

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Analysis of Critical Thinking in Higher Education Institutes in Pakistan

Mohammad Ali Bait¹ Muhammad Uzair Asif²

1. Assistant Professor, Chairman, Department of Marketing and Entrepreneurship, College of Commerce and Business Administration, Dhofar University, Salalah, Oman
2. PhD Scholar, College of Business, University Utara Malaysia, Sintok, Malaysia

In the current era due to the availability of digital facility, the educators are deviated more towards online sources. University teachers are highly tilted towards online assessments and activities by using the software provided by the book sellers. This trajectory has eliminated the power of critical thinking among the faculty of higher education institutes. The priorities of the students and academicians are different and that are even different from the priorities of the top management of the universities. The reviewed literature has shown a significant failure of critical thinking and limit the capacity to think critically to certain boundaries or contexts. Therefore, this qualitative study is focused towards understanding the current state of critical thinking as per the academicians and the students in the developing countries like Pakistan. For the said purpose qualitative study has been conducted in the universities that are operating in Islamabad Pakistan and the data has been collected through the open-ended questionnaires containing six questions for faculty and four questions for the students. Voluntary participation was done, and the respondents were kept anonymous. The findings revealed that the perspective of the students and the faculty is slightly different however the understanding of both regarding critical thinking is somewhat similar. The students are more decimated towards outcomes whereas, faculty is more deviated towards teaching methodology. The findings are significant especially for the academicians in understanding that students' interest can be gained by developing assessments that are related to critical thinking. The findings are also important for the top management as well as the policy makers to develop policies for the education that should be supportive of critical thinking..

Keywords: Critical thinking, academicians, students, learning

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Introduction

Provoking critical thinking has always remained a major challenge for the universities in the developing and especially underdeveloped countries (Ahmad, ur Rehman, Ali, Khan, & Khan, 2014). Universities in these countries are more deviated towards transferring knowledge rather than developing critical thinking skills among the students (Fadhel, Aljalahma, Almuhanaadi, Asad, & Sheikh, 2022). Critical thinking starts from three basic characteristics. A mindset having attitude towards thoughtfully considering the problem, thinking logically and critically with reasoning, and having or developing skills in those techniques (Asad, Asif, Allam, & Sheikh, 2021).

Critical thinking has gained momentum in the last decade in the developing countries like Pakistan. In Pakistan universities are changing their methodologies of teaching to develop critical thinking skills (Ahmad, ur Rehman, Ali, Khan, & Khan, 2014). Critical thinking now a days is emerging as a main element (Asim, Vaz, Ahmed, & Sadiq, 2021). Now the concept of critical thinking is even emerging at school level (Khalid & Khan, 2006; Seibert, 2021). It is believed that effective learning is reflected in individuals who are capable of thinking; deeply, logically, and critically to collect and evaluate evidence in a prescribed manner.

Those learned individuals have the capability to make sense out of the world and out of box along with understanding the things as they are (Chethiyar, Asad, Kamaluddin, Ali, & Sulaiman, 2019). Thus, it can be said with confidence that the participants of this study must be engaged in critical thinking skills. The importance of being involved in critical thinking skills is their self-development to express their capacity of achieving the goals of education and to identify their responsibility being an academician (Asif, Asad, Bhutta, & Khan, 2021).

The literature review showed that two broad areas have been classified in the critical thinking research. At one end researchers have tried to determine a consistent and precise definition of critical thinking and considered critical thinking as clear and shared understanding of student's disposition, perceptions, where learning outcomes can be achieved (Garrison & Kanuka, 2004; Carini, Kuh, & Klein, 2006; Grosser & Lombard, 2008; Lloyd & Bahr, 2010; Dehghani, sani, Pakmehr, & Malekzadeh, 2011; Ülger, 2016; Forsell, Frykedal, Chiriach, & HUI, 2021; Kaeppe, 2021). On the other hand, the second category deal with the methodological approach covering independent programs that are amalgamated in exiting studies and critical thinking is taught as an independent subject (Manalo & Sheppard, 2016; Erlam, Smythe, & Clair, 2018; Hirsch, et al., 2019; Pasquinelli, Farina, Bedel, & Casati, 2021; Saenab, Zubaidah, Mahanal, & Lestari, 2021).

