Journal of Education and Learning Technology (JELT)
ISSN 2720-7730 Volume 7 Issue 2 2026, 336 – 350
Available online at: https://noyam.org/journals/jelt/
DOI: https://doi.org/10.38159/jelt.20267222

Project-Based Learning (PBL) as the foundation for teaching Communication Design in Higher Education

Olutunmise Adesola Ojo [1]

[1] Design and Studio Art Department, Central University of Technology, Bloemfontein, Free State, South Africa.

ABSTRACT

This paper examines the use of project-based learning (PBL) as a pedagogical foundation for communication design education, focusing on its role in enhancing creativity, collaboration, and the practical application of knowledge. The study draws on a review of literature on PBL and qualitative narrative self-reflections completed by 16 second-year communication design students. Insights were generated from individual and group project experiences, highlighting peer interaction and the extent to which PBL simulates real-world professional dynamics. The findings indicate that engaging students with real-world projects prepares them for the complexities of professional practice and supports the development of adaptable and collaborative design competencies. While PBL offers significant pedagogical value, challenges such as time constraints and difficulties in assessment were noted. The paper recommends clear assessment criteria, flexible project timelines, and continuous instructional support to enhance the effectiveness of PBL implementation. The study confirms that PBL is an important approach for bridging the gap between academic learning and industry expectations in communication design. The continued adoption of PBL can significantly strengthen students' readiness for professional practice. This study enriches scholarship on experiential and design-based learning by positioning PBL as a transformative, industry-aligned framework for communication design education. It extends understanding of how structured, real-world projects foster creativity, adaptability, and lifelong learning in design disciplines.

Keywords: Communication design, creative pedagogy, design industry, project-based learning, real-world projects

INTRODUCTION

In today's dynamic creative industries, designers are expected to integrate innovation, collaboration, and critical thinking to address complex, real-world challenges. Within higher education, there is growing concern that traditional lecture-based teaching methods do not adequately prepare graduates for these demands.[1] As South African universities align their programmes with national priorities

[1] Vida Lucia Botes and Umesh Sharma, "A Gap in Management Accounting Education: Fact or Fiction," *Pacific Accounting Review* 29, no. 1 (February 6, 2017): 107–26, https://doi.org/10.1108/PAR-01-2016-0002; S Khurram Khan Alwi and Afrah Abdul Karim, "Bridging the Employability Gap: Aligning Higher Education Curricula with Industry-Required Competencies in the Digital Era," *Journal Of Business Strategies* 18, no. 2 (2024): 93.

CORRESPONDENCE – Olutunmise Adesola Ojo Email: oojo@cut.ac.za
PUBLICATION HISTORY - Received : 9th September, 2025 | Accepted: 5th February, 2026 | Published: 14th April, 2026.
TO CITE THIS ARTICLE –Ojo, Olutunmise Adesola. "Project-Based Learning (PBL) as the foundation for Teaching Communication Design in Higher Education." *Journal of Education and Learning Technology* 7, no.2 (2026): 336 - 350. https://doi.org/10.38159/jelt.20267222

outlined in the White Paper for Post-School Education and Training[2] and the National Development Plan 2030[3] there is a renewed emphasis on employability, innovation, and the development of 21st-century competencies. This context raises a central pedagogical question: how can higher education prepare Communication Design students to meet the evolving demands of both industry and society?

PBL offers a promising response. Grounded in constructivist and experiential learning theories,[4] PBL engages students in extended, real-world projects that promote collaboration, creativity, and reflective problem-solving. Initially developed in medical education to bridge the gap between theory and practice.[5] PBL has since been adopted across multiple disciplines, including engineering, architecture, and the visual arts. PBL fosters deep learning and professional competence.[6] Its focus on authentic, practice-based challenges aligns closely with the pedagogical needs of Communication Design education.

However, there remains a gap in empirical research on how PBL can be systematically implemented within South African Communication Design curricula. Few studies have explored its effectiveness in enhancing the teaching and learning of students while preparing them for professional practice.[7]

Accordingly, this study investigates the extent to which PBL enhances intellectual development, collaboration, and the practical application of knowledge, positioning it as a pedagogical approach suited to the demands of contemporary Communication Design curricula. The paper concludes with recommendations for integrating PBL into South African Communication Design curricula and outlines implications for policy, curriculum reform, and future research in design education.

LITERATURE REVIEW

PBL is an educational method where learning occurs primarily through active participation in real-world or simulated professional practice settings. Unlike traditional didactic methods that highlight theory and content delivery, PBL integrates hands-on experience, reflection, and situated learning to develop both technical and professional competencies. PBL is "learning through and for practice highlighting its dual role in equipping students with applicable knowledge while simultaneously developing their ability to function within a professional context.[8]

PBL is grounded in experiential learning theory, which posits that knowledge is created through the transformation of experience. Students cycle through concrete experience, reflective observation, abstract conceptualisation, and active experimentation.[9] The cycle is supported by direct engagement in practice environments, often in collaboration with experienced practitioners.

