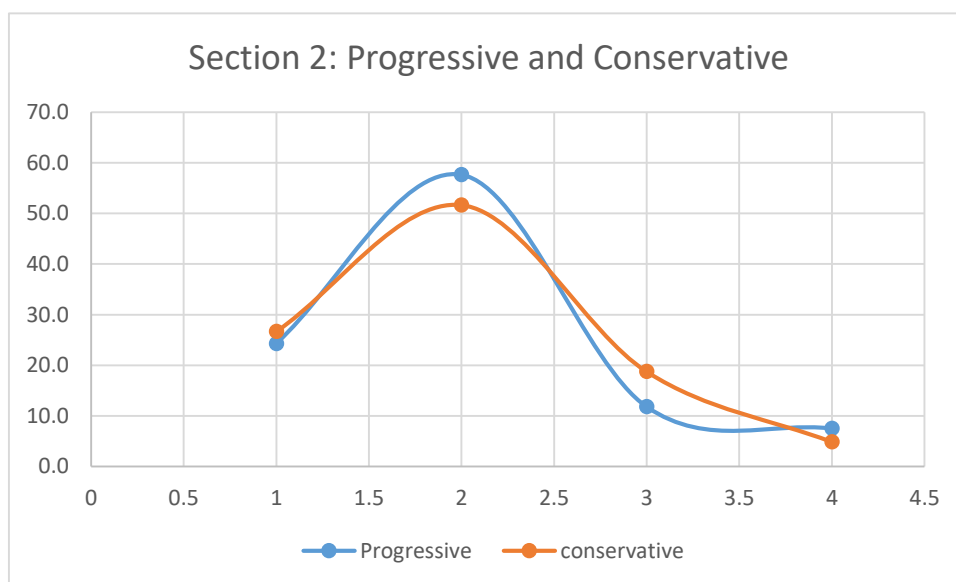
based aligned items and also no participants chose “very often” in response to using direct instruction practices. It is also noteworthy that less than 21% of the participants’ responses regarding the use of inquiry-based methods in the classroom were rated on the bottom half of the rating scale. This indicates that the majority of responses indicate the participants support inquiry-based methods of instruction. Of the two questions that focused on direct instruction, also referred to as “traditional pedagogy”, participants responded to how often they used “lecturing”, no responses were found in either the “often” or “very often” rating. Hence, all responses fell within the rarely to sometimes range or a rating of 1 and 2 respectively. It is also noted, as graphically represented later in figure 1, that 29% (n = 19) of the participants chose often when rating the frequency in which requiring students to memorize facts was used. Therefore, the use of memorization is employed with more frequency than lecturing and is present in more than 40% (n=of the participants’ instructional environments.

**Findings of research Question 2:**

This section reports the finding of the second research question, which states, " To what extent do teachers, have yielded historically high rates of student proficiency as measured by the Kunar state public university, use direct instruction teaching strategies in the classroom " Table 6 provides the statistics, including frequency, percentage, cumulative percentage, and mean of the respondents' perspective regarding the IBI at their universities. The RQ2 is examined through 14 item questions. The average mean for the RQ2 is 2.0774, with a standard deviation of .26000.

**Table 6:** shows the research question 2 descriptive data.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Q2	14	1.67	2.52	2.0774	.26000
Valid N (listwise)	14				



**Figure 2:** shows the second part of the questionnaire

The study survey section 2 represent the “beliefs and values”. The second section of the survey contained 11 questions that asked the participants to rate statements on a four-point scale aligned with their level of agreement. This section of the survey was