Academicians who succeed in inculcating critical thinking among students through their exceptional teaching methodology succeed not only in gaining the course objectives but the program objectives as well (Douglas, 2012; Setiana, Purwoko, & Sugiman, 2021). Seibert (2021) studied the importance of group work in developing critical thinking among students and favored group tasks as compared to individual activities for the development of critical thinking among

Review in Business and Economics

Volume 3, Issue 1
March. 2023

ISSN: 2788-4856

students (Allam Z. , Asad, Ali, & Malik, 2022). Thus, the purpose of this exploratory study is to identify the perspective of learners as well as the academicians about critical thinking (Clarke & Braun, 2014). This exploratory study is going to unveil the techniques used by the academicians for contextualizing critical thinking especially where no dedicated subject is taught regarding the same. After getting the view of the academicians, students' perceptions will also be catered and finally the understanding of faculty as well as students will be identified.

Research Methodology

Considering the increasing attention of researchers and academicians about critical thinking, this study intended to unveil the concept in a developing country like Pakistan. The study is exploratory in nature; therefore, qualitative techniques have been used. Qualitative study is considered better for exploratory research and especially when the intentions and mind set have to be understood (Fatima & Asad, 2018). Universities are considered as the main place where students are expected to learn the social norms and have to apply thinking capabilities in order to compete in the market.

The focus is over understanding the concept in Pakistan in the eyes of academicians as well as the learners. The literature on critical thinking predominantly belong to European countries or developed countries (Asraf, Muhamad, & Supian, 2019). This study is first of its kind in Pakistan. This study will help in understanding the matching points where the academicians and the learners have consensus over the concept and where they have controversies.

Participants

The study involved participants from Universities operating in Islamabad. The participants were contacted through the Facebook pages of different universities where their voluntary participation was ensured. The questions were kept open for almost one month and after ensuring that the data saturation had started the survey was closed and removed. It was ensured that participation was voluntary and anonymous. Filters were installed in the survey instrument and the responses of only last year students were chosen for the analysis.

Table-1 Respondents

Category	Male	Female	Total
Faculty	14	12	26
Students	11	16	27
Total	25	28	53

Based on the filter questions the above table shows respondents whose answers have been chosen for analysis. Those universities where the study was conducted have varied specializations concentrating business management, information technology, social sciences, engineering, and sciences.

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Instruments

It was particularly considered that no ethical issue may arise, questions were tailored in such a way and data collection was made anonymous, so that identities of the respondents may not be shown, as when given a mask person speaks the truth (Sekaran, 2007), therefore, identities were not asked to get the actual inside from academicians as well as learners. Secondly the participation was voluntary, and even the names of the institutes have also not been used. Two instruments were developed one for the students and one for the faculty and both were differentiated through a filter question.

The two survey instruments; academicians survey and student survey cover different items. The academic survey items were developed based on the literature reviewed. In the first question every respondent was supposed to describe critical thinking as per his own thinking, second question covers the question that do the faculty member developed activities or assessments that provoke critical thinking or not if yes then they were supposed to briefly explain the nature of activities of assessment (Allam Z. , Asad, Ali, & Ali, 2021).

The third question was specifically regarding teaching critical thinking in their course and if the answer was yes then how. The fourth question was asked about rating the critical thinking level of the students. The fifth question was related to perception of the faculty on the difference in the or improvement in the critical thinking of new commers and about graduate students. The last question asked by the faculty was their opinion or comment about critical thinking.

Likewise, the student instrument covers four questions. The first question was same for students as well that define critical thinking as per their perception. The second question was related to learning experience through assessments and activities assigned to them during the class, and they were supposed to support their answer with examples. The third question was related to their understanding that up to what extent they were encouraged for critical thinking, which they have to support with examples.

The fourth question was about their perception regarding increase in critical thinking capabilities during their stay at the university. The students and the faculty were given the same questions, but the perspective was different for both of them. The basic difference between the two instruments was that faculty was also asked to rate the level of critical thinking of their students. Open ended questions were asked and the limit set for response was 300 words. The responses were then coded on the basis of similar themes and for making connections among categories of responses.

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Findings

The answers were coded and based on the six and four questions three themes were made from the responses of learners and academicians. The questions were interrelated, and their responses were also connected to identify the differences in opinion of the students and faculty.

