

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/382452194>

Experiential and inquiry-based learning approaches; correlated exploration on usage in selected secondary schools in Bugiri District, Eastern Uganda

Article · July 2024

DOI: 10.1080/10494820.2024.2368885

CITATION

1

READS

218

9 authors, including:



Charles Muweesi

Busitema University

40 PUBLICATIONS 85 CITATIONS

[SEE PROFILE](#)



Disan Kutesa Mugenyi

12 PUBLICATIONS 20 CITATIONS

[SEE PROFILE](#)



Kaweesi Muhamadi

Busitema University Tororo

17 PUBLICATIONS 26 CITATIONS

[SEE PROFILE](#)

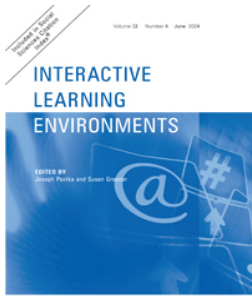


Lawrence Sserwadda

Makerere University

10 PUBLICATIONS 22 CITATIONS

[SEE PROFILE](#)



Experiential and inquiry-based learning approaches; correlated exploration on usage in selected secondary schools in Bugiri District, Eastern Uganda

Muweesi Charles, Kintu George, Disan Kuteesa Mugenyi, Kaweesi Muhamadi, Sserwadda Lawrence, Judith Nabaterregga, Lou Shizhou, Anthony Muwagga Mugagga & Kaahwa Yuda Taddeo

To cite this article: Muweesi Charles, Kintu George, Disan Kuteesa Mugenyi, Kaweesi Muhamadi, Sserwadda Lawrence, Judith Nabaterregga, Lou Shizhou, Anthony Muwagga Mugagga & Kaahwa Yuda Taddeo (21 Jul 2024): Experiential and inquiry-based learning approaches; correlated exploration on usage in selected secondary schools in Bugiri District, Eastern Uganda, Interactive Learning Environments, DOI: [10.1080/10494820.2024.2368885](https://doi.org/10.1080/10494820.2024.2368885)

To link to this article: <https://doi.org/10.1080/10494820.2024.2368885>



Published online: 21 Jul 2024.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



Experiential and inquiry-based learning approaches; correlated exploration on usage in selected secondary schools in Bugiri District, Eastern Uganda

Muweesi Charles^a, Kintu George^a, Disan Kuteesa Mugenyi^b, Kaweesi Muhamadi^a, Sserwadda Lawrence^c, Judith Nabateregga^c, Lou Shizhou^c, Anthony Muwagga Mugagga^d and Kaahwa Yuda Taddeo^d

^aFaculty of Science and Education, Busitema University, Kampala, Uganda; ^bSchool of Education, Kyambogo University, Kampala, Uganda; ^cInstitute of International and Comparative Education, Zhejiang Normal University, Jinhua, China; ^dSchool of Education, Makerere University, Kampala, Uganda

ABSTRACT

This study intended to investigate the effectiveness of experiential and inquiry-based learning approaches in secondary schools around Bugiri District in Eastern Uganda with a focus on whether inquiry-based teaching techniques were being used to support student learning based on evidenced experiential education as well as challenges encountered when utilizing these methods. This narrative cross-sectional survey study employed a qualitative approach using interview responses attained from key informants. Findings indicate that through an inquiry-based approach, students are urged to study the subject, ask questions, and exchange ideas rather than have the teacher dictate what they should know. In inquiry-based learning, small-group discussions, guided learning, projects, and hands-on investigation take precedence over lessons. In addition, teachers are typically better at spotting errors in students' work than they are in their own. It is crucial to ensure students' learning by giving them high-quality information. Some children learn best by looking at visuals, others by listening and some by reading and writing. Teachers should promote "learning by doing" and also take the lead and create a forum where students can express their opinions and experiences.

ARTICLE HISTORY



Received 8 September 2022
Accepted 11 June 2024

KEYWORDS

Experiential approach;
inquiry-based approach;
secondary school; learning;
students

Background

Uganda has seen a lot of reforms in its education system. These reforms range from nursery pedagogy and content to the new lower secondary school curriculum. The reforms were a result of complaints by various education stakeholders. There was a complaint that the entire education system right from pre-school to university is theoretical. Generally speaking, Uganda is divided into six major regions namely central, western, northern, south-west, Eastern and west – Nile regions. This study and the resultant article were centred on Eastern Uganda. The 2014 census revealed that Eastern Uganda was comprised of 9,042,422 persons (UBOS, 2014). Eastern Uganda borders Kenya and is the home of one of the economically poorest performing parts of Uganda with very low academic performance at all basic levels of education (UWEZO, 2014; NAPE, 2018). Eastern Uganda's Performance in science education is extremely low. This study takes Chemistry as the least-performing

CONTACT Muweesi Charles  cmuweesi@gmail.com  Faculty of Science and Education, Busitema University, P. O. Box 236, Tororo, Uganda

science subject at all levels in this region (UNEB Results Report 2010–20). A study by Ssempala (2020) revealed that there is a mismatch between the methods applied by the teachers and the knowledge they intend to transmit to the learners as dictated by the Uganda Schools Chemistry Teaching Syllabus (NCDC, 2018). In as much as Chemistry is a Practical and Experiential subject, thus requiring inquiry-based pedagogy, both instructors and students dwell much on the use of Theory-based pedagogy.

Various Eastern Uganda District Education Reports and that of the Uganda Local Governments Association Education Summit Report, Kampala (MOES, 2004) also reveal that it's not only the poor pedagogical approaches that are responsible for the poor performance Utmost all subjects, the very low quality non-pedagogical facilities such as classrooms, few and make teaching and learning problem. It's also reported that the teachers are also poorly instructed and seem to have no grasp of the new and emerging pedagogical technologies which are crucial for innovative online pedagogies (Charles et al., 2021; Kaahwa et al., 2023a). The challenges faced by teachers in Uganda are not limited to Eastern Uganda. According to UWEZO, 2015 and NAPE Reports 2018, the constrained teachers' teaching approaches seem to originate from the way they are trained. Various reports on teacher education in Uganda do suggest that the current teacher training approaches are not saliently different from those adopted in the 1970s, 80s and 90s (Nsereko-Munakukaama, 1997; Kasozi, 2009). As a result of the seemingly outdated pedagogical teacher training approaches in both the methods and content, many novices and even seemingly experienced teachers, are thin of innovative pedagogies. Kasozi (2009) argues that constrained teacher training is a result of thin and poor government support for teacher-training institutions. As a result, almost all teacher training institutions and universities either lack computers or are serviced by outdated ICT and e-pedagogical facilities. The Government of Uganda made it imperative for teacher training institutions to adopt and teach methods that foster critical thinking, innovativeness and this produces a teacher fit for the twenty-first century. Thirty years after the launch of the government (1992) launch of education salient issues with teacher pedagogy and implied student learning persist.