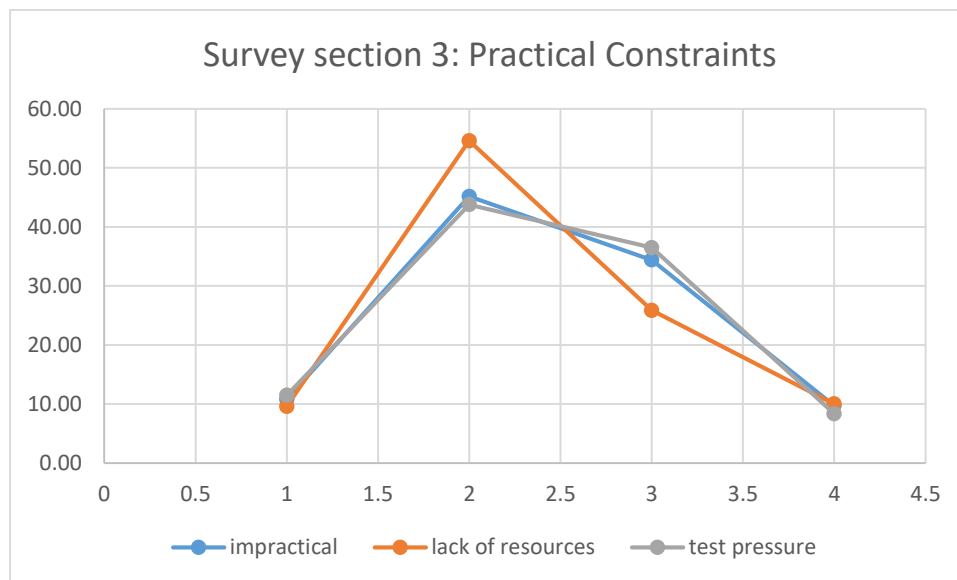


broken into two sub- sections labeled “progressive” and “conservative” to be known only to the researcher. The “progressive” sub-section, aligned with six of the questions, would allow for the interpretation of higher ratings with stronger support of inquiry-based methodologies. Of the six questions aligned with a “progressive” instructional stance posed to the participants, no ratings fell below a 3 on the four-point scale. All participants demonstrated a level of agreement aligned with all six beliefs and values. When compared to the five questions aligned with a “conservative” instructional stance, the majority of responses fell within the levels of disagreement. Figure 4 presents the percent of participant answers aligned with the level of agreement regarding both the “progressive” and “conservative” aligned questions. Analysis of the ratings for the “conservative” questions shows that only 57% of the participants agreed with any of the presented conservative instructional stances. Two of the five “conservative” questions returned the results of no participants responding with a level of agreement with the statements. None of the questions in either of the subsections yielded a 100% response for a single rating level.

This section reports the finding of the second research question, which states, " To what extent do teachers have yielded historically high rates of student proficiency as measured by the Kunar state public university, use inquiry-based instructional strategies in the classroom? " Table 7 provides the statistics, including frequency, percentage, cumulative percentage, and mean of the respondents' perspective regarding the IBI at their universities. The RQ3 is examined through 15 item questions. The average mean for the RQ3 is 2.4042, with a standard deviation of .17067.

**Table 7:** shows the research question 3 descriptive data

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Q33	15	2.06	2.63	2.4042	.17067
Valid N (listwise)	15				



**Figure 3:** shows the third part of the questionnaire

Survey section 3: “Practical Constraints”. The third section of the survey contained 15 questions. The purpose of this was to understand the level of agreement among the participants with statements of constraints. The constraints are directly aligned with those





that may stand in the way of implementing inquiry-based learning strategies. It is noticed that the majority of the responses were rated as disagree or strongly disagree. Among the 15 questions, three subsections are represented and labeled by the original author for the researcher. The subsections are labeled “impractical”, “lack of resources”, and “test pressure” (Dai et al., 2011). The “impractical” section is made up of six questions. Among these questions, the trend of responses is the same as the overall section. The majority of responses fall within the range of “disagree” to “strongly disagree”. The “lack of resources sections” is aligned with five questions. Again, the responses follow the same trend as the overall section with the majority of responses falling within the range of “disagree” to “strongly disagree”. The “test pressure” section is made up of four questions and also follows the same trend as the previous sections in that the majority of responses fall within the range of “disagree” to “strongly disagree”. Figure 5 presents the percent of participant answers

aligned with the level of agreement regarding the three subsections of the practical constraints.