Furthermore, the concept of situated learning underscores the social dimension of PBL, suggesting that learning is deeply embedded in the context and culture in which it occurs, particularly through legitimate peripheral participation in communities of practice.[10]

---

[2] South Africa Department of Higher Education and Training (DHET), *White Paper for Post-School Education and Training* (Pretoria: Government Printers, 2013).

[3] National Planning Commission, "National Development Plan 2030: Our Future-Make It Work," 2012.

[4] Woei Hung, Diana H J M Dolmans, and Jeroen J G Van Merriënboer, "A Review to Identify Key Perspectives in PBL Meta-Analyses and Reviews: Trends, Gaps and Future Research Directions: W. Hung et Al.," *Advances in Health Sciences Education* 24, no. 5 (2019): 943–57.

[5] Tingting Li et al., "Problem-Based or Lecture-Based Learning, Old Topic in the New Field: A Meta-Analysis on the Effects of PBL Teaching Method in Chinese Standardized Residency Training," *BMC Medical Education* 22, no. 1 (December 31, 2022): 221, https://doi.org/10.1186/s12909-022-03254-5; Howard S Barrows, "Problem-based Learning in Medicine and beyond: A Brief Overview," *New Directions for Teaching and Learning* 1996, no. 68 (1996): 3–12.

[6] Mike Tovey, *Design Pedagogy* (London: Routledge, 2016), https://doi.org/10.4324/9781315576695.

[7] Sara Denise Narciso, "Project Based Learning in Communication Design," *Futures of Education, Culture and Nature - Learning to Become* 1 (January 21, 2022), https://doi.org/10.7146/fecun.v1i.130252.

[8] David Boud and Nicky Solomon, *Work-Based Learning: A New Higher Education?* (Buckingham: SRHE and Open University Press, 2011).

[9] Alice Y. Kolb and David A. Kolb, "Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education," *Academy of Management Learning & Education* 4, no. 2 (June 2005): 193–212, https://doi.org/10.5465/amle.2005.17268566.

[10] Jean Lave and Etienne Wenger, *Situated Learning: Legitimate Peripheral Participation* (Cambridge: Cambridge University Press, 1991).

PBL has become a cornerstone in the training of professionals across various disciplines, including nursing and medicine, through clinical placements, simulations, and case-based learning.[11] In teacher education, practice-based approaches involve teaching practicums, lesson planning, and classroom management in live settings. These hybrid spaces prepare teachers to be adaptable and context-sensitive.[12] Engineering education reflects the collaborative nature of problem-solving and innovation within engineering practice, which PBL supports more effectively than lecture-based methods.[13] Art and design students often engage in studio-based learning, critique sessions, and exhibitions, and PBL can support identity formation while students internalise disciplinary practices and aesthetics.[14] Through PBL, students acquire technical skills and essential soft skills, including communication, teamwork, and ethical reasoning.[15]

Furthermore, a significant study attested that PBL improved retention and application of knowledge by engaging with content in context, which enhances retention and the ability to transfer knowledge to new situations.[16] Consequently, through active participation in professional practices, students begin to see themselves as members of a profession, which in turn strengthens their motivation and commitment.[17] Also, the real-time feedback obligation from supervisors and peers supports iterative improvement and reflective learning.[18]

However, despite its advantages, PBL also presents several challenges, such as variability in practice settings, which means not all students receive equitable experiences due to differences in supervision quality, organisational culture, or task complexity.[19] Measuring learning outcomes in practice environments is complex, as the outcomes involve tacit knowledge and context-dependent performance.[20] PBL also requires intensive resources to be effective. Partnerships with professional sites, trained mentors, and infrastructure make PBL costly and logistically demanding. Proper scaffolding is essential, as some students may focus too much on tasks without deeply understanding the underlying theoretical frameworks.[21]

Consequently, the recent years have seen innovative adaptations of PBL, especially in response to global challenges such as the COVID-19 pandemic. For instance, virtual simulations and remote placements have emerged as alternative practice environments,[22] highlighting how virtual reality tools are being used in medical education to replicate clinical settings. Similarly, digital technology tools are used in online studios to facilitate and assess design students during and since the COVID-19 pandemic era.[23] There is also growing interest in interdisciplinary and community-based PBL, where students work on real problems in diverse teams, often addressing social issues. Teaming up aligns with calls for more transformative education that prepares students to function in professional systems and improve them.[24]

---

[11] Patricia, Benner, Christine A. Tanner, and Catherine A. Chesla, *Expertise in Nursing Practice: Caring, Clinical Judgment, and