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TÍTULO: Medición de dimensiones del pensamiento crítico en las preguntas del examen BISE y A-Level mediante el uso del esquema Perry.

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RESUMEN: El objetivo del estudio es investigar las preguntas de nivel del examen BISE y nivel A, que fomentan habilidades del pensamiento crítico y la disposición de pensamiento crítico entre estudiantes universitarios. La investigación es comparada y adoptó el esquema de Desarrollo intelectual y ético de Perry. Los datos de investigación se tomaron de fuentes en línea de cinco años (2014-2018). Los hallazgos concluyeron que las preguntas del examen de primer año BISE son dualistas: de un bajo nivel de Desarrollo intelectual y dificulta el crecimiento lógico y racional de los estudiantes. Las preguntas de los exámenes de nivel A obligan a los estudiantes a pensar creativamente y las preguntas cubren significativamente la multiplicidad, el relativismo y las posiciones de compromiso, que de alguna manera, aumentan la disposición al pensamiento crítico.

PALABRAS CLAVES: preguntas de examen, habilidades de pensamiento crítico, disposición de pensamiento crítico, Perry Scheme.

TITLE: Measuring Critical Thinking Dimensions in the BISE exam questions and A-Levels by using Perry Scheme.

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ABSTRACT: The aim of the present study is to investigate the level of exam questions of BISE and A-Levels according to Perry's scheme of intellectual development in order to assess how the given exam questions in both BISE and A-Levels exam. Data for the underpinning research is collected from online sources by downloading past papers of five years (2014-2018) of First year Islamic studies to determine the level of exam questions against subscales of Perry's model that plays a pivotal role in critical thinking disposition. Descriptive analysis of the exam questions is carried out to determine the frequency of each position according Perry's scheme. The findings revealed that First year BISE exam questions cover frequently dualistic that is lowest level of intellectual development whereas A-Levels exam questions significantly cover multiplicity, relativism and somehow commitment positions that increases their critical thinking disposition.

KEY WORDS: exam questions, critical thinking skills, critical thinking disposition, Perry Scheme.

INTRODUCTION.

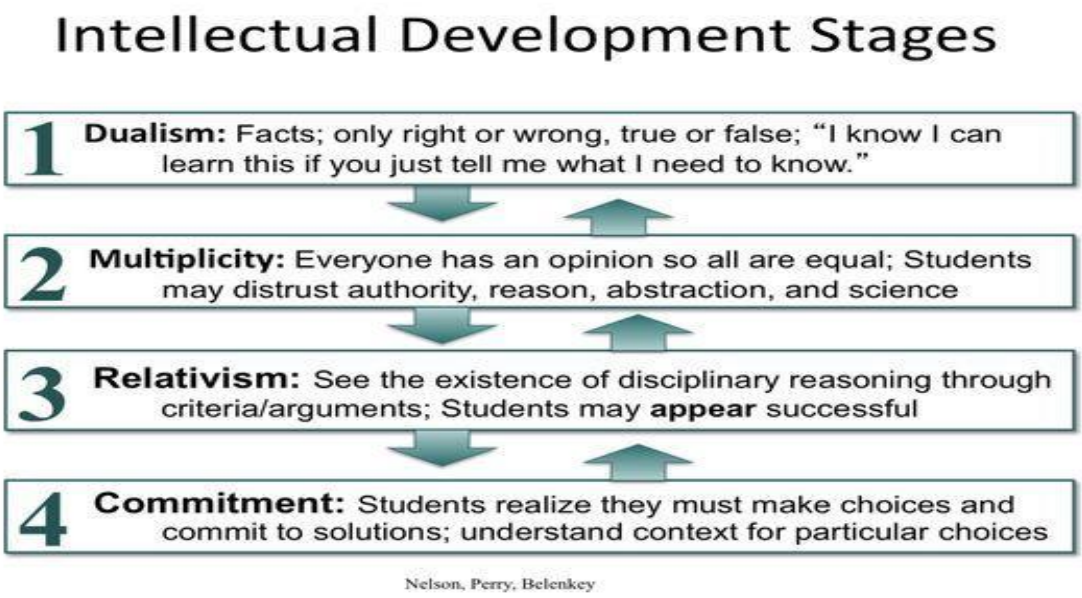
Background of the study.