To overcome some of the challenges created by an outdated pedagogical regime characterised by rote learning for most learners, most especially in rural Uganda where the teacher is the main source of knowledge or the teacher as a library and Encyclopaedia. The Uganda Ministry of Education and Sports at the recommendation of NDP-I, NDP-II and NDP-III (Uganda National Development Plans), it was recommended that the entire Ugandan education system get restructured. The restructuring saw the introduction and implementation of the thematic curriculum between 2003 and 2004 for primary education (MoES, 2001). The thematic curriculum involves integrating learning and teaching through themes. It child child-centred, children are encouraged to learn through playing and to try to learn using experience from another immediate environment (NCDC, 2018). It is from the thematic curriculum that the experiential and inquiry-based leading approaches were incepted.

Experiential learning as the approach is very much linked to John Dewey's philosophy of pragmatism. Pragmatism or pragmatic pedagogy is teaching or learning through simple experiential approaches to solving problems in very simple but practical ways (Charles et al., 2024). It also encourages the use of a clear and simple example from the very environment students study or are going to work in, this is in line with John Dewey's maxim which states that children or students learn best by carrying out learning activities related to their experience, through practical orientation.

The study and resultant article are very much aligned with Dewey's theory which pivots or is centred on three main experiential learning, social learning and interaction plus collaborative learning.

These three imply that;

- (i) Education should be child-centred that is it must focus on the needs and interests of the child (that is present and future needs).
- (ii) Teaching and learning should be exciting and enjoyable.
- (iii) Teaching and learning should be based on the learners' experience.

- (iv) Teaching and learning must aim at solving the learners' problems for example in the case of Uganda problems such as poverty.
- (v) Teaching and learning should not encourage rote learning. Thus, teachers must be facilitators and not mere jugs to pour into an assumed empty child void of experience or knowledge
- (vi) John Dewey further states that learning should be "free", with learners taking an active role in dictating their learning pace and content acquisition.

On the other hand, inquiry-based learning can be defined as a process of engaging children or learners in actual life experience situations through explorations and questioning (Spronken-Smith et al., 2012). This is done to create situations where the learners themselves find possible solutions to their problems or solutions to problems of their immediate society.

In the case of Uganda, experiential and inquiry-based learning were incorporated into the primary education "thematic curriculum which was further incorporated into science education mostly in urban and peri-urban areas where most schools resorted to the introduction of field study trips". Unfortunately, poverty-stricken parts of Uganda seem not to have benefited from this novel approach. Simply because many parents cannot afford to pay for the field trips in the wake of the increase in the UPE and USE and the perpetual number of science subject failures government of Uganda inception several science policies and approaches at the secondary school level among others was the encouraging rural schools to adopt the experiential and inquiry-based learning (EIBL). The current (EIBL) is very much rooted in the (Mierdel & Bogner, 2019) model which is based on the assumption that to foster students' cognitive accomplishment in science an inquiry-based, extra-curricular, laboratory module that combines traditional experimental approaches is combined with a creative model supported instruction. This is in line with what de Wit et al., 2018 postulate when they argued that to build a science community of practice, there is a need for Fosler social learning child empowerment and development in a shared common identity and hands-on-learning approaches particular to a certain study area.

Eastern Uganda the focus of this study and resultant article, has continued for the last ten years to be the least academically performing part of Uganda in almost all education national examinations (NAPE 2000–2020). This study focused on the performance of science education and the adaption of experiential inquiry-based learning. The study provides answers to questions arising from the problem of adopting interactive learning, field study and child-centred approaches but low grades among secondary school children still surface and thus the study was guided by the following questions;

1. What are the Inquiry-based approaches used in Teaching and learning in Eastern Uganda?
2. What are the available Evidence and strategies used to implement an inquiry-based approach in Teaching in Eastern Uganda?
3. What are the challenges faced while using an Inquiry-Based approach to Teaching and Learning?

Purpose of the study

The main purpose of this study was to investigate how experiential and inquiry-based learning methodologies are used in secondary schools in the Bugiri area, Eastern Uganda with special emphasis and focus on how inquiry-based teaching strategies are being implemented; establish evidence of experiential learning; identify challenges faced in using experiential and inquiry-based approaches in secondary schools in Eastern Uganda.

Theory

The study was guided by two theories namely John Dewey's pragmatism philosophical theory and Multiple Intelligence Theory proposed by Howard Gardner (1987), which calls for a wide range of

learner-centered teaching practices. Adopting this theory implies that there isn't a single set of instructional techniques that consistently produces the greatest results for all students. Teachers are generally recommended to employ a wide variety of teaching tactics with their students due to these unique learning preferences or peculiarities. The student quickly recognizes this teaching strategy as relevant and meaningful, which is its essential characteristic. The employment of numerous instructional methodologies, which directly align with the study's goal, is supported by this theory, making it pertinent to the investigation. Likewise, John Dewey's philosophy of education theory hinges on the maxim that students learn by doing first or learn by experience.

Review of related literature

The adoption of Usage/Adoption of inquiry-based learning (Van der Graaf, 2020) contrasted the balancing beam test response patterns between the pre-and post-inquiry-based lesson periods. Van der Graaf (2020) on inquiry-based learning offers a contrasted basis as far as balancing experimental condition finished a digital inquiry-based lesson on the balance beam while the control condition finished the same lesson but focused on a different subject. After just one inquiry-based lesson, a few of the students demonstrated conceptual change, according to the results citing a gap that conceptual change might be measured as a change in strategy use.