Critical Thinking

As to the first theme i.e., is related to understanding of critical thinking the responses have certain similarities and somewhat differences. The purpose behind asking the similar question was to map the definitions given by the students and the faculty. The common similarities that have been observed by the answers of the students as well faculty deals with “state of mind or disposition to think rationally” and “critical ability to question for learning”. From the coding analysis it has been observed that almost 250% of the students and 35% of the faculty gave the answer in favor of state of mind or disposition to think rationally. Rest of the 15% students and almost 10% faculty answered, which is summarized as critical ability to question for understanding. The rest of 15 % answered commonly which is available of google so it has been ignored. The responses include the words like

Willingness to learn and teachers gave examples from the activities that they have given, and majority of the students also gave examples of the similar activities.

Higher order thinking which was to support the second theme i.e., critical ability to question for understanding, this was observed by both students and faculty by those students who ask critical question for developing better understanding.

Majority of the teacher’s definition (almost 50%) and especially their examples were based on their teaching methodology and their assessment techniques. One of the teachers responded, “My questioning in the class link them to the natural issues of the business where they have to think critically about the solution of the problem and then I link the theory with the answers given by the students”. Another argued that while teaching leadership I incorporated such a thinking that they have to consider their selves as a change agent in the organization and have led the organization to the top position through their exemplary leadership and management (Asad, Asif, Bakar, & Sheikh, 2021; Majali, Alkaraki, Asad, Aladwan, & Aledeinat, 2022). its all about developing a scenario and creating urge to think among the students. It has been observed that majority of the participants from faculty were trying their level best to develop lifelong learning among the students which they may transfer to their predecessors (Purba, Mustaji, Janah, & Arianto, 2020; Hidayat & Santoso, 2021).

The major difference that has been observed in the two groups regarding the first question is that academicians were more process oriented, and students were more outcome oriented. This has been observed by the focus of faculty towards teaching methodologies influenced by

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

transformational leaders (Asad, et al., 2022). Whereas students were more focused towards the assessments and results. This also reveals that why outcome-based education is not very successful the developing countries.

Critical Thinking Application

The second part of the research instrument especially for the academicians was related to critical thinking capability of the students the results showed a balance with a minimum of maximum capability and likewise for the lowest capability (Chethiyar, Asad, Kamaluddin, Ali, & Sulaiman, 2019). Regarding improvement in the critical thinking ability almost 50% responses showed that the critical thinking ability has improved. The analysis showed that those academicians used critical thinking assessments showed improvement in the critical thinking ability (Khan, Asad, Khan, Asif, & Aftab, 2021). Very few academicians mentioned that critical thinking ability has not improved significantly, and they have not provided any specific example of critical thinking assessment. One of the academicians claimed that students use critical thinking in their personal businesses more than in the studies. Academicians consider critical thinking as a higher order thinking of the students.

On the other hand, the students believed that their critical thinking has improved in those courses where the instructor give assessments related to critical thinking. Group discussions were mainly mentioned by majority of the students. The students claimed that those courses where simple questions are asked that require cramming, do not improve their critical thinking abilities. One of the respondents claimed that instructors consider us hard disk rather than human beings and take assessment that are related to memory testing rather than applying critical thinking abilities. However, the main observation which is inconsistent with the prior literature is that students are more outcome-oriented means grades rather than paying attention towards critical thinking (Beattie, Collins, & McInnes, 1997; Chen, Liang, Lee, & Liao, 2011; Koszalka, Pavlov, & Wu, 2021).

Regarding the examples given by the students for critical thinking activities they responded in the following themes; Case studies related to situation handling, virtual activities for mock investment activities, gamification, subjective evaluation of a given scenario, group activities, and mock interviews. The examples mentioned by the students, it can be precisely said that they are more oriented towards outcomes, they concentrate on those activities which give them marks and ultimately grades.

Discussions

As seen in the literature, the same has been observed in the data analysis that there is not precise definition about critical thinking (Stapleton, 2001; Muthuprasad, Aiswarya, Aditya, & Jha, 2021; Petrie, Pope, & Powell, 2021). Different students and different academicians perceive critical thinking differently (Seixas, 2012). However, one thing is important to address that there

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

is hardly any significant difference in the definitions given by the students and academicians from the available literature.

The major difference observed in the answer of one of the academicians was that “We expect our students to think critically but perhaps when you are asking me to define critical thinking perhaps, I don’t have words to explain it”. Universities teach courses related to critical thinking, considering students do not have the ability to think critically, without doing any activity or need analysis they start teaching the course. However, in some cases the course of critical thinking is taught in a conventional way where students are supposed to cram the course.