William Perry illustrates the developmental progression in terms of relationship to individual with basic assumptions regarding nature of knowledge and authority. While sequence of development is

invariant, and chances of reversibility are probable in some conditions and change in development requires relation with ideas and people than objects.

Hofer and Pintrich (1997) and Moore (2002) stated that Perry's model, according to the personal epistemology domain, has been widely recognized as groundbreaking work regarding understanding of developmental epistemology of college student. Perry's model of intellectual and ethical development was developed originally in 1950s to 1960s among Harvard College students through qualitative and longitudinal study.

Perry's theory is demarcated through scheme that is consisted of four stages and nine positions in which person's epistemological way of thinking developed from dualism to relativism. These positions have been grouped into four stages since last four decades i.e., firstly dualism, secondly multiplicity, thirdly relativism, and fourth commitment, in the principles of Perry's scheme (Culver & Hackos, 1982; Knefelkamp & Slepitza, 1978; Knefelkamp, 1974; Moore, 1991, 1994, 2002). Perry's model has become basis for all the thinking models in future. It serves the aim to examine intellectual positions of the college students. Due to this specific model, one can able to stimulate hierarchically the epistemological order. One significant effect of Perry's scheme is that teacher know where their students' intellectual position lies and assist them in achieving higher results. Each stage can be summarized according to the students' behavioral patterns as under:



Critical Thinking Skills and Critical Thinking Disposition.

In 1990, Scientists, philosophers, educators worked on Delphi project sponsored by UPA. The experts had expertise in critical thinking teaching and assessment, or theoretical framework to define critical thinking skills. The panel conceptualize critical thinking skills in two different dimensions.Firstly, critical thinking skills is analysis, evaluation, inference, explanation for making decisions and valuable judgments. Many studies have been focused critical thinking among college students and most of the attention has been devoted towards critical thinking skills (for review Pascarella and Terenzini, 2005).

The second dimension was critical thinking disposition which is the willingness or tendency to use skills of critical thinking and this is the point of focus of the underpinning study. Pithers and Soden (2000) has compared disposition to being open-minded, spirit of inquiry, drawing cautiously unwarranted assumptions and weighing credibility evidence. The primary advantage of having strong disposition skills is to ensure critical thinking skills development and its use. The evidences showed empirically that college students who have greater critical thinking disposition have better critical thinking skills (Facione and Facione, 1997).

Many researchers have been delineated the concept higher and lower order skills (Bloom, Englehart, Furst, Hill & Krathwohl, 1956; Perry, 1970; Dewey, 1993; Gallagher, 1998; King & Kitchener, 1994). Maier (1993) used the alternate terms Productive or reasoning (higher order) and reproductive or learned behavior (lower order). Lower order thinking skills required only mechanical and routine application of information acquired previously like memorization. In contrast, higher order thinking skills involves challenging students to analyze, interpret or manipulate.

The multitude of different Critical thinking definitions are proposed by different academic disciplines according to one's understanding and perception (Mundy & Denham, 2008; Twibell, Ryan & Hermiz, 2005; Alazzi & Riddell, 2007). The most recent label for analytical, problem solving, synthesis or higher order mental processes (Scriven & Paul, 1992).

Critical thinking has been given three different meanings i.e., CT as judgment or evaluation, CT as problem solving or CT as combination of problem solving and evaluation. They identified that higher order thinking is associated with arguments analysis. When thinking is happened in a reflective manner, it is called as critical thinking and another domain is associated with problem solving. They also noted that higher order thinking comprises decision making, problem solving, creative thinking, and critical thinking (Lewis & Smith, 1993; Facione, 1997; Adams, Whitlow, Stover & Johnson, 1996; Ennis, 2007). Lewis and Smith (1993) offered that higher order thinking occurs through acquiring new information and previous information stored in a memory and rearranges/interrelates and extend to find an answer or fulfills purpose in confounding situations.

Magno (2010) identified five factors on which critical thinking comprised of that is assumption recognition, inference, deduction, arguments evaluation, interpretation. Thus, critical thinking and higher order skill are synonymous. Turner (2005) stated that the term critical thinking is used interchangeably with decision making, problem solving, evidence, scientific process.

Due to lack of clear distinction between critical thinking and other related terms impedes communication and understanding what actually critical thinking is and how it can be taught best and assessed in students. Stone, Davidson, Evans and Hansen (2001) argued that critical thinking skills and critical thinking disposition bridge many disciplines because attributes of critical skills are not specific to one setting or discipline.