In a self-directed online environment, Al Mamun et al. (2020) investigated student involvement with these inquiry modules. The conceptualization of a multimodal scaffolding technique for self-directed inquiry was made possible by findings based on students' interactions and engagement with the learning modules. According to Sutrisno et al. (2020), reflects on passing chemistry subject at any level of education should reflect the discipline's qualities, notably that it is an inquiry-based science. As a result, chemistry education should be inquiry-based. Many chemistry lessons have been generated through inquiry, particularly guided inquiry. Through inquiry-based learning, (Rezeki & Zannah, 2018) sought to assess students' attitudes about learning. The attitudes cover moral conduct and interpersonal abilities shown during the educational process. Cooperation and showing gratitude to friends are character behaviour indications, whereas inquiring is a social skill sign.

The usage of instructional materials ensures that the message to the pupils is delivered as clearly as possible. According to Ajayi (2018), factors in determining how to evaluate students' academic performance may include the teacher's qualifications, suitable facilities, and the link between educational resources and students' academic performance. Voukelatou (2019) demonstrated the important influence of experiential learning on information acquisition, in the growth of social skills and attitudes in students, and in the promotion of cultural heritage and traditional values. In his study, he illustrates the experience of learning in the classroom and analyzes the project's teaching strategy about other experiential/energetic educational approaches. However, he doesn't spell out the contingency, that educators and researchers in pedagogy and school psychology can utilize the findings to develop and execute educational programs in institutions of learning at all levels that rely on experiential teaching.

According to Ikram and Asim (2019) teachers' poorly planned instructions hurt the kids' academic performance, lack of interest, and peer connections. The study discovered no discernible difference between male and female instructors' perspectives on programmed learning and metacognition. A favourable and somewhat strong connection between programmed learning and metacognition was also found. As a result of this study, there is a need for a more critical examination of programmed learning and metacognition in a variety of contexts as well as investigating potential avenues for teaching and learning strategies.

According to Nooghabi et al. (2011), the main barriers to experiential learning in practical lessons are four, including a lack of educational facilities and equipment, inexperienced instructors and technicians, disregard for parallel and additional experiences, and a subpar level of class management by instructors and technicians.

According to Aggarwal and Wu (2019), experiential learning pedagogies are frequently costly, time-consuming, and difficult to execute. The pedagogies utilized at each of these three levels of learning and engagement must take into account the faculties of the instructor as well as the types and demographics of the students in the class. Experiential learning is frequently extremely beneficial for teaching and developing the cross-cultural communication skills necessary for success in international business. Looking at the above literature, the teaching-learning process in public secondary schools in Bugiri District reflected a missing element, particularly linked to the persistent low grades in almost all subjects. By the time of this study, the researcher realized there was a lack of practical approaches to teaching students in secondary schools. However, there was no evidence that all secondary schools were reflective of this.

Methodology

The study utilized mainly qualitative approaches specifically adopting a case study-cross sectional survey design. The study being non-positivist, sought to understand the social reality and context of experiential and inquiry-based learning in Eastern Uganda. The case study involved studying in detail two schools namely Namasere High School and Bukoli College School. For a case study, the data is mostly gathered and used within its context. The use of a case study intended to explore on a series of educational practices in Eastern Uganda in its real context. According to it's only a case study that can enable a researcher to get of true picture of what the reality is in a study context. The study population was secondary school stakeholders in Eastern Uganda. The sample was selected using both purposive and convenient sampling techniques. It included 2 Headteachers, 5 Teachers and 25 Students from Namasere High School and Bukooli College School. The research data was gathered using interviews, and participant observation through focus group discussions for students and teachers. The study being more skewed to the qualitative research, data was analysed using codes and tabulations obtained from the study themes drawn from the study objectives and the corresponding research questions.

Findings and discussion

Demographic characteristics of respondents

The demographic characteristics included gender, age group and experience of teachers as seen in Table 1.

Findings reveal that the study demographic data. The findings were drawn at a 50/50 selection from two case study schools. It was revealed that male respondents were the majority, representing

Table 1. The demographic characteristics of respondents.

	Participants items	Number of respondents	Percentage of respondents
1. Gender	Female	14	43.7%
	Male	18	56.3%
	Total	32	100%
2. Age	18–27	8	25%
	28–37	12	37%
	38 and above	12	38%
	Total	32	100%
3. Work experience	Less than 5 years	15	47%
	6 years and above	17	53%
	Total	32	100%
4. Schools	Bukooli College	16	50%
	Namasere High School	16	50%
	Total	32	100%

Source: Primary Data.

56.3%, while female counterparts represented 43.7% of the study. The majority of respondents belonged to the age group of 38 years and older; 37% belonged to the age group of 28–37 years; and the remaining 25% belonged to the age group of 18–27 years. The results about the working experience of respondents were evaluated, with 53% belonging to the working experience category of 6 years and above, while 47% have a working experience of less than 5 years.

Presentation, interpretation and discussion of findings; strategies used to implement an inquiry-based approach to teaching

From the study findings, it was revealed that inquiry-based learning is a method of instruction that emphasizes the part that students play in the learning process. Students are urged to study the subject, and projects, ask questions, and exchange ideas rather than have the teacher dictate what they should know. The findings demonstrated that in inquiry-based learning, also known as problem-based learning, small-group discussions, guided learning, projects, and hands-on investigation gained precedence over lessons. The objective is to give learners a chance to exercise initiative, and creativity and learn through action and responsibility.

Although there is debate about how teachers should handle situations to this effect, management as a topic skill should be directed toward meeting learners' expectations, namely; grasping ideas and ultimately producing good outcomes. A few methods teachers employ to educate in the classroom were requested from head teachers. The use of the question-and-answer method, a review of earlier courses to assess, recall and comprehension using the question-and-oral-answer method, and the use of poetry and reference books were among the points of view that were gathered as per the teacher's assertion;

In this school, teachers use various approaches to make students understand concepts. You know, subjects like English is a hard subject regardless of whether someone is writing, reading, or even using it day-to-day. Therefore, teachers mostly use practical approaches. For example, if the topic is on communication, a teacher makes use of two scenes and initiates communication between two students. This helps to demonstrate that communication is two-way and clear communication should be ensured to get quality results.