There is absence of free-floating thinking, and they are supposed to answer the crammed questions (Spence, 2013). As mentioned by one of the academicians that to promote critical thinking all the assessments should be based on “how” and “why” questions rather than “what” questions. When the questions regarding how and why are asked then the student start thinking about solving the given scenario rather than recalling the memorized knowledge. The main findings from this qualitative study is that students and academicians have somewhat similar ideas about critical thinking, however, certain differences have also been observed. The major difference is in the objectives of critical thinking. The motives or the outcomes of both are mainly different. The students pay special attention towards outcomes whereas faculty pay a specific motive towards methodology.

Conclusions Recommendations, and Limitations

The findings of the study identified that students in the final semesters who were the respondents were very clear about the concept of critical thinking and were capable of identifying the assessments and activities that require critical thinking. Despite the fact that a significant number of academicians doubted the critical thinking capability of students, yet those who gave critical thinking assessments believe in the ability of the students to handle the situations and case studies critically.

The findings are consistent with the literature and the contribution that this study has made is basically the identification that students tend to be more critical thinkers when they are exposed to the outcomes which are their grades. The literature suggested that there is difference of opinion about critical thinking between students and faculty. However, the findings revealed that the definition is not very different between the two groups, however, the objective of the two is different. Learners are more deviated towards grades whereas academicians emphasize more on disposition and methodology of teaching to promote critical thinking and life-long learning.

The findings of the study suggest the policy makers and academicians to concentrate more on developing assessments and activities that may promote critical thinking and link it to outcomes-based learning. The linking of critical thinking activities with final grades of the students will motivate them to think critically. The design of the course should be tailored to promote and

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

develop critical thinking skills among learners. Critical thinking has the capability to produce better graduates capable of handling the real-life problems in a more pragmatic way. Furthermore, a longitudinal study is suggested between two groups; where one group is completely taught through critical thinking and the other through conventional ways, later on the difference in the performance should be analyzed to give more precise suggestion over the adoption of critical thinking at higher education as well as at junior levels.

At the end, it is necessary to mention that the findings are based on selected universities of the twin cities, therefore, generalization of the results would not be appropriate. For generalization similar other studies are recommended in the developing countries to identify any other insight into the concept of critical thinking. Secondly the study has been conducted during pandemic which may also affect the findings. Therefore, a similar study is recommended once the pandemic is over.

References

Ahmad, I., ur Rehman, K., Ali, A., Khan, I., & Khan, F. A. (2014). Critical Analysis of the Problems of Education in Pakistan: Possible Solutions. *International Journal of Evaluation and Research in Education*, 3(2), 79-84.

Allam, Z., Asad, M., Ali, A., & Ali, N. (2021). Visualization of knowledge aspects on workplace spirituality through bibliometric analysis. *2021 International Conference on Decision Aid Sciences and Application (DASA)* (pp. 446-450). Sakheer: IEEE. doi:10.1109/DASA53625.2021.9682372

Allam, Z., Asad, M., Ali, N., & Malik, A. (2022). Bibliometric analysis of research visualizations of knowledge aspects on burnout among teachers from 2012 to January 2022. *022 International Conference on Decision Aid Sciences and Applications (DASA)* (pp. 126-131). Chiangrai, Thailand: IEEE. doi:10.1109/DASA54658.2022.9765200

Asad, M., Asif, M. U., Allam, Z., & Sheikh, U. A. (2021). A mediated moderated analysis of psychological safety and employee empowerment between sustainable leadership and sustainable performance of SMEs. (pp. 1-5). Sakheer: IEEE. doi:10.1109/IEEECONF53626.2021.9686340

Asad, M., Asif, M. U., Bakar, L. J., & Sheikh, U. A. (2021). Transformational leadership, sustainable human resource practices, sustainable innovation and performance of SMEs. *2021 International Conference on Decision Aid Sciences and Application (DASA)* (pp. 797-802). Sakheer: IEEE. doi:10.1109/DASA53625.2021.9682400

Asad, M., Kashif, M., Sheikh, U. A., Asif, M. U., George, S., & Khan, G. u. (2022). Synergetic effect of safety culture and safety climate on safety performance in SMEs: Does transformation leadership have a moderating role. *International Journal of Occupational Safety and Ergonomics*, 28(3), 1858-1864. doi:<https://doi.org/10.1080/10803548.2021.1942657>