Implication of Perry's Model in Education.

Perry's scheme laid the useful foundation for both learning and teaching strategies in classroom and in U.S outside the classroom for the development of program and implementation (Knefelkamp 1974; Touchton, Wertheimer, Cornfield, Harrison, 1977). Perry's theory is lack of cross- culturally validation. There are also of limitation in Perry's theory like change in cognitive measurement and gender biased (Pascarella and Zusman, 1993; Hofer and Pintrinch 1997).

However, the literature review (Hofer & Pintrinch, 1997) strongly indicated that relationship between Perry's cognitive development conceptualization and learning outcomes of learners. As Hofer and Pintrinch (1997) has pointed out that further researches on Perry's theory has not been conducted by Perry himself. However, possible connection between learning strategies, cognitive styles and development has been speculated by Perry. The conducted researches on Perry's model by scholars did not pay much attention on these relationships.

Widick (1975) conducted research on the impact of interactive developmental position and instructional treatment on students' satisfaction and academic performance. But unfortunately, there was no significant result on instructional treatment. Ryan (1984a, b) studied that two cases based on Perry's scheme. He examined the academic performance of college students and epistemological beliefs on individual basis. His findings showed that students are dualists and their production level is lower at Bloom's taxonomy and those learners who are identified as relativist are at higher level of Bloom's taxonomy. In 1990s, Schommer (1990, 1993; Schommer, Crouse, and Rhodes, 1992)

studied the influence of epistemological belief on comprehension and eventually on academic performance. In numerous studies, she used her own documented questionnaire (short statement), she made the dialectal relationship between knowledge belief, use of strategy and academic performance to evaluate their creative, analytical and practical abilities (Sternberg, 1985).

Perry exclusively work on college students. The studies of past researches showed that Perry's model has been extensively applied on the students of science disciplines. Seagren, Wang (1994), Wang (2009) found that mostly researches applied Perry's model on the students of Engineering and medical students to focus their learning experiences like socialization and language abilities. Moreover, few researches have been conducted measuring the cognitive development among Engineering and medical students in U.S. since last four decades (Moore, 2002; Perry, 1970).

In the light of previous research, it has been found out that Engineering students show according to Perry's model slow cognitive development. The reason is context and educational method that is quite different from the liberal arts discipline (Wankat & Oreovicz, 1993).

Students of liberal arts are assisted by giving more opportunities to tolerate certain complex situations and having one than one perspective, this thing potentially develop cognition; Pavelich and Moore (1996) showed that only ¼ senior engineering students are successful to secure position 5 of relativism with average rating for senior graduates at 4.28 (0.70). Zhang (1995) along with his colleagues conducted numerous studies on Chinese learners' cognitive development, he also showed a trend of cognitive development that is also described by Perry's scheme (Zhang & Hood, 1998; Zhang, 1999, 2000, 2002, & 2004; Zhang & Watkins, 2001). Findings of their studies showed that junior and senior students scored higher on the sub scale of dualism but scored lower on the sub scales of relativism and commitment. She showed suspicion that it may due to the lack of choices in terms of curriculum, majors in colleges. Later on, these findings raised interest about the relationship between epistemological developments of students and their choices.

Past studies on exam questions.

The oldest approaches of teaching to foster critical thinking dates back to Socrates. Socrates teaching methodology focused on providing students questions with question rather than answers (Garlikov, 2006). The importance of higher order thinking skills encompasses from the period of Socrates, Plato and Aristotle. Socrates provoke the idea of "loose" thinking among young generation of present day by asking the question like "what is the evidence?".

Exam questions is method to trigger critical thinking among students. The process of thinking occurs when students have certain question marks in order to solve questions. Throughout 20th century, researches conducted on classroom strategies document consistently that memorization and presentation are paramount in classrooms (Onosko, 1988). Past sixty years researches showed that mostly teachers' questions are predominating those that are dealt with recalling factual information and simple data which is already learnt and fall under the category of lower order thinking skills (Hussain, 2003). He also mentioned that in teaching and learning realm, questioning is mostly used by instructors.