The above response serves as proof that teachers utilize conversation to manage curricular content and help students realize that communication is a two-way street and this is consistent with the findings by Fisher and Rothenberg (2008) on how to plan discussion-based lessons for diverse language learners as a way to enhance their communication. The teachers utilize the telephone situation to demonstrate that the caller is the one who initiates contact and that the person receiving the information must do their best to understand it. Similarly, Eisner (2017) highlights the importance of this conversation in the promotion of moral judgement and logic skills which are valuable in generating enlightening classroom discussions. This illustration of bringing current events into the classroom enlightens communication abilities (Robin, 2006). Other research findings showed that teaching in classrooms uses current events. In Namasere High School, the teacher's response about the use of reference materials also revealed positive results;

All lessons are handled by motivating and whether a subject is mathematical or theoretical (as they say), we must make use of reference materials. However, for this matter, teachers use mobile phones to teach effective communication and communication skills, and students from families with a stable economic status buy textbooks to use while in the classroom.

The underlying meaning of the remark is that textbooks and mobile communication devices, particularly mobile phones, are the most popular reference sources utilized in the teaching process as emphasized by Busulwa and Bbuye (2018) and Keengwe and Bhargava (2014). However, Headteachers of other secondary schools disclosed other resources, such as radio cassettes for teaching understanding, music tones, vocals and pronunciation. This matches with the model developed by Wambaria (2008) on constraints in the use of radio programmes in schools and its end user effects more so on learning. The usage of radio cassettes, according to the head teacher of the school St. Ann Vocational SS, fosters understanding and lessens learners' accents.

This study attempted to find out whether extra materials are used to deliver content to students. According to the results, there is evidence which indicates that extra materials were not commonly used in delivering content for the curriculum by teachers. This suggests that a teacher may create questions for their learners as they prepare to teach (or that a teacher anticipates they will ask questions). For this to be embraced, a teacher-tool relationship in enhancing learners' inquiry skills should be adopted as suggested by Brown (2011). This promotes active learning and boosts student engagement. Teachers must also ask questions to keep students actively engaged in the learning process when managing the curriculum (Sikoyo, 2010; Altinyelken, 2010).

Inquiry-based learning is a method of instruction that emphasizes the role that students play in the learning process. Students are urged to study the subject, ask questions, and exchange ideas rather than have the teacher dictate what they should know. The use of the question-and-answer method was investigated, and Table 2 shows the findings of the study to this effect.

Question: What are the Inquiry-based approaches used in Teaching and learning?

The learner's active role is highly appreciated and adopted if inquiry based approach is to be embraced. Active learning encourages children to learn through trial and error, discovery and social interaction and this is emphasized by Begna (2017) and Willis and Nagel (2015). Absorption of verbatim expression is an appreciated design compared to learning through experiences and the two are results of embracing constructive-based learning approaches (Temiz & Topcu, 2013). Regarding this, the head teacher for one of the schools stated;

... sometimes we think the only way for students to learn is through giving them endless notes to practice reading. However, here in this school, teachers rarely give notes, rather they subject students to written tests where students are asked to compose a story off-head, encourage debating, enforce speaking skills whenever students are at the school compound, and many other approaches ...

High order thinking as well as embracing of critical reasoning is heavily noted as seen above with most teachers agreeing to its relationship with inquiry-based approach. Thinking critically involves applying reason and logic to assess arguments and come to your conclusions (Brookfield, 2011). Instead of reciting facts or giving a textbook answer, critical thinking skills encourage students to move beyond knowing information and get to the heart of what they think (Brookfield, 2011). During the interview, one head teacher stated;

... we normally take students through mastery of vowels because these are supporting letters that help to explain the transition of sound in that a letter in a vowel becomes something else when it is pronounced at the level of an alphabet. Students are tasked to develop compositions and become creative, right from the classroom hour and later given a take-home assignment that also enhances their critical thinking skills.

Smart and objective driven learning has been regarded as true source of learner's exposure including peer support and this is entirely through appreciation of discovery method. The majority of teachers agreed that an inquiry-based approach makes students engage in authentic collaboration (D'Angelo et al., 2016). Irrespective of the learners Social and cultural background, varying upbringing as well as race, collaborative learning has been noted to be ideal. In an interview, a head teacher commonly stated as follows;

Table 2. Transcript analysis of teaching through inquiry-based approach and learning of students.

No	Response statements on inquiry-based approach;	Main Theme
1	<i>Enables students to take an active role in learning</i>	Usage of Inquiry-Based Approach
2	<i>Emphasizes higher-order thinking and critical reasoning among students</i>	
3	<i>Allows students to engage in authentic collaboration with peers</i>	Usage Of Active Teaching and Learning
4	<i>Incorporates technical issues to expound on learning</i>	
5	<i>Enhances critical thinking skills and an innovative mind</i>	

Source: Primary Data.

... teaching a combination of words is a key component of teaching due to its numerous advantages including enabling students to master concepts, allowing continuity of ideas, recalling and using life skills, and getting mind-maps that will be used for tests of examinations ... oftentimes, we find students who are not confident, thus find it difficult to freely ask questions when they have not understood how to come up with sentences. Teaching how to combine words is one of the best ways a teacher can help such a student ...

From the response above, it is clear that repetition of ideas helps the students to create an atmosphere where students are in a position to remember ideas while in examinations. By repeating an idea or concept, there is a flow of ideas in the mind. The exposure which learners embrace opens their mindset to both innovations and critical thinking which is a true likeness to what inquiry based teacher approach calls for (Edelson et al., 1999 and Oliver, 2008). As far as the knowledge of teachers is concerned, the usage of an inquiry-based approach incorporates technical terms to expound on learning (Ssempala, 2017). This donders on the less usage of the inquiry-based approach especially in bridging the learners' engagements that call for skills that are technical (Ssempala, 2017).

Evidence of experiential learning in schools

In the past, teachers' comments have served as a source for students to gauge their development. Through the teachers' input, the students may also examine their personal development. Additionally, teachers are typically better at spotting errors in students' work than they are in their own. Therefore, it is crucial to ensure student learning by giving them high-quality information. The methods teachers use to assess and evaluate students were requested from head teachers. Observation, hands-on activities to monitor and record each student's performance, daily exercise evaluation, providing and marking exams, and offering first-term exams were some of the replies provided. The learners' expectations for exams are hard to study and achieving above-average results. Teachers who subsequently administer exams begin verbally correcting students. Through this, less intelligent kids can catch up to their more intelligent peers. In the same line, respondents were asked to state the approaches used by teachers to make students understand concepts. Responses Many of them reported the practice of storytelling where a teacher stands before the class and chooses a student at random then instructs him or her to tell a story off-head. One of the teachers said;

... so the only way to make students think a lot and become creative is through encouraging them to come up with themes upon which they can tell stories. Through storytelling, there is an aspect of creativity and development of reading skills that the teacher will be looking for in a student ...

