Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 8
Open Access

Observational Methods, Such Sitting In On Demonstration Classes And Lectures, Provide Aspiring Educators Useful Feedback On Their Methods

DONG CHUNYAN[1],Emmanuel Hans[2],Rohit Dhungana[3]

Cite this paper as: DONG CHUNYAN,Emmanuel Hans ,Rohit Dhungana (2024). Observational Methods, Such Sitting In On Demonstration Classes And Lectures, Provide Aspiring Educators Useful Feedback On Their Methods. *Frontiers in Health Informatics*, *13 (8) 3568-3576*

ABSTRACT
According to studies, educators may make a significant difference in the lives of their pupils. It is unclear, however, if these impacts change across academic and "non-cognitive" results, or whether certain characteristics of teaching practise explain these associations. I use information provided by educators in four urban school districts to show how different educators affect the math achievement, confidence, and conduct of their pupils. I also evaluate the correlation between the instructional domains covered by two observation instruments and the results I'm interested in measuring for students. Finally, I analyse data from a sample of instructors who were randomly allocated to class rosters within schools to determine the reliability of teacher impact estimates on students' attitudes and behaviours. Besides academic achievement, I discover that instructors in the higher grades of primary school have significant impacts on kids' attitudes and behaviours. The predictive validity of these estimations of the teacher impact ranges from modest to high. And the teaching practises that are closest to these metrics (such the correlation between instructors' math mistakes and students' math performance, or the correlation between teachers' classroom organisation and students' behaviour in class) are the best predictors of student results. Teachers who are successful in one area are not always successful in another. These results provide crucial supporting evidence for long-held theories about the multifaceted character of education and the consequent necessity for policies that recognise and reward this diversity in teaching and learning.
KEYWORD: *Social Constructivism, Learning Theories, Problem-Solving, Teacher, Student, Constructives Criticism.*

1. INTRODUCTION

Teachers are trapped in the middle of an enterprise with many stakeholders, conflicting agendas, and diverse opinions on the aims and materials of teacher education. Pre-service teachers are also stuck in the middle of an enterprise with various stakeholders. This involved procedure creates the structure that either helps or hinders the preparation of future educators depending on how it is implemented. The purpose of this article is to make sense of how different aspects within a particular teacher education course effect student teachers. This is accomplished by drawing on the most recent findings in the field of practise theory, namely the concept of practise architectures **(Kemmis et al. 2014)**, which analyses the ways in which practises are prefigured and sculpted through arrangements within particular settings.

There are several different barriers or gaps that student instructors are expected to cross. Separate paths across the curriculum are devoted to the study of various academic subfields, themes, and education courses, as well as education courses that focus on education foundations and education courses that focus on education practises. Last but not least, there is the divide that has long been a source of concern for courses that are intended to train future educators; specifically, the gap that exists between higher education and the classroom **(Canrinus et al., 2017)** are a few examples

of recent studies that demonstrate how scholars from different parts of the world have collaborated over the course of the last two decades to develop new programme models with the goal of improving teacher education. It has been said for a very long time that teacher education is too theoretical and too far away from actual classroom practise (for example, Darling-Hammond) **(Lid, 2013)**. Despite the fact that several attempts have been made to address these concerns, the accusations that have been hurled against it have remained fairly constant. Research almost always starts with the assumption that teacher education relies too much on theory **(Sjlie, 2017).** The fact that the perspectives of teacher educators were given the most weight in the comprehensive research conducted by the AERA Panel on Research and Teacher Education (Cochran-Smith and Zeichner2005) is one of the most significant limitations of the study. In addition, the complexity of educational programmes for future teachers has gotten less attention than it should have. Existing research on student teachers is conducted for the most part in isolation from research on higher education **(Sjlie, 2017)**. This study focuses mostly on students' teaching practises, which might refer to students' actual teaching or how they think about teaching. Our attempts to enhance teacher education are, as a result, being directed by a lack of information about the sector as a whole. The purpose of this study is to examine how the theory of practise architectures may be able to throw light on the issues that preservice teachers experience while participating in a teacher education programme that is located in a university. The research considers the perspective of preservice teachers. Based on a study that included in-depth interviews with 24 student teachers, we claim that the reasons why student teachers have negative opinions on teacher education are more nuanced and multifaceted than what is often reported in the research literature. In addition, we suggest that the theory of practise architectures is a useful instrument for establishing the elements that impact the educational experiences of pre-service teachers while they are enrolled in higher education, and that this may be accomplished by analysing the ways in which these factors interact with one another. Learning environments that are predetermined, used in the training of teachers Students who want to pursue careers in education often come into the field with a number of preconceived assumptions about what it takes to be an effective educator **(Rogers, 2011).**