Questions have been widely used for variety of educational purposes: diagnosing student preferences, abilities, and attitudes; reviewing studied and learned content; probing thoughts of students; magnifying their creative thinking and motivating students; designing own curriculum; and assessing their knowledge (Sadkar, 2003). For any of these reasons, teacher use different questioning strategies at different levels of education. The primary goal of teacher while giving questions in the exams is to stimulate students' critical thinking level, assessing their knowledge and probing thought processes. Hadder (1970) mentioned that due to different categorize of questions, the teacher may develop new instructional material to gain experience and expose previous knowledge of students. However, categories of questions are accepted by majority but in

the recent years some researchers raised criticism on the categorization of questions and try to form new categorization.

New categories of questions have been added in the realm of cognitive domain. Yuksel (2007) indicated that primary efforts have been made in 1948 on the categorization of educational objectives. Higher education researcher gathered in Boston for widely accepted categorization with an aim to form categorization for all the fields, but within this period only cognitive domain is classified.

Yuksel (2007) stated that several other alternative categorizations based on Bloom's taxonomy to formulate it as accurate. Following are the alternative categorizations of cognitive domain proposed against Bloom's taxonomy such as Categorization of De Block (1972), Tuckman, Williams (1977), Stahl and Morphy (1981), Hannah and Michaelis (1977), Gagne and Briggs (1979), Romizowski (1981) , Quellmalz, Haladayna, Gerlach and Sullivan (1967), Gallagher and Aschner model (1963). Gallagher and Aschner (1963) put forwarded the idea that there is high correlation between asking question and development of higher order thinking skills. They offer accurate instrument to measure students' required thought level by a question. Four-level model is designed by the researchers that suggest different kind of questions use in exams or classroom teacher. The identified levels are: Firstly, cognitive memory measures low order convergent; secondly, convergence high measures order convergent; thirdly, divergence measures low order; fourthly, evaluative measure high order divergent. By viewing this model, similarities can be traced between Bloom taxonomy and Gallagher and Aschner model of questioning.

Bloom classified levels of thinking by classifying remembering and recalling as low order skills. Synthesis and evaluation as higher order skills. Gallagher and Aschner model of questions determine lower and higher order questions. Convergent questions typically have one possible correct answer and considered lower level questions whereas divergent questions possibly have

more correct answer and students consider several aspects that involve more cognitive exercises. This convergence and divergence is similar to Bloom where involved cognitive processes determine the complexity of question (Gallagher &Aschner, 1963).

At the first level of Gallagher and Aschner model (1963), student needs to recall, identify, define and identify or respond in yes or no. At the second level, Convergent questions include broader question that requires to put facts organized at one point in order to acquire correct answer. The students explain, compare and contrast, state relationship but still it considers low order thinking. At third level, Divergent questions encourage students to answer in more creative and imaginative. They are required to infer or reconstruct, predict and hypothesize. At the fourth level, evaluative questions are classified as broad and the students are required to give their judgment, opinion, defend or choose.

Numerous studies have focused on the analysis of exam questions figured out in different secondary, national and international exams (Cepni, Ayvaci & Keles, 2001; Tekin & Ayas, 2002; Koray & Yaman, 2002; Cepni, 2003; Akpinar, 2003; Karamustafaoglu, 2003; Sagir, 2003; Mutlu, Usak & Aydogdu, 2003; Ozsevgenc & Gokdere, 2003; Azar, 2005; Es, 2005; Karaman, 2005; Gruses, 2005; Akpinar & Ergin, 2006; Dindar & Demir, 2006; Baysen, 2006; Ozman & Karamustafaoglu, 2006; Ozgur, 2007; Kogce & Baki, 2009). In most of these researches' classroom observations, interviews and document analysis has been conducted as research methodology.

The present aims to analyze exam questions of Islamic studies BISE and A-Levels according to the Perry's position.

Research Questions.

1. What is the frequency of exam questions according to Perry's scheme in BISE and A- Levels that assess critical thinking level of questions?

2. Which position of Perry's scheme is prominently observed in the exam questions of BISE and A-levels?

Methodology.

Procedures and Instruments.

The present study is descriptive in nature. For the execution of the research, the researcher collected past papers of Islamic studies of previous 5 years of First year and A-levels from online sources (2013- 2018). The researcher compiled data from 20 question papers of past five years. Ten question papers (Group I and II) were taken from First year Islamic studies (Faisalabad BISE) and TEN question papers of Islamic studies were taken from A-levels. Perry's scheme of intellectual development is used as theoretical framework to analyze questions papers according to the four stages: Dualism, multiplicity, relativism and commitment.