Requiring the extent to which the application of instructional design skills by teachers fulfils the development of reading skills by students, which is a learning outcome that calls for good performance not only in secondary schools. Thus, experiential learning refers to a range of activities that entail learning by doing outside the classroom and, on the other hand, include classroom exercises that simulate "real life" (Bradberry & De Maio, 2019). For instance, simulations, laboratories, practical Entrepreneurship, games, singing, sports and debates may all be used to promote experiential learning in a classroom context. Interview results also revealed that one of the approaches used to enhance student understanding during the teaching-learning process is using oral questions and competitive drama. Modelling tests students' skills of reading and expression in fluent language (Berninger & Abbott, 2010). One of the head teachers stated;

... sometimes we think the only way for students to learn is through giving them endless notes. However, here in this school, teachers rarely give notes, rather they subject students to write tests where students are asked to compose a story off-head, encourage debating, enforce the speaking of the English Language whenever students are at the school compound, and many other approaches ...

This assertion enhances learner's role in debates and competitions that improve their self-expression skills as well as public speaking mentorship. It is only unfortunate that gaps still exist due to the rare

implementation of instructional design techniques. Some children learn best by looking at visuals. Some children learn best by listening to a parent or teacher speak. And some children learn best by reading and writing about something (Arizpe & Styles, 2023). These are called visual, auditory, and reading/writing learning styles, respectively. But there is a fourth learning style that is easy to overlook: Kinesthetic learning, which is a fancy way of saying “learning by doing.” (Raha, 2019). Views from head interviews indicated that dialoguing with students is a weapon towards enhancing learning outcomes. In the words of one of the head teachers;

... Teachers promote students’ understanding through the use of speeches and dialogues between students and teachers. Any qualified teacher is expected to share information with students ... this is the best approach for understanding the students with a high level of understanding. This later enables a teacher to find ways of grouping the students so that slow learners get a chance to interact and improve their levels of understanding through consultations with colleagues ...

The above quotation enlightens about ways a teacher can duly plan ways of understanding the speed of students’ understanding and finally making this the best approach to the best way of grouping students. The insight in this is that teachers ought to be as innovative as possible to cultivate the best results out of students. There are several explanations for why hands-on learning is so successful as proposed by Kalyani and Rajasekaran (2018). There isn’t just one “why” for anything. One thing about hands-on learning, however, that is difficult to dispute is how engaging it is.

Active learning occurs when pupils are required to complete a task. They are honing their abilities and putting what they have learned to the test. The fact that they are actively producing knowledge as opposed to merely absorbing it is crucial. Students must be involved in their education to create and act (Cook-Sather, 2010). Additionally, involvement by doing has long been associated with improved academic performance, including higher test scores and academic achievements. Through interviews, head teachers were asked to establish the importance of repetition of ideas during the teaching-learning process. The head teacher of Namasere High School stated as follows;

... repetition is a key component of teaching due to its numerous advantages including enabling students to master concepts, allowing continuity of ideas, recalling and using life skills, and getting mind maps that will be used for tests or examinations ... oftentimes, we find students who are not confident, thus find it difficult to freely ask questions when they have not understood. Repeating ideas is one of the best ways a teacher can help such a student.

From the above response, repetition of ideas helps the students to create an atmosphere where students are in a position to remember ideas while in examinations. By repeating an idea or concept, there is a flow of ideas in the mind. Students must be involved in their education to create and act. Additionally, involvement has long been associated with improved academic performance, including higher test scores and academic achievements. Results from head teachers during interviews indicated the following statement;

... wait, I want to tell you that as a teacher, there are many things you do not need to overlook. At the same time, some things seem to be important but as human beings; we do not attach importance to those issues. When you ask about the best approaches to make the student enjoy class lessons, the teacher must be articulate and ensure that each word they put out is understandable by each student.

About the above concern, other respondents are equally concerned about the way teachers speak. The head teacher school of Bukooli College raised a comment in surprise that in some schools, teachers tend to show students that they know much and besides boasting, they complicate the accent so much so that even one who is intelligent in class cannot comprehend. That same head teacher stressed that a teacher must not only be exemplary but demonstrate teaching skills that each one would love to enumerate especially students with hopes of becoming teachers and this matches the proponents advanced by Snell and Swanson (2000).

Students must be involved in their education to create and act. Additionally, involvement has long been associated with improved learning, including higher test scores and academic achievements. Table 3 indicates responses to this effect.

Question: What are the available strategies used to implement an inquiry-based approach in Teaching?

Table 3 shows teachers' responses to the question about handling curriculum content to students' understanding. By implication, many are not satisfied that the curriculum content is handled to the student's satisfaction. Also many concur that a problem still exists in the manipulation of curriculum content. According to one of the head teachers;

... In this school, we use various approaches to make students understand concepts. You know English is a hard subject regardless of whether someone is writing, reading, or even using it in day-to-day life. Therefore, teachers mostly use practical approaches. If the topic is communication, a teacher makes use of two scenes and initiates communication between two students. This helps to show that communication is two-way, and clear communication should be ensured to get quality results.

Teachers implement an inquiry-based approach by incorporating contemporary issues to make students understand that communication is a two-way process. This example of incorporating contemporary issues into class helps to enlighten students about communication skills. In other findings, the study revealed that contemporary issues in the classroom are used to implement an inquiry-based teaching approach. A response from one of the head teachers on how teachers handle the curriculum was;

Almost all teaching techniques are better when contemporary techniques are used. One of the approaches is for a teacher to instruct students to write friendly or official letters and read them to the class. By doing this, students keep in mind that letter writing is part of their day-to-day lives. A good teacher will be calculative and innovative. They always find the best example from the surrounding environment to mention and keep students engaged. We believe that using the environment to communicate a message during lessons is a good way to reinforce memory ...