Review in Business and Economics

Volume 3, Issue 1
March. 2023

ISSN: 2788-4856

Asif, M. U., Asad, M., Bhutta, N. A., & Khan, S. N. (2021). Leadership behavior and sustainable leadership among higher education institutions of Pakistan. *Sustainable Leadership and Academic Excellence International Conference (SLAE)* (pp. 1-6). Manama, Bahrain: IEEE Xplore. doi:10.1109/SLAE54202.2021.9788081

Asraf, R. M., Muhamad, A. J., & Supian, N. (2019). Undergraduate Critical Thinking and Reading of Academic Texts. *Religación, 4*, 74-80.

Beattie, V., Collins, B., & McInnes, B. (1997). Deep and surface learning: a simple or simplistic dichotomy? *Accounting Education, 6*(1), 1-12. doi:<https://doi.org/10.1080/096392897331587>

Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in higher education, 47*(1), 1-32.

Chen, S.-L., Liang, T., Lee, M.-L., & Liao, I.-C. (2011). Effects of concept map teaching on students' critical thinking and approach to learning and studying. *ournal of Nursing Education, 50*(8), 466-469. doi:<https://doi.org/10.3928/01484834-20110415-06>

Chethiyar, S. D., Asad, M., Kamaluddin, M. R., Ali, A., & Sulaiman, M. A. (2019). Impact of information and communication overload syndrome on the performance of students. *Opción, 24*, 390-405.

Clarke, V., & Braun, V. (2014). *Thematic analysis. In Encyclopedia of critical psychology*. New York: Springer. doi:https://doi.org/10.1007/978-1-4614-5583-7_311

Dehghani, M., sani, H. J., Pakmehr, H., & Malekzadeh, A. (2011). Relationship between students' critical thinking and self-efficacy beliefs in Ferdowsi University of Mashhad, Iran. *Procedia - Social and Behavioral Sciences, 15*, 2952-2955. doi:<https://doi.org/10.1016/j.sbspro.2011.04.221>

Douglas, E. P. (2012). Defining and measuring critical thinking in engineering. *Procedia - Social and Behavioral Sciences, 56*(8), 153-159. doi:<https://doi.org/10.1016/j.sbspro.2012.09.642>

Erlam, G., Smythe, L., & Clair, V. W.-S. (2018). Action research and millennials: Improving pedagogical approaches to encourage critical thinking. *Nurse Education Today, 61*, 140-145. doi:<https://doi.org/10.1016/j.nedt.2017.11.023>

Fadhel, H. A., Aljalahma, A., Almuhanadi, M., Asad, M., & Sheikh, U. (2022). Management of higher education institutions in the GCC countries during the emergence of COVID-19: A review of opportunities, challenges, and a way forward. *The International Journal of Learning in Higher Education, 29*(1), 83-97. doi:<https://doi.org/10.18848/2327-7955/CGP/v29i01/83-97>

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Fatima, S. Z., & Asad, M. (2018). Disposal of hospital wastage in Pakistan: A qualitative research. *Advances in Social Sciences Research Journal*, 5(3), 37-42. doi:10.14738/assrj.53.4197

Forsell, J., Frykedal, K. F., Chiriac, E. H., & HUI, S. K. (2021). Teachers' perceived challenges in group work assessment. *Cogent Education*, 8(1). doi:<https://doi.org/10.1080/2331186X.2021.1886474>

Garrison, D., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95-105. doi:<https://doi.org/10.1016/j.iheduc.2004.02.001>

Grosser, M., & Lombard, B. (2008). The relationship between culture and the development of critical thinking abilities of prospective teachers. *Teaching and Teacher Education*, 24(5), 1364-1375. doi:<https://doi.org/10.1016/j.tate.2007.10.001>

Hidayat, T., & Santoso, S. (2021). Lesson study stimulated students critical thinking in Cell Biology courses. *Education Sciences*, 11(1), 2.