It is identified that exam questions of First year (BISE) has been divided into two parts i.e., objective part consisted on short questions and subjective part consisted on essay type questions whereas A-Levels question papers were generally consisted only on essay type questions. Stem of each exam questions according different cognitive processes were analyzed according to the indicators referring to different levels of Perry's scheme that diagnose the stages of critical thinking level from dualistic to contextual relativistic stage.

In the present study, samples of questions, frequencies and percentages were given that provide basis for qualitative research design. The compiled data is presented in tables in which raw frequencies and their percentages have been supplied by the researcher by categorizing each question in terms of Perry's proposed stages, but no research in the context of Pakistan has been conducted on exam questions by applying Perry's Scheme.

There are no single steps that refer to stages or level in William Perry model. He referred it as positions. The term position is more convenient as it does not catch up any person at single level. Instead of that, it gives possibility to move from one position to another while thinking. These positions are hierarchically structured.

As it is mentioned above, Perry's scheme of intellectual development is separated into nine different positions under four main categories: Dualism, Multiplicity, Contextual Relativism, and Relativistic Commitment. Hofer (1997) stated that Perry's model is basically an interactionist model that interprets students' intellectual level. He intentionally does not use the word 'level' as it indicates which is not stable and simultaneous movement is supposed to be occur. The word 'level' meant to be short term visit and followed by rapid change. Specific positions that is referred by Perry does not classify its right meaning. So, it is difficult for the society to understand the conclusion without knowing particular 'position' means (White, 2007).

Data analysis.

Descriptive analysis exam questions are based on the Perry's scheme with frequencies and percentage. Descriptive analysis of sampled questions is exemplified according to Perry's intellectual development positions i.e., dualistic to relativistic stage. The given sample questions and tables shed light on the above aspects.

Applying Perry's Scheme in Exam questions.

Perry's scheme is categorized into three stages and researcher put exam questions according to its critical thinking level with frequencies and their percentages. The researcher maintained separate tables of BISE and A-Levels exam questions to observe their frequencies from low (dualistic) to higher (relativistic) critical thinking skills.

Table 1. Categorization of Faisalabad BISE exam questions according to Perry's Scheme.

Paper Year (Morning)	Positions	Frequency	Percentage
2014		5	20%
2015		5	20%
2016	**Dualistic**	5	20%
2017		5	20%
2018		3	12%
201		0	0
2015		0	0
2016	**Multiplicity**	0	0
2017		0	0
2018		**0**	0
2014		0	0
2015		0	0
2016	**Contextual Relativism**	0	0
2017		0	0
2018		2	8%
2014		0	0
2015		0	0
2016	**Relativistic Commitment**	0	0
2017		0	0
2018		0	0
	Total	**25**	**100%**

Table 2. Categorization of Faisalabad BISE exam questions according to Perry's Scheme.

Paper Year Group II	Positions	Frequency	Percentage
2014		5	20%
2015		5	20%
2016	**Dualistic**	5	20%
2017		5	20%
2018		4	16%
201		0	0
2015		0	0
2016	**Multiplicity**	0	0
2017		0	0
2018		**0**	0
2014		0	0
2015		0	0

2016	**Contextual Relativism**	0	0
2017		0	0
2018		1	4%
2014		0	0
2015		0	0
2016	**Relativistic Commitment**	0	0
2017		0	0
2018		0	0
	Total	**25**	**100%**

As the table 1 shows, the exam questions of Islamic studies from 2014-2018 (Group-I Morning) has been categorized to determine student's achievement level and their critical thinking skills. Each question paper has 5 questions. First three exam questions of all the question papers are consisted on short question answers that are based on definitions, certain questions, translation of Quranic verses (*Ayat)* and translate *hadith* along with explanation.

The exam questions for each academic year from 2014-2017 (Group-I) consisted of 20% dualistic questions that is the total exam questions. In 2018 academic year, 12% of the total exam question are based on dualism and 8% of the total on contextual relativism that is total of the exam questions. All these short questions are dualistic that is from lower level cognitive development. In contrast, the assessment for academic year 2014-2017 (Group-II) is also significantly dualistic i.e., 20% of the total in each session and in the session of 2018 (Group-II) have 16% of the total dualistic questions and 4% of the total contextual relativistic questions.