The data analysis represented by figure 5 shows a trend regarding the three subsections whereas each section has the most responses in the rating of disagree”. All three subsections also have the least responses in the rating of strongly agree. The chart shows a similar trend among all three subsections, but there is some minor discrepancy regarding similarity among the ratings of strongly disagree and agree. Since the percentage of ratings in the areas of strongly disagree and agree are so close to one another, unlike the disagree and strongly agree ratings, statistical conclusions regarding differences are not able to be made with a strong level of confidence.

## Summary of Findings and Conclusion

This section identifies the major findings and conclusions in this study as they relate to the themes that emerged during the study. This section also identifies data to support the conclusions made by the researcher.

Theme one: The use and endorsement of inquiry-based instructional practices in effective classrooms. All participants were asked, “to what extent do you endorse (actively support) an inquiry-based approach in your school instructional practices?” No participants responded with a score of (1) not at all. Therefore, participants provided data that supports the use and endorsement of inquiry-based instructional practices in their classrooms. Their classrooms were already validated as being aligned with student success as measured by the Kunar state public university. The data overwhelmingly determined that high levels of importance have been placed by teachers and schools on the use of inquiry-based practices such as hands-on activities, allowing students to have choices, and the use of questioning strategies to guide students to find correct answers.

Data gathered from the administered survey was analyzed to determine the participants’ preference through their ranking of their use of inquiry-based strategies and direct instruction as they utilized a four-point scale. The data indicate that no responses in from the participants were in the lowest ranking, (1) rarely range. The data also indicates that fifty percent ( $n = 5$ ) of the ten questions focused on the use of inquiry-based methods had a ranking of (3) often or higher.

The researcher conducted further analysis of the questions that had at least one response below the ranking of (3). The majority of responses for each question fell within the (3) often to (4) very often range. In fact, the mean scores for the five questions from least to greatest were 2.65, 2.94, 3.29, 3.41, and 3.53. In summary, even those questions with at least one ranking of (2) sometimes still had a mean that was closer to or above a ranking of (3) often. Therefore, the researcher concluded that inquiry-based methods were clearly the preference of classrooms that were yielding high levels of academic proficiency. Through a summary analysis of the collected data, the researcher determined that inquiry-based instructional strategies are present in classrooms represented in this study. It was further determined that there is an alignment with inquiry-based instructional practices and classrooms that demonstrate high levels of academic achievement as measured by the Kunar state public university. The data were very clear that the participants truly believe in the inquiry-based approaches to educate children. Theme two: The use of direct instruction practices in effective classrooms.

The researcher determined, through data analysis, that no participants ranked the use of lecturing techniques, a direct instruction feature, to be a heavily used or endorsed method to instruct students. The researcher concludes that the participants do not have a strong reliance on the use of lecture within their classrooms. Therefore, the use of direct instruction, although present, is not the preferred



method of instruction present in high performing classrooms. The data concluded that no participants indicated that they require students to memorize facts with a ranking of (4) very often. Most of the participants, represented as 59%, indicated a ranking of (2) sometimes regarding their use of requiring the memorization of facts. Memorization was not void, but was not highly regarded as a feature valued in the classrooms that have yielded high levels of academic success.

Analysis of the restraints, standing in the way of using inquiry-based strategies, yielded that the majority of participants indicated a level of disagreement with impracticality, lack of resources, or test pressure preventing the use of inquiry-based strategies. This demonstrates that the participants' value of the inquiry-based strategies was not impacted by constraints and consequently did not utilize direct instruction as a practice in their classrooms. It had been indicated in literature that test pressures were responsible for guiding educators to use direct instruction practices (Kimmelman, 2006; Lemov, 2010; Spring, 2005). The researcher found it interesting that test pressure was not determined to be a roadblock by the participants who did have students demonstrate high levels of performance on standardized tests. Direct instruction is not void from classrooms that yielded high rates of student academic success, but was not a driving force in the classroom. Inquiry-based learning strategies were used at a higher frequency and were also actively supported by schools that produced students that assessed at high levels of achievement. Direct instruction is not aligned with the student success achieved on the Kunar state public university.