2. BACKGROUND OF THE STUDY

Students should make it a goal to acquire the knowledge and abilities required to become self-directed learners who are able to make educated choices about their educational and professional trajectories in the future. University students are subjected to a greater degree of personal responsibility for their academic achievement than students at other educational levels. Students improve their chances of achieving academic success and acquiring experience in the sector of their choice when they collaborate with other students. Students who take part in SDL are given the opportunity to work while pursuing their education, which has been shown to have a beneficial impact on the students' overall academic performance. Because it helps students learn, directs them towards meaningful work, and assesses their comprehension thereafter, self-directed learning is an efficient approach for determining whether or not students are interested in acquiring new information. In addition to that, it is a way of teaching that places reliance on the intellect and will to learn possessed by the pupils. It's a method of education in which a collection of students that are self-motivated work together outside of a traditional classroom environment to create their own feeling of autonomy. According to **(Butcher, 2018)**, self-directed learning is both a process and a collection of qualities that people engage in when they take responsibility for their own education.

Self-directed learning is still cloaked in enigma, and it has only been very recently that opinions that are generally accepted have been accessible. These are two of the most important factors that contribute to the lack of a unified theory at the present time. The distinction between self-directed learning as a process and as a goal is brought up for discussion, along with some practical applications of the theory and warnings against a contradiction that is often disregarded. A theory of self-directed learning cannot be constructed without first doing research on the social, educational, and psychological aspects that play a role in its development. Both the subject matter and the concept of "Personal Responsibility Orientation" (PRO) are interesting in their own ways. This paradigm recognises the contrasts and similarities between learner self-direction as a collection of personality qualities and self-directed learning as a

pedagogical technique. Self-directed learning is acknowledged as a pedagogical method. Self-study is often referred to as a "teaching method" because of how it is conducted. The concept of "personal responsibility" refers to situations in which individuals acknowledge that they are responsible for their own behaviours and beliefs. This does not indicate that individuals have total control over their lives or the circumstances in which they live; but it does suggest that they have the ability to choose how they respond to certain events. The capacity and desire of a person to guide their own education are directly connected to their level of self-direction abilities in the educational setting. This would imply that students may choose from a variety of different paths. In addition to this duty, it is the student's obligation to take complete responsibility for the results brought about by his or her own choices and deeds.

3. PROBLEM STATEMENTS

These results have been contested by more recent research **(Wyckoff, 2013)**, which places a greater focus on the significance of the structure of the classroom and interactions with the students. When it comes to mathematics, I discover that the association between Ambitious Mathematics Instruction and student results is of a size that is comparable to the estimations that were given via the use of the Framework for Teaching observation instrument. This is the case for both the mean and the standard deviation of the relationship. These disparities might be, at least in part, attributed to the fact that earlier studies have not adequately accounted for all variables of the quality of the teacher and the training. This shows that the apparent link between classroom arrangement and student achievement may be driven by extra practises and skills associated with this form of schooling. The fact that the study's end assessment for mathematical ability was a very low-stakes test that placed a focus on intricate mathematical practises is one potential reason for this finding. It is possible that the organisation of a classroom and the way in which instructors interact with their students may really have an effect on the outcomes of high-stakes achievement tests as well as non-cognitive measures. Concerning this matter, further research has to be carried out.