The exam questions for academic year 2014-2017 lacks in assessing students' critical thinking level. Critical thinking is essential at college level; however, contribution of critical thinking skills in critical thinking disposition is far less known and its impact on academic success. From the above findings, the students of First year BISE are mostly encountered with low level thinking questions and students' skills and information do not success rather they must dispose to use about what they have learned.

Table 3. Categorization of A-Levels exam questions according to Perry's Scheme.

Academic Year	Positions	Frequency	Percentage
2014		3	5%
2015		0	0%
2016	**Dualistic**	1	1.8%
2017		1	1.8%
2018		1	1.8%
2014		5	8.3%
2015		8	13%
2016	**Multiplicity**	4	6.7%
2017		4	6.7%
2018		4	6.7%
2014		4	6.7%
2015		4	6.7%
2016	**Contextual Relativism**	7	11.6%
2017		6	10%
2018		7	11.7%
2014		0	0
2015	**Relative Commitment**	0	0
2016		0	0
2017		1	1.6%
2018		2	3.3%
	Total	**60**	**100%**

As it is shown in table 2, that the analyzed exam questions are belonged to A-Levels Islamic studies for academic year 2014-2016. Each paper has included. 12 exam questions and total number of exam questions were 60. All the questions are essay type questions and no short answers has been included by the examiner.

Mostly essay type questions are argumentative in nature. The categorized questions showed that A-Levels exam questions are more complex in nature that foster college students' critical thinking and critical thinking disposition with respect to different academic years.

The question paper for academic year 2014 have total 12 questions out of which 5% i.e., three questions were of lower thinking level i.e., dualistic questions based on absolute knowledge like translation of *Quranic verses* and *hadith*, Five pillars of Islam, Islamic historical events. The

occurrences of exam questions focus on multiplicity stage of students is 8.3% and similarly 5% of the total relativistic type questions are included to examine higher cognitive level of college students.

The exam questions of A-Levels Islamic Studies of academic year 2015, out of 12 essay type questions, there is no any question of dualistic level whereas 5 questions (6.7% of the total questions) that focuses to assess multiplicity position of the college students and highest ratio i.e., 8 questions (13% of the total exam questions) focuses on contextual relativistic position to measure students' critical thinking disposition.

Similarly, A-levels Islamic studies exam questions of academic year 2016 have only one occurrence of dualistic level question (1.8% of the total exam questions) and distribution of 4 exam questions (6.7 % of the total exam questions) are of multiplicity level whereas distribution of 7 questions (8.3% of the total questions) are of contextual relativistic level in which the college students give their subjective opinion.

The exam questions for A-Levels Islamic Studies 2017 have distribution of 1 question of dualistic level (1.8% of the total) and the majority of exam questions is occurred in paper that is 4 questions of multiplicity level (6.7% of the total) whereas distribution occurrence of 6 (10% of the total) exam questions related to contextual relativism that focuses on assessing students' ability how to think rather than what to think and only 1 (1.6% of the total) occurrence of exam question of relativist commitment stage focusing the open mindedness of the college students.

The distribution of exam question of A-Levels academic year 2018 focuses on dualistic questions having 1 occurrence (1.6% of the total) and 4 exam question focuses on assessing multiplicity level (6.7% of the total) and distribution of 7 (11.7% of the total) exam questions measures students' cognitive developmental of contextual relativistic stage on the other hand 2 exam question (3.3% of the total) from relativistic commitment stage.

Data Discussion.

The aim of the present study is to analyze level of exam questions and students' critical thinking skills and disposition in First year Islamic Studies of Faisalabad BISE and Cambridge A-levels (2018-2018) exam questions. The findings reveal that the exam questions of Faisalabad BISE are all dualistic.