The benefits of using extra materials such as projectors are missed in secondary schools with high enrollment rates, a study has shown. Responses suggest and reflect the use of extra materials to teach at these schools. However, findings from head teachers showed that extra materials were used to promote an inquiry-based approach to teaching. A response from one of the head teachers was in consonant;

Table 3 shows that almost all teachers and students reported that teachers in public secondary schools in Bugiri District do not update the current curriculum with new information. This means that there are higher chance that teachers manipulate the curriculum with little or no regard for the revised version. Like in the previous sub-sections, manipulation of content by teachers is also weakened by teachers' failure to upgrade content. In their responses, one of the head teachers stated.

... several approaches are used to make students understand concepts and also develop a love for the subject. Teachers, for instance, use poems to test the reading skills of students. It is used to test things like rhyme patterns and to assess the extent to which students can read the poem following the styles exhibited.

Table 3. Transcript analysis of strategies for implementing inquiry-based approach.

No	Response Item	Thematics
1	Teachers manage to handle content to students' understanding	Content and Methodology
2	Incorporating contemporary issues	
3	Teachers use extra materials in the teaching-learning process	Preparation and Implementation
4	Teachers carefully plan lessons before teaching	
5	Teachers interact with, and test students' abilities to understand concepts	

Source: Primary Data.

About the specific objectives of the study, the use of poems helps to manipulate the content which requires speaking and reading skills. The expectation of students in this is the development of skills to speak well in public and to read texts when needed.

Challenges faced in using an inquiry-based approach to teaching

According to teachers, low student involvement leads to a lecture-focused setting where information is often presented simply, with little text and well-chosen pictures. The instructor is typically knowledgeable about the material, but she or he teaches in a style that prevents the students from actively participating in the learning process. Instead, a more student-centered classroom offers several chances for students to talk about ideas in small groups and contribute to a class discussion. A task's possibility for more than one response might stimulate deeper thought processes and change the direction of the lesson, which is another factor in the quality of the conversation. From interviews in this line, head teachers indicated that as far as the teaching strategies are concerned, some teachers do not put aside adequate time to prepare lessons as well as expected. In the words of one of the head teachers,

... The problem we normally encounter is about the styles of teaching whereby, due to the digitalization of most things, teachers now have smartphones and many are now computer literate. What they do is get a phone, download information related to what they want to teach, and give it to the learners. This act spoils the intentions of teaching, whereby a teacher is supposed to design a lesson plan and teach learners according to individual characteristics.

From the foregoing response above, it is possible that teachers no longer make lesson plans, which makes them disastrous to the teaching-learning process. The inquiry-based approach, which calls for the participation of both teachers and learners at an equal pace, is not largely remembered in this context.

Students are denied the chance to collaborate in pairs and small groups and to employ a variety of communication techniques, including brainstorming, dialogues, and giving presentations. A significant portion of class time should be devoted to student interactions, in-depth discussions among students (and between students and the facilitator), and the development of features that allow several students to articulate their ideas to a respectful, receptive class that listens well. These are all prevented by this. About these results, one of the head teachers had this to say:

... Another very common impediment, or call it a challenge, that affects the inquiry-based teaching and learning process is how teachers have long failed to prepare students for discussions. From that historical moment, the inquiry-based approach is largely inclined towards sharing views amongst learners themselves or teachers. Without this, the essence of inquiry-based learning is lost.

The above is an indication that in some secondary schools, discussions that could promote the sharing of ideas and experiences and, in turn, favour the inquiry-based approach to teaching-learning are not given priority. Since discussions free learners from fear of making inquiries, it is the best approach to the teaching and learning process as should be designed by teachers. Poor grades and no good news about reading and writing fluency are typically recorded in classes where students lack motivation. This is the reason that many graduates have little need to hire people for the same purpose and have less need to prepare a CV in fluent English. In keeping with this, heads of schools were questioned on the methods instructors employ to promote student participation. According to the head teachers' comments, they employ a question-and-answer format to guarantee that each student participates.

Low student participation in the teaching-learning sessions signifies low use of instructional design strategies to enhance learning outcomes. On instructional design skills for teachers, interviews and responses were conducted on how teachers make students understand what they teach, one of the teachers was quoted saying;

... teachers who normally wish to make students understand mostly allow students to either participate in what they already have in class or initiate ideas and share them with the teachers. Teachers must surely use the question-and-answer approach so that students participate.

The above response aims to improve speaking abilities and assess articulation levels. Teachers must take the lead and create a forum where students may express their opinions. Only in this way can the desire to improve one's speaking abilities be shown.

Results show that this method of student assessment is used, although not frequently enough. Respondents who said that this was always done were insufficient, while those who claimed that there was no accuracy testing in their institutions were unreliable. There are many occurrences of bad handwriting, spelling and grammatical errors as well as issues with word choice while writing compositions for exams, which may be explained by the large number of replies that indicate no assessments for writing correctness. The likelihood of a sustained rise in favourable results is slim until this is addressed. Additionally, most teachers and students in the public secondary schools in the Bugiri district claimed that language teachers do not add new material to the existing curriculum. This indicates that there is a greater likelihood that teachers may modify the education curriculum without paying much attention to the updated version. The inability of teachers to update the text with fresh knowledge weakens the manipulation of content (Harris et al., 2009). All teachers should be aware that they are not an island unto itself, and that the district's educational philosophy and the particulars of their schools should be the driving forces behind what happens in the classroom.

Referring to the study by Anderman and Leake (2005), which shows that students believe that good teachers do "motivate" them, shows that lack of motivation prevents students from benefiting from it. These teachers typically receive high student ratings on items like the teacher motivated me to do my best work; stimulated my intellectual curiosity; encouraged me to express my opinion or experience; and stressed learning over tests or grades. It also frees students from (Kaahwa et al., 2023a) claim that deep students are primarily intrinsically motivated by rewards, that they respond favourably to competition and the chance to outperform others, and that they frequently earn high grades but won't engage deeply with a subject unless there is a clear reward for doing so.

Additionally, most teachers and students in the public secondary schools in the Bugiri District claimed that teachers do not add new material to the existing curriculum. This indicates that there is a greater likelihood that teachers may modify the education curriculum without paying much attention to the updated version. The inability of teachers to update the text with fresh knowledge weakens the manipulation of content, just as it did in the preceding subsections. All teachers should be aware that they are not an island unto itself, and that the district's educational philosophy and the particulars of their schools should be the driving forces behind what happens in the classroom (Kaahwa et al., 2023a).