The fact that statistics have shown a link between successful teaching techniques and increased student results has generated the problem of figuring out how to attract and retain more educators utilising effective teaching approaches. I agree with Murnane and Cohen (1986) that incentives would not work in this scenario since teachers might not be aware of how to improve their classroom instruction. Because of this, I'm going to propose two distinct ways to go ahead. To begin, a substantial amount of recent research has focused attention on the idea of using observational tools as a method of enhancing the quality of classroom teaching **(McCoy et al., 2013).** New experimental investigations emphasise the beneficial impacts of more intense coaching programmes that leverage observation instruments to enhance teacher behaviours and, in some instances, student results. These programmes have been shown to improve teacher behaviours and, in some cases, student outcomes. This is in contrast to the outcomes that have been exhibited by standard professional development programmes, which have shown mixed effects on teachers' topic understanding, instructional practises, or student progress **(Scarloss, 2011)**. & The focus of this kind of study has, up to this point, been on the use of observational instruments for the purpose of documenting both typical and rare educational strategies that are utilised in the classroom. The findings, on the other hand, could have more far-reaching consequences for inquiry-based methods of teaching mathematics. To further the goal of elevating the quality of instruction provided inside educational institutions, one strategy that may be followed is the targeted hiring of teachers who have specific subject-matter expertise. According to the findings of my study, there is a correlation that ranges from modest to considerable between the mathematical expertise of instructors and the methods in which they convey mathematical knowledge to their students in the classroom.

4. LITERATURE REVIEW

The goal of this study was to compare and evaluate the academic success and SDL of students in conventional and non-conventional learning environments. The importance of SDL and academic achievement in the classroom was also emphasised. A higher proportion of pupils at both schools were found to participate in SDL (also known as self-directed learning). It was shown that SDL had a significant, positive correlation with pupils' academic outcomes. The results of

this research suggest that self-directed learning (SDL) should be included as a teaching strategy, and that SDL-specific instruction should be included in both professional development opportunities for educators and syllabi. Due to the increased level of independence required of college students, SDL tactics should be introduced far in advance of the first day of classes **(Garrison, 2019).**

The purpose of this research is to examine SDL's function within the framework of educational initiatives meant to raise students' academic performance in higher education. According to the findings, examining and addressing the role of personal responsibility for participating in self-directed learning from both the personal and process perspectives is one of the most important things for college students to take away from this research. Highly motivated students provide a fertile testing ground for the evaluation and dissemination of self-directed learning (SDL). Looking at prior results is crucial for determining "the effectiveness of programmes that aim to cultivate the attitudes and abilities that are involved in enhanced self-direction in learning." The findings of this study have significant implications for studies of adult education, higher education, and the second language learning of adults **(Lew, 2017).** Educational disparities (in terms of opportunities in the labour market, income, health, and involvement in political processes, among other aspects) have been demonstrated to be strongly influenced by the institutional configurations of educational systems, according to recent studies. Researchers have identified stratification (or tracking), standardisation, and occupation-specific education as major factors in student motivation. Students' ages when they begin various tracks (selection periods) and within-school and between-school tracking are studied within the context of a tiered course structure. This is done because the framework considers students' prior knowledge and ability levels in each area. Students are considered to be "stratified" or "externally differentiated" when they are placed into educational contexts (schools or courses) that are designed to meet the unique needs and goals of each individual student. The degree to which education may be standardised may depend on variables such as available resources, school autonomy, and statewide assessment. Vocational specialisation is related to the subject of how schools and other educational institutions interact with the occupational system and the job market.