Group- I and II have been divided into short questions and essay type questions. The portion of short questions are three times more than essay type question. Total 15 questions are distributed in the paper out of which students have to answer 12 short questions and only 3 essay type question. Short question answers include basic question which are based on definitions of terms, translating Quranic verses and Adith, enlisting names of Quran and do not measure critical thinking level. The following sample of short questions are extracted from 2014 question paper of Group-I and II:

Q1. Islam main zakat k lie sony or chandi ka nisaablikhein? *What is the nisab of Gold and Silver for Zakat in Islamic Law?*
Q2. Asmanikikitabbon k nambatae? *Enlist the names of holy books.*
Q3. Ayat or Hadith ka tarjumakarein? *Translate the given Ayat and Hadith in Urdu.*
Q4. Isalm k bunyadiArkankonsyhain? *What are the basic pillars of Islam?*
Q5. Dikr-Fatima konsahai? *Which is the Dikar-e-Fatima?*
Q6. Tawheed ka lagwi or Istlahimatlab bayan karein? *What is the Literal meaning of word 'Tawheed'?*

Essay type questions in Subjective part have included such questions based on knowledge level.

All these short questions are of low order thinking skills and students are not engaged critical thinking. On the other hand, essay type question is based on recalling factual information rather than argument evaluation, inference, problem solving to involve critical thinking aspects. Below are the enlisted Essay type questions:

Q1. Shirk k mahfoom par note likhein? *Write a note on the polytheism?*
Q2. Hifazat-e-Quran par mukhtasir note lokhein? *Write a brief note on Guardianship*of Quran.
Q3. Masawaat par note likhein. *Write a note on communism.*
Q4. ***Insanizindagi par tawheed ka asraatlikhein.*** *What are the effects of Tawheed on human life?*

The students present their knowledge and belief instilled by the authority and textbooks and consider it right and every other thing is wrong in their answers. The responses will not validate in case of difference in opinion. These questions required correct answers and theories and recalling facts in students' responses. The noted descriptor of dualistic questions of exam questions are *"What and define for short answers"* and *"give detail or short note on …for subjective questions"*. The assessment tool in Pakistan evaluates low level thinking skills at College level. Moreover, the essay type questions are consisted on detailed notes based on content of the curriculum, facts and knowledge learned from their lessons.

No question from relativistic commitment position is identified to assess critical thinking disposition of the college students. Exam questions of 2018 has included two question related to contextual relativistic position i.e., *What is the perspective about terrorism regarding terrorism?* and '*Define terrorism*'. In these two instances the student can give their opinion according to the context. It has been observed that short questions are repeatedly used in papers. Cepni and Azer (1988) found that students who are encountered repeatedly with low order thinking questions have low order thinking skills.

It is also seen that paper setters adopt such approaches that encourage examinee and increase mental processes to think critically. While preparing exam questions, the examiner take benefit from Perry's scheme to design multiplicit or contextual relativistic questions so that critical thinking start and develop own thoughts and ideas to get desired response from students.

Pither and Soden (2000) claimed that teachers who do not have master in critical thinking cannot develop critical thinking skills in students. Moreover, they cannot teach or assess their students critically. While, the previous studies showed that developing critical skills in students is quite imperative. Zygmont and Schaeffer (2006), Distler (2007), Duron, Limbach and Waugh (2006).

Moreover, the examination system of BISE do not assess genuine or real competence of the students. In fact, educational system of Pakistani encourages the ones who can reproduce the learned lesson and fails those students who are unable to cram word by word. It seems like whole educational system of Pakistan spins around examination and such kind of examinations are quite narrow to cover its scope (Khan, 2006). Rahimi (2003) identified the reason of lower thinking level in the students who undertake BISE exams by stating that teacher teach their students for testing instead of learning.

In Pakistan, our examination system emphasizes those approaches of testing students that reward according to their level of memorization. More memorization rewards the better and higher marks given by testing bodies. Consequently, in our current examination system, it is presumed that learning outcomes among learners are largely ignored. The designed BISE exam questions extensively measures memorization. So, the Pakistani examination system have multiple shortcomings especially rote-learning and neglecting to adopt analytical and critical approaches.

Ahmad and Malik (2011), while quoting Dar and Bethel (1995), highlighted the deficiencies of public sector examination system. They discussed following shortcomings regarding defective examination system of Pakistan: Firstly, at secondary level, nobody takes responsibility at secondary examination level, though it's a responsibility of multiple Boards due to lack of mutual coordination. Secondly, students indulge in deceitful and malpractices in exams, so, results are not reliable. Thirdly, shortcomings in marking system.

Shah and Afzaal (2004), Christie and Afzaal revealed that there are recurrences of past exam questions in our public exams. Further, same material is tested number of times that leads to students' selective studies. Exam questions are easy, simple and straight and higher thinking level exam questions are ignored. Khan (2011) reiterates that content and design of the exam questions is such due to which student rely on rote-learning and memorization. So, it lacks validity and reliability.