Hirsch, J. A., Stratton-Rayner, J., Winters, M., Stehlin, J., Hosford, K., & Mooney, S. J. (2019). Roadmap for free-floating bikeshare research and practice in North America. *Transport reviews*, 39(6), 706-732. doi:<https://doi.org/10.1080/01441647.2019.1649318>

Kaeppe, K. (2021). The influence of collaborative argument mapping on college students' critical thinking about contentious arguments. *Thinking Skills and Creativity*, 40. doi:<https://doi.org/10.1016/j.tsc.2021.100809>

Khalid, S. M., & Khan, M. F. (2006). Pakistan: The State of education. *The Muslim World*, 96(2), 305-322.

Khan, A. A., Asad, M., Khan, G. u., Asif, M. U., & Aftab, U. (2021). Sequential mediation of innovativeness and competitive advantage between resources for business model innovation and SMEs performance. *2021 International Conference on Decision Aid Sciences and Application (DASA)* (pp. 724-728). Sakheer: IEEE. doi:10.1109/DASA53625.2021.9682269

Koszalka, T. A., Pavlov, Y., & Wu, Y. (2021). The informed use of pre-work activities in collaborative asynchronous online discussions: The exploration of idea exchange, content focus, and deep learning. *Computers & Education*, 161. doi:<https://doi.org/10.1016/j.compedu.2020.104067>

Lloyd, M., & Bahr, N. (2010). Thinking critically about critical thinking in higher education. *International Journal for the Scholarship of Teaching and Learning*, 4(2).

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Majali, T., Alkaraki, M., Asad, M., Aladwan, N., & Aledeinat, M. (2022). Green transformational leadership, green entrepreneurial orientation and performance of SMEs: The mediating role of green product innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(191), 1-14. doi:<https://doi.org/10.3390/joitmc8040191>

Manalo, E., & Sheppard, C. (2016). How might language affect critical thinking performance? *Thinking Skills and Creativity*, 21, 41-49. doi:<https://doi.org/10.1016/j.tsc.2016.05.005>

Muthuprasad, T., Aiswarya, S., Aditya, K., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. *Social Sciences & Humanities Open*, 3(1). doi:<https://doi.org/10.1016/j.ssaho.2020.100101>

Pasquinelli, E., Farina, M., Bedel, A., & Casati, R. (2021). Naturalizing critical thinking: Consequences for education, blueprint for future research in cognitive science. *Mind, Brain, and Education*. doi:<https://doi.org/10.1111/mbe.12286>

Petrie, K., Pope, C., & Powell, D. (2021). Grappling with complex ideas: physical education, physical literacy, physical activity, sport and play in one professional learning initiative. *The Curriculum Journal*, 32(1), 103-117. doi:<https://doi.org/10.1002/curj.82>

Purba, D., Mustaji, Janah, M., & Arianto, F. (2020). The impact of problem based learning model on critical thinking ability in vocational education. *International Journal of Education and Research*, 8(12).

Saenab, S., Zubaidah, S., Mahanal, S., & Lestari, S. R. (2021). ReCODE to Re-Code: An instructional model to accelerate students' critical thinking skills. *Education Sciences*, 11(1). doi:<https://doi.org/10.3390/educsci11010002>

Seibert, S. A. (2021). Problem-based learning: A strategy to foster generation Z's critical thinking and perseverance. *Teaching and Learning in Nursing*, 16(1), 85-88. doi:<https://doi.org/10.1016/j.teln.2020.09.002>

Seixas, P. (2012). Progress, presence and historical consciousness: confronting past, present and future In postmodern time. *Paedagogica Historica*, 48(6), 859-872. doi:<https://doi.org/10.1080/00309230.2012.709524>

Sekaran, U. (2007). *Research Methods for Business: A Skill Building Approach*. New York: John Wiley & Sons, Inc.

Setiana, D. S., Purwoko, R. Y., & Sugiman. (2021). The Application of mathematics learning model to stimulate mathematical critical thinking skills of senior high school students. *European Journal of Educational Research*.

Review in Business and Economics

Volume 3, Issue 1
March, 2023

ISSN: 2788-4856

Spence, D. P. (2013). Perils and Pitfalls of Free Floating Attention. *Contemporary Psychoanalysis*, 37-59. doi:<https://doi.org/10.1080/00107530.1984.10745714>

Stapleton, P. (2001). Assessing critical thinking in the writing of Japanese university students: Insights about assumptions and content familiarity. *Written communication*, 18(4), 506-548.

Ülger, K. (2016). "The relationship between creative thinking and critical thinking skills of students. doi:[10.16986/huje.2016018493](https://doi.org/10.16986/huje.2016018493)