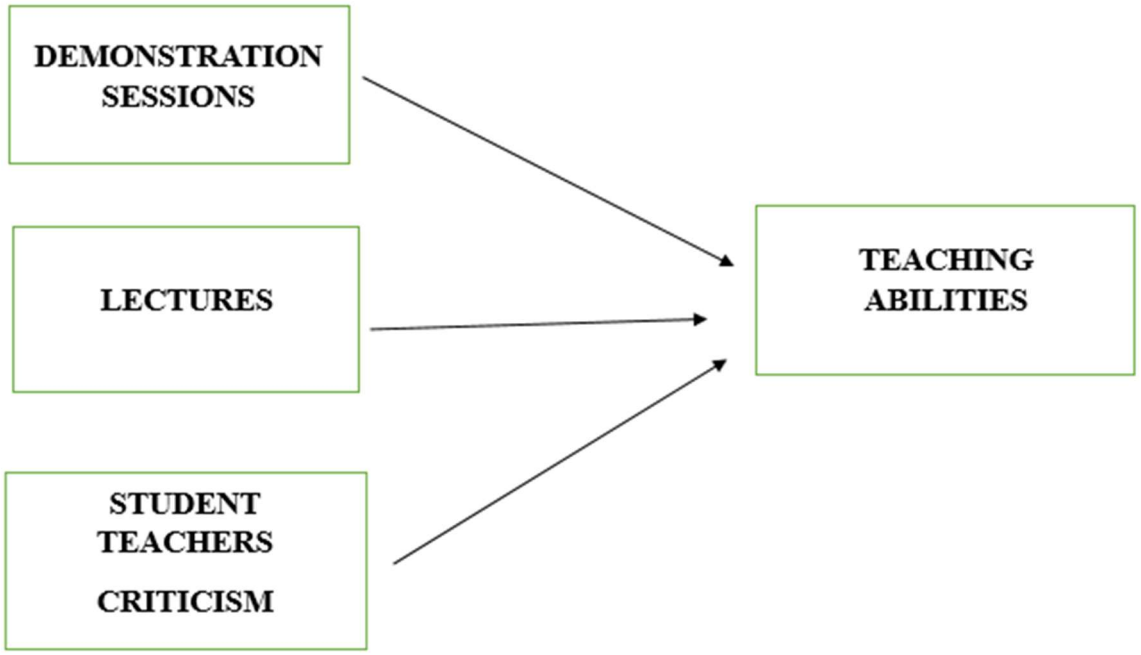
5. RESEARCH OBJECTIVE

i) To analyse the impact observational approaches, such as attending demonstration sessions and listening in lectures, provide student teachers with constructives criticism about their teaching abilities.

ii) To examine the purpose of observational approaches, such as attending demonstration sessions and listening in lectures, provide student teachers with constructives criticism about their teaching abilities.

iii) To determine the effects of observational approaches, such as attending demonstration sessions and listening in lectures, provide student teachers with constructives criticism about their teaching abilities.

6. CONSEPTUAL FRAMEWORK



7. RESEARCH METHODOLOGY

- **DATA COLLECTION METHODS**

In the end, it was determined that the primary instruments of measurement for this study would mostly consist of interviews and observations. During the course of fourteen weeks, observations were carried out in the classrooms, and semi-structured interviews were conducted with the instructors. It was believed that having a single chat with the head of the school would be sufficient to get the essential knowledge on the history of the organisation. The information that was obtained from the head of the school has been organised into potential subjects for discussion based on the information that was gathered. The results from the analysis of the relevant literature were used as a foundation for guiding the observations and interviews, and every effort was made to assemble any data that may throw light on the aims of the study. It took a significant amount of time for the researcher to be able to resume their work in the field after being stopped from doing so for a prolonged length of time due to a strike by public officials. Following the conclusion of the labour dispute, the researcher was given permission to resume her work in the field from the point at which she had stopped. As a direct result of this circumstance, the researcher was confronted with a number of difficult obstacles.

Data and Measurement: The researcher also conducted qualitative research in the form of survey collection. Respondents first answered control questions regarding their teaching ability analysis of the teacher. That is designed to measure people's attitudes, opinions, or perceptions. Subjects choose from a range of possible responses to a specific question or statement; responses typically include "strongly agree," "agree," "did not answer," "disagree," and "strongly disagree." Often, the categories of response are coded numerically, in which case the numerical values must be defined for that specific study, such as 5 = strongly agree, 4 = agree, and so on.

Statistical Software: MS-Excel and SPSS 25 was used for Statistical analysis.

Statistical tools: Descriptive analysis was applied to understand the basic nature of the data. Validity was tested through factor analysis.

8. RESULTS

- **ANALYSIS AND INTERPRETATION OF THE DATA**

For the purposes of interpretation and analysis, the sources of data that were utilised included detailed descriptions of each individual class, interviews that had been transcribed, copies of the instructors' preparation, copies of the learners' assessment assignments and workbooks, and copies of the instructors' own workbooks. Phenomenology is a theoretical view viewpoint that asserts that human beings interpret various occurrences, attach meanings to a wide range of acts and/or ideas, and in the process create new experiences by directly engaging with the phenomena that they interpret. The interpretation view point is the name given to this particular perspective. The phenomenological point of view maintains that human beings are responsible for the generation of new experiences as a result of their active participation in a diverse range of activities. Because of this, researchers have to cultivate what is known as "empathic" knowledge in order to comprehend the ideas and perspectives held by other individuals. Because of this, they will be able to rebuild in their own mind the sentiments, motivations, and ideas that are driving the actions of other people. This ability will allow them to better understand the world around them.