Conclusions with focus on strength and limitations

From the above findings, students are urged to study subjects, ask questions, and exchange ideas rather than have the teacher dictate what they should know. In inquiry-based learning, small-group discussions, guided learning, projects, and hands-on investigation gained precedence over lessons. For example, if the topic is on communication, a teacher makes use of two scenes and initiates communication between two students to show that communication is two-way. Textbooks and mobile phones are the most popular reference sources utilized in the teaching process. However, teachers of other secondary schools disclosed other resources, such as radio cassettes for teaching understanding and pronunciation. This suggests that a teacher may create questions for their learners as they prepare to teach. This promotes active learning and boosts student engagement.

In the past, teachers' comments have served as a source for students to gauge their development. Teachers are typically better at spotting errors in students' work than they are at their own. It is crucial to ensure student learning by giving them high-quality information. Some children learn

best by looking at visuals, others by listening and some by reading and writing. Kinesthetic learning is a fancy way of saying “learning by doing”.

Also, students are denied the chance to collaborate in pairs and small groups and to employ a variety of communication techniques, including brainstorming, dialogues, and giving presentations. Teachers must take the lead and create a forum where students may express their opinions. Only in this way can the desire to improve one’s speaking abilities be shown. Results show that this method of student assessment is used, although not frequently enough. The likelihood of a sustained rise in favourable results is slim until this is addressed. There are many occurrences of bad handwriting and issues with word choice while writing compositions for exams. This indicates that there is a greater likelihood that teachers may modify the education curriculum without paying much attention to the updated version.

Lastly, teachers don’t give enough time to students to share and reflect on experiences in various aspects of their real lives. Teaching and learning should involve building on students’ experiences that are more engaging, intriguing and associated with high learning achievement. Learners only seek guidance from the teachers and inquire what they may not understand from teachers. This is more so for subjects like sciences, technology like computers and ICT studies and Mathematics by learners developing curiosity, and inquisitive through their personal experiences.

Implications for research and practice

From the above conclusion, the study found that there were few problems in manipulating subject-matter knowledge to meet learners’ expectations for curricular management. One such deficiency is the lack of reference book utilization by teachers. Therefore, using textbooks – which are already available in most libraries is essential if curriculum management is to live up to instructor expectations. Daily newspapers are purchased by all secondary schools, and the old issues are kept in the libraries. Thus, it is required that students continue to check out newspapers from the library to improve their writing abilities, particularly their vocabulary. According to the study, using newspapers makes it easier to practice manipulating the knowledge to enhance reading and writing abilities by students’ expectations for doing so.

In some secondary schools, learners’ responses to learning are not prioritized, yet the learner’s voice is important to suit the teaching methods. In this case, it is recommended that while preparing lessons for teaching, learners’ expectations should be incorporated. For example, teachers should always promote inquiries from learners such that students’ views become central to guiding their learning. Lastly, teachers should give enough time to students to share and reflect on experiences in various aspects of their real lives. Teaching and learning should involve building on students’ life experiences and abilities which are more engaging, intriguing and associated with high learning achievement. Learners should seek guidance from the teachers and inquire what they may not understand from teachers. In other words, teachers should always create time and promote students’ life experiences in guiding their learning so that the teacher can build on learners’ experiences. For example, in subjects like sciences, technology like computers ICT studies and Mathematics learners develop curiosity and inquisitives through their personal experiences.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Aggarwal, R., & Wu, Y. (2019). Challenges in implementing experiential learning in IB education. *Journal of Teaching in International Business*, 30(1), 1–5.

- Ajayi, V. O. (2018). Effects of experiential and inquiry teaching strategies on upper basic students' achievement in social studies. *Benue State University Journal of Education*, 18(1), 119–129.
- Al Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, 144, 103695.
- Altinyelken, H. K. (2010). Pedagogical renewal in Sub-Saharan Africa: The case of Uganda. *Comparative Education*, 46(2), 151–171.
- Anderman, L. H., & Leake, V. S. (2005). The ABCs of motivation: An alternative framework for teaching preservice teachers about motivation. *The Clearing House*, 192–196.
- Arizpe, E., & Styles, M. (2023). *Children Reading pictures*. Routledge.
- Begna, T. N. (2017). Classroom participation and development of student attitudes: A study of active learning practices in Ethiopian primary education. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 4(3), 67–85.
- Berninger, V. W., & Abbott, R. D. (2010). Listening comprehension, oral expression, Reading comprehension, and written expression: Related yet unique language systems in grades 1, 3, 5, and 7. *Journal of Educational Psychology*, 102(3), 635.
- Bradberry, L. A., & De Maio, J. (2019). Learning by doing: The long-term impact of experiential learning programs on student success. *Journal of Political Science Education*, 15(1), 94–111.
- Brookfield, S. D. (2011). *Teaching for critical thinking: Tools and techniques to help students question their assumptions*. John Wiley & Sons.
- Brown, M. W. (2011). The teacher–tool relationship: Theorizing the design and use of curriculum materials. In *Mathematics teachers at work* (pp. 37–56). Routledge.
- Busulwa, H. S., & Bbuye, J. (2018). Attitudes and coping practices of using mobile phones for teaching and learning in a Uganda secondary school. *Open Learning: The Journal of Open, Distance and e-Learning*, 33(1), 34–45.
- Charles, M., Sarah, N., & Anthony, M. M. (2024). Education as a necessity of life: An exploration of Ugandan education system quality concerning John Dewey's philosophical correlates. *Review of Education*, 12(1), e3466.
- Charles, M., Shizhou, L., Justine, N., Salome, J. K., Robert, T., & Lawrence, S. (2021). Discourses in ICT integration: Pedagogical orientations in selected city primary schools in Uganda. *Educational Research and Reviews*, 16(5), 172–180.
- Cook-Sather, A. (2010). Students as learners and teachers: Taking responsibility, transforming education, and redefining accountability. *Curriculum Inquiry*, 40(4), 555–575.
- D'Angelo, K., Krivel-Zacks, G., & Johnson, C. (2016). Finding good governance: Collaboration between the University of British Columbia and the Richmond School District. *Problem-Based Learning in Teacher Education*, 73–83.
- de Wit, M., Beurskens, A., Piškur, B., Stoffers, E., & Moser, A. (2018). Preparing researchers for patient and public involvement in scientific research: Development of a hands-on learning approach through action research. *Health Expectations*, 21(4), 752–763.
- Edelson, D. C., Gordin, D. N., & Pea, R. D. (1999). Addressing the challenges of inquiry-based learning through technology and curriculum design. *Journal of the Learning Sciences*, 8(3-4), 391–450.
- Eisner, E. W. (2017). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Teachers College Press.
- Fisher, D., & Rothenberg, C. (2008). *Content-area conversations: How to plan discussion-based lessons for diverse language learners*. ASCD.
- Gardner, H. (1987). The theory of multiple intelligences. *Annals of Dyslexia*, 19–35.
- Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education*, 41(4), 393–416.
- Ikram, I., & Asim, M. (2019). Correlation between programmed learning and metacognition: A study on experiential learning perspectives of secondary school teachers. *International Journal of Experiential Learning & Case Studies*, 4(2).
- Kaahwa, Y. T., Nansamba, F., & Muweesi, C. (2023a). The role of technology-enabled teaching and learning in enhancing student-student interaction in secondary schools in Kampala district. *East African Journal of Education Studies*, 6(3), 322–334.
- Kalyani, D., & Rajasekaran, K. (2018). Innovative teaching and learning. *Journal of Applied and Advanced Research*, 3(1), 23–25.
- Kasozzi, A. B. K. (2009). Access and equity problems in Uganda. In *Financing access and equity in higher education* (pp. 63–74). Brill.
- Keengwe, J., & Bhargava, M. (2014). Mobile learning and integration of mobile technologies in education. *Education and Information Technologies*, 19, 737–746.
- Mierdel, J., & Bogner, F. X. (2019). Is creativity, hands-on modelling and cognitive learning gender-dependent? *Thinking Skills and Creativity*, 31, 91–102.
- Ministry of Education and Sports. (2001). *The Development of Education in Uganda in the last 10 years*. Ministry of Education and Sports (MoES).
- MoES. (2004). *Education sector strategic plan 2004–2015*. Education Planning Department, Ministry of Education and Sports.