Theme three: Common strategies used in successful classrooms. Data analysis revealed that 58.5% of the participants indicated that on some level they disagree with the statement, "These ideas sound good, but are not efficient in reality for student learning." The majority of the participants believe inquiry-based learning strategies are efficient practices. Practices in the classrooms that have yielded high rates of student proficiency have a common endorsement for inquiry-based strategies. As previously specified, practicing inquiry-based pedagogy was ranked the highest as opposed to direct instruction practices. Commonly these inquiry-based strategies were valued and used with high levels of frequency. The practices, as indicated by the participants within open-ended questions, shared common practices of hands on activities, workshop instructional models including the offering choices to students, problem-based learning, and reflectionary practices. These are noted by the researcher as inquiry-based strategies. Teachers and administrators actively support the above mentioned practices that are categorized as inquiry-based learning strategies and practices. University that produce students that perform well on the Kunar state public universities overwhelmingly remark on student-centered practices and do not focus on reporting those practices aligned with memorization. Effective practices in schools are those aligned with inquiry-based strategies and is validated through those same practices that were discovered by the researcher within the literature published on instructional practices.

## RECOMMENDATIONS FOR FUTURE RESEARCH

This study was an adaption of a study performed by Dai et al. (2011). Their study yielded results based on a population of students in China and focused on the high school level. The adaption of the study was done by the researcher to apply the same strategies of data collection aligned with student performance in the United States. A specific focus of elementary school was also targeted by the researcher. The researcher determined the criteria to obtain data from schools that have a proven track record of high academic achievement. The measure chosen was a common assessment presented to students on the same grade level. Future research may benefit from the following recommendations:

1. It is recommended that this study be replicated. Since this study used the Kunar state public university it was only able to report on practices used in the Kunar province.
2. In future research, it is recommended that a focus group is used to obtain more data from the participants. The gained data can be compared to participant responses collected from the survey instrument.
3. In future research, researchers should collect formal observations performed on the teachers in participating schools to highlight and understand the observed instructional practices. This will lend to a third party perspective of what was seen in a classroom as opposed to what was the expected outcome or perceived outcome of the instructors.
4. It is recommended in future research to have students that have demonstrated high rates of proficiency on the chosen standardized assessment complete a survey or participate in a focus group to ascertain how they feel they learn best. These



data can be used to validate teacher responses and inform researchers about student perceptions and preferred learning methods.

5. It is recommended for researchers to collect lesson plans from schools that participate in future studies to better understand planned methods of instructional delivery.
6. Classroom observations should be performed by future researchers. This would enable the researchers to document observable occurrences of inquiry-based practices. It is further recommended that a rubric be utilized to guide such observations in an effort to report meaningful data.

## RECOMMENDATIONS FOR PRACTICE

This study was performed to determine if inquiry-based learning practices have a positive effect on student achievement. The literature supported the notion that many educators believe this, but also do not completely understand if it has an impact on the way student achievement is measured. As a result of this study, the following

### *Recommendations for practice are listed:*

1. It is recommended that inquiry-based learning strategies be encouraged in schools and utilized in classrooms. Participants in the study indicated these are their preferred strategies in the classroom and the practices they employ.
2. Technology resources should be increased in schools. Participants indicated that a lack of technology resources were somewhat of a barrier to utilizing inquiry-based practices in the classrooms.
3. Student choices should be made available in classrooms regarding how they are assessed. This theme was indicated as a method employed and regarded as one that supports inquiry-based learning in the classroom.
4. The use of hands on activities should be increased and promoted in classrooms. This theme was indicated as a method employed and regarded as one that supports inquiry-based learning in the classroom.
5. Lecturing should not be removed as a feature, but not be a frequent practice used in the classroom. This theme was indicated within the responses of the participants and their infrequent use of the practice.
6. It is recommended that reflectionary practices be encouraged in schools. This theme was indicated as a method employed and regarded as one that supports inquiry-based learning. It is noted that it should be used inside and outside the classrooms by students, teachers, and administrators.

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