- **CONSTRUCTION OF THE INTERVIEW GUIDE**

The researcher used a qualitative method of inquiry; thus, the questions that were asked during interviews were based on a fundamental framework that contained the most important concepts that were gathered from the previous study. This framework was developed before the researcher conducted the interviews. Because the researcher chose to conduct the investigation using a qualitative approach, the questions that were posed throughout the interviews were founded on a fundamental structure. The interview schedule that was developed for the purpose of the research was merely semi-structured, as was noted earlier in the sentence. This was done so that the researcher would have the ability to elicit thorough replies from the participants as well as to provide room for flexibility. Despite this, the person conducting the interview will almost certainly adjust these criteria in order to bring them into a better alignment with the real requirements of the post. As Mason was gracious enough to explain, in order to carry out this research project, a "loose interview format" was conceived upon and put into practise. The framework of the interview was formed on a range of major concerns and pertinent questions that were linked to the incidents that were the focus of the inquiry. These issues and questions were related to the investigation that was being conducted. However, the interviewer was also given some form of direction or hint on the most critical themes and concerns that the research was concerned with. While this way of conducting interviews allowed for a great amount of freedom, it also gave this direction and clue. When conducting the interview, the researcher did not follow a predefined list of questions; rather, she brought a stack of index cards with her and utilised a different card for each individual interview that she performed. On Mason's advice, these notes were not organised in any specific order and were instead left unstructured. This was done in order to ensure that they might be referred to whenever it was necessary in connection with the one-of-a-kind setting in which the interview that was taking place at the time was taking place.

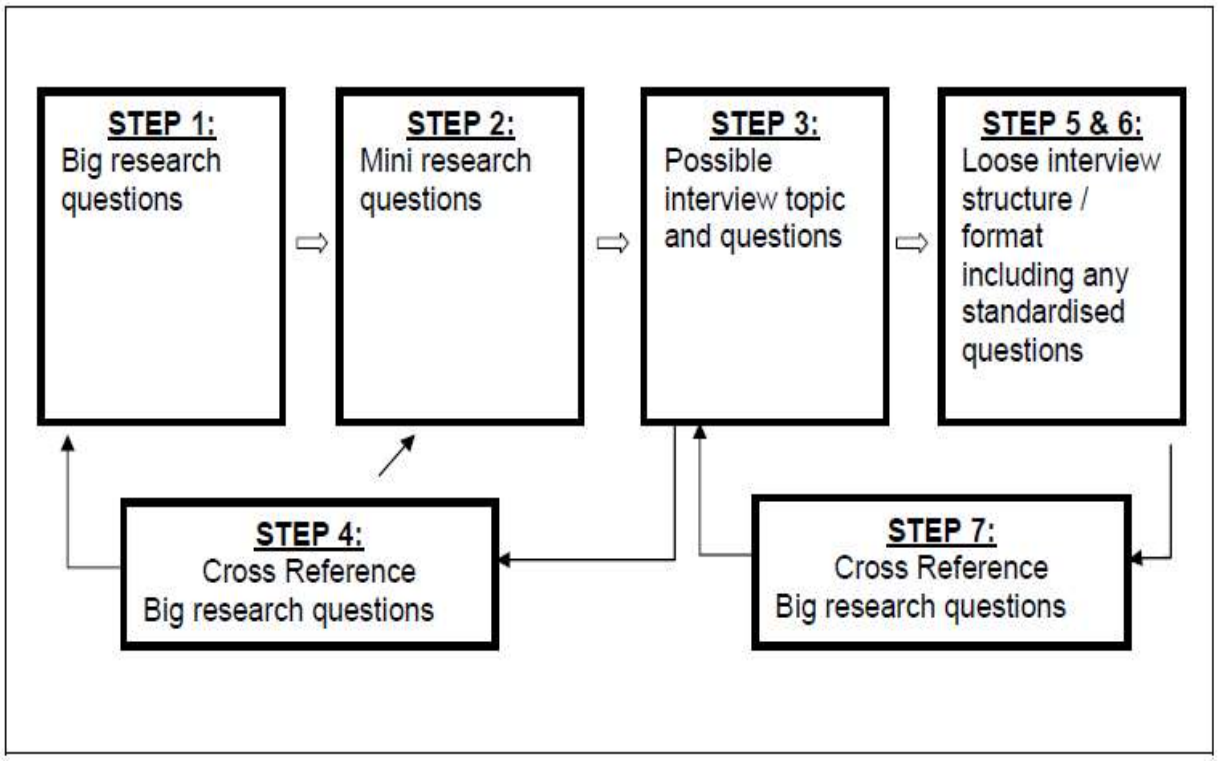


FIG. 1 OVERVIEW OF PLANNING AND PREPARATION PROCEDURE FOR QUALITATIVE INTERVIEWS

- **WRITTEN DOCUMENTS AND VISUAL MATERIAL**

The student responses, the teacher's preparation materials, and the assessment assignments were all gathered by us for the purposes of analysis and for the purpose of corroboration with the data that was acquired via observation and interviews. According to Terre Blanche and Durrheim, in addition to Durrheim, interpretive research has to place a focus on "rich experiential data," and the purpose of this study was to create data of this sort.

- **RELIABILITY OF RESEARCH RESULTS**

It is believed that Terre Blanche and Durrheim were the ones who came up with the concept of dependability, which may be described as "the degree to which the results are repeatable." On the other hand, they maintain their argument that in an interpretative and constructivist research study, it is expected that the findings would not be reproduced since reality is not thought to be constant or unchanging. They say this to support their claim that reality is not unchanging. This is because an interpretive and constructivist research study focuses on the building of knowledge, which explains why this is the case. This is because of something known in the academic community as the "expectancy principle." As a direct result of this, they argue that constructivist research should be considered "dependable" rather than "reliable." The "dependability" of the findings refers to the degree to which the reader is able to be persuaded that the results did indeed take place in the same manner that the researcher says that they did. In other words, the reader is able to be convinced that the results did truly take place in the same way that the researcher claims that they did. During the course of this investigation, dependability is accomplished by providing descriptions that are plentiful not just in detail but also in content. These explanations illustrate how perspectives and conclusions are based on contextual encounters and established as a result of the interactions that take place in specific situations. Additionally, they show how viewpoints

and conclusions may change through time. Pickard and Dixon, as well as Guba and Lincoln, make reference to Guba's "criteria of trustworthiness," which are standards that might be used to evaluate the quality of constructivist investigations. Guba and Lincoln also mention Guba's "criteria of trustworthiness." Additionally, Guba and Lincoln acknowledge Pickard and Dixon in their work. In order to identify the characteristics that are the subject of this discussion, the words "credibility, transferability, dependability, and confirmability" are used. According to Pickard and Dixon, the study satisfies the requirements for credibility, which are "shown by extended engagement with the research participa nts, persistent observation of those participants, and triangulation of the methods employed to investigate those participants and their context." Because it "showed by prolonged engagement with the research participa nts, persistent observation of those participants, and triangulation of the techniques," this study meets the criterion for credibility." The "transferability of the findings" rather than a "whole-scale generalisation" of those discoveries is what the constructivist inquiry method strives to achieve as its ultimate objective. This is what distinguishes the constructivist inquiry method from other research approaches. The constructivist inquiry technique is differentiated from other inquiry methods by this particular aspect of the approach. The results have the potential to be extended to various contexts on account of the extensive reporting of the analysis of the data that was covered in the part before this one, as well as the several approaches that were used in order to gather the data. The dependability and confirmability of the findings that emerged from this study are established by ensuring that the constructions "can be traced back to the raw data of the research and ensuring that constructions can be seen to have emerged directly from the data, thereby confirming the research findings and grounding them in the evidence." In other words, this ensures that the constructions "can be traced back to the raw data of the research and ensures that constructions can be seen to have emerged directly from the data." This guarantees that the constructs "can be traced back to the raw data of the research and ensures that constructions can be seen to have emerged directly from the data." In other words, this ensures that the constructions "can be traced back to the raw data of the research."This research made certain that the buildings "can be traced back to the raw data of the research and ensured that constructions can be seen to have emerged directly from the data." To phrase it another way, the research ensured that the structures "can be seen to have emerged directly from the data." To achieve this goal, all of the interviews and observations were recorded onto audiotapes, and the tapes have been stored in a safe area so that quality control may be performed on them. In the event that it becomes necessary at some time in the future to verify the accuracy of the transcripts, the recordings may be used as evidence to support such verification. This verification may be essential.

9. CONCLUSION

The goal of this instructional activity was to create an atmosphere similar to that of real-world online learning. Students that entered the tournament and have a great deal of initiative fared extremely well. A positive correlation between self-directed learning and academic performance cannot be inferred outside of a controlled laboratory context, which an online classroom cannot be said to be. Students in an online course with different amounts of independence in their studies performed similarly, according to a second research. There are a number of confounding factors that might account for the apparently contradictory results, including randomization, the online learning environment, the ability for self-directed learning, and online instructional activities. The first study's lesson plan was designed to most nearly mimic an actual online learning environment. Participants need a high degree of self-direction to make the most of this instructional activity. However, in the setting of a real online classroom, one cannot anticipate a favourable correlation between self-directed learning and performance. Students' online course performance was shown to be consistent across two levels of independent study in the second trial. Randomization, the online learning environment, the capacity for self-directed learning, and online instructional activities are four possible external elements at play here. The goal of this instructional activity was to create an atmosphere similar to that of real-world online learning. Students that entered the tournament and have a great deal of initiative fared extremely well. A positive correlation between self-directed learning and academic performance cannot be inferred in a true online classroom situation. Students in an online course with different amounts of independence in their studies performed similarly, according to a second research. There are a

number of confounding factors that might account for the apparently contradictory results, including randomization, the online learning environment, the ability for self-directed learning, and online instructional activities. The first study's lesson plan was designed to most nearly mimic an actual online learning environment. Participants need a high degree of self-direction to make the most of this instructional activity.

10. LIMITATION

The findings of this research cannot be directly applied in at least four different contexts due to certain limitations. To begin, despite the fact that the sample for this research was obtained from a national database, the data were not weighted, and the results significantly favoured those who had attended private, four-year institutions. Second, the researchers relied on the participants' own descriptions of their behaviours in this study. Self-reported data are accepted to be reliable, despite the fact that several potentially confounding aspects were taken into consideration **(Pascarella, 2006)**. Third, the data sample that was utilised in this study and the sorts of faculty support that were engrained in the pedagogical practise of constructive criticism, which was further extended by smart schooling, were used to develop the component that was included in each analysis (i.e., Faculty Support and Encouragement). However, this work does help give a conceptual framework for student-faculty interactions and operationalize constructive criticism. Although more research is necessary to generate more intricate measures of constructive criticism and characteristics that can be reproduced across numerous data samples, this work does assist provide a conceptual foundation for student-faculty interactions. In conclusion, although the student-faculty variables employed in this study offer appropriate indicators of constructive criticism, additional measures assessing the quality of faculty feedback and skills development may provide more solid results in future studies. This is because these extra measures evaluate the quality of the feedback received from the faculty members.

REFERENCES

1. Butcher, K. R., & Sumner, T. (2018).Self-directed learning and the sensemaking paradox. Human-Computer Interaction, 26(1), 123-159.
2. Carson, E. H. (2018). Self-directed learning and academic achievement in secondary online students(Unpublished master's thesis). Thesis/Dissertation ETD.
3. Tam, T. and Jiang, J. (2019). The divergent urban–rural trends in college attendance: State policy bias and structural exclusion in China. Sociology of Education, 88, 160–180.
4. Yusuf, M. (2020). The impact of self-efficacy, achievement motivation, and self-regulated learning strategies on students' academic achievement. Procedia Social and Behavioral Sciences, 15, 2623-2626.
5. Wilkinson, R. and Pickett, K. (2017). The Spirit Level: Why Greater Equality Makes Societies Stronger. New York: Bloomsbury.