- NAPE. (2018). *The achievement of primary school learners and teachers in Uganda in numeracy and literacy in English*. UNEB.
- National Curriculum Development Centre (NCDC). (2018). *Lower secondary school curriculum framework*. NCDC.
- Nooghabi, S. N., Iravani, H., & Fami, H. S. (2011). A study on present challenges on experiential learning of university students (University of Tehran, The Colleges of Agriculture and Natural Resources, Iran). *Procedia-Social and Behavioral Sciences*, 15, 3522–3530.
- Nsereko-Munakukaama. (1997). *Secularization of post-independence education in Uganda and its significance for moral education in public primary and secondary schools, 1963–1985* (Doctoral Dissertation). Makerere University, Kampala, Uganda.
- Oliver, R. (2008). Engaging first-year students using a web-supported inquiry-based learning setting. *Higher Education*, 55, 285–301.
- Raha, I. (2019). *Learning styles, teaching styles and oral skills teaching. How do they differ and how they can be matched? The case of first-year LMD students at Ferhat Abbas university-Sétif appendices* (Doctoral dissertation).
- Rezeki, A., & Zannah, F. (2018, December). Senior high school students' attitudes through inquiry-based learning. In *1st international conference on creativity, innovation and technology in education (IC-CITE 2018)* (pp. 21–24). Atlantis Press.
- Robin, B. (2006, March). The educational uses of digital storytelling. In *Society for information technology & teacher education international conference* (pp. 709–716). Association for the Advancement of Computing in Education (AACE).
- Sikoyo, L. (2010). Contextual challenges of implementing learner-centred pedagogy: The case of the problem-solving approach in Uganda. *Cambridge Journal of Education*, 40(3), 247–263.
- Snell, J., & Swanson, J. (2000). The essential knowledge and skills of teacher leaders: A search for a conceptual framework.
- Spronken-Smith, R., Walker, R., Batchelor, J., O'Steen, B., & Angelo, T. (2012). Evaluating student perceptions of learning processes and intended learning outcomes under inquiry approaches. *Assessment & Evaluation in Higher Education*, 37(1), 57–72.
- Ssempala, F. (2017). *Science teachers' understanding and practice of inquiry-based instruction in Uganda* (doctoral dissertation, Syracuse University).
- Ssempala, F. (2020). Relationship between chemistry teachers' nature of science epistemological views and the nature of inquiry-based instruction implemented in their classrooms in Uganda. *International Journal of Educational Policy Research and Review*.
- Sutrisno, S., Nanda, G. A. M., & Widarti, H. R. (2020, April). The effectiveness of inquiry-based learning with OE3R strategy for conceptual understanding of the molecular shape of high school students. In *AIP conference proceedings* (Vol. 2215, No. 1). AIP Publishing.
- Temiz, T., & Topcu, M. S. (2013). Preservice teachers' teacher efficacy beliefs and constructivist-based teaching practice. *European Journal of Psychology of Education*, 28, 1435–1452.
- UBOS, Uganda. Statistical Abstract. (2014). Available at: http://www.ubos.org/onlinefiles/uploads/ubos/statistical_abstracts/Statistical_Abstract_2014.pdf.
- Uwezo. (2014). *Are our children learning? Literacy and numeracy in Uganda 2014*. Twaweza East Africa.
- UWEZO, I. R. R. S. O. (2015). The Australian Council for Educational Research Centre for Global Education Monitoring.
- Van der Graaf, J. (2020). Inquiry-based learning and conceptual change in balance beam understanding. *Frontiers in Psychology*, 11, 1621.
- Voukelatou, G. (2019). The contribution of experiential learning to the development of cognitive and social skills in secondary education: A case study. *Education Sciences*, 9(2), 127.
- Wambaria, M. W. (2008). *A study on constraints in the use of radio programmes in primary schools in Kenya. A case study of Thika Municipality* (Doctoral dissertation).
- Willis, A. S., & Nagel, M. C. (2015). The role that teachers play in overcoming the effects of stress and trauma on children's social-psychological development: Evidence from Northern Uganda. *Social Psychology of Education*, 18, 37–54.