The Islamic studies exam questions of A-Levels having position of multiplicity, contextually relativistic and relative commitment. It has been noted that mostly questions foster how to think critical and critical thinking disposition and contextually relativistic questions emphasize the ability to think critically. The questions are based on meta-cognition activity that challenge students' previous assumptions. While, all the questions demand detailed explanation and reasons to justify their answers. The examiner focuses to assess the students' cognitive abilities. Therefore, the asked

questions critically examine students' social assumptions, their previous knowledge. At the same time, the exam questions build new cognitive schemes in their minds. The following extracted instances from the academic session 2014-2018 showed the higher-level thinking skills.

1. **Outline** the particular features of pre-Islamic Arabian society that led Muslims to call it jahiliyyah ('the time of ignorance') and **how** far is jahiliyyah an appropriate term for this period….
2. "The Qur'an is Islam." **How far do you think this claim is justified….?**
3. Who would you say was the great caliph, 'Abd al-Malik or 'Umar II? **Give reasons**….
4. With particular reference to Surat Al 'Imran, **give an outline** of what the Qur'an teaches about the unique characteristics of the prophet Jesus ('Isa), **compared** with other prophets….
5. 'Islam is a faith for women as much as for men.' **Why** would some women, on reading the

a. Qur'an, disagree with this claim?...

All the questions are related to critical thinking skills. In the first question, the response will be based on value judgment and context bound after referring the term '*Jahiliyyah*' (Age of ignorance) to Quran and explanation is given through the societal accounts by showing factual consciousness. This involves students' level of critical thinking skills.

Similarly, in response to second question, the student give evidence from the past that '*how Quran provide guidance to one's life and also give examples from Prophet's life'*. Higher order thinking occurs through acquiring new information and previous information stored in a memory and rearranges/interrelates and extend to find an answer or fulfills purpose in confounding situations Lewis and Smith (1993).

The third question challenge student's cognitive abilities because they have to decide '*the meaning of greatness, either obedience of Islamic rules or firm attachment with Islamic belief.*'

Secondly, the answer should describe their political, cultural and military achievements also '*how Abd al-Malik unite Muslim Ummah and account for the issues of Ibn al-Zubayr'.*

The fifth question is also challenging question, the point is not the status of women in society rather why females are unable to find the answers of their desires. The asked question is based on open-ended arguments. Some students end on apparently Quran is not given much freedom to women then further justification can be brought that how correct interpretation of Quran gives liberty to women in society. All the above sample questions occupy high cognitive positions i.e., multiplicity, relativistic and commitment. This critical thinking disposition is associated with open minded, drawing assumptions and weighing evidence credibility (Pither and Soden, 2000).

The clear benefit of critical disposition is to confirm the use and development of critical thinking skills. Results of empirical researches supports the relationship that student critical disposition is higher when students enter to college and found better critical thinking skills when they exit from college (Facione and Facione, 1997). These findings are in line with current findings of the research. Employers and educators highly valued this benefit of level of critical disposition (Jones, Hoffman, Moore, Ratcliff, Tibbets & Click, 1995). Facione, Facione and Giancarlo (2000) explained that informational skills cannot alone guarantee of success in school or workplace.

CONCLUSIONS.

The findings of the study concluded that the exam questions are the significant criteria to measure quality assessment. The context and type of exam questions develop cognitive skills of college students.

The current research found that Islamic studies exam questions of Faisalabad BISE is of low quality i.e., dualistic and measure lower thinking skills of college students. While, A-Levels Islamic studies exam questions measure higher cognitive skills of students by asking questions of multiplicity, relativistic and commitment positions according to Perry's scheme. The paper setter and content books of A-Levels give wider exposure to students by developing and use of critical thinking skills. On the other hand, the Punjab textbooks and examination system do not allow students to think outside it.

Students are failed to think and use critical skills because their teachers do not master in critical thinking due to which they are unable to teach critical thinking skills to their students at college level. In accordance with the findings of the study, the researcher suggested that BISE paper setter should include such questions measure critical thinking so that students can present their response with evidence and being open minded. Moreover, content writers of the books should such activities that foster critical thinking in classroom environment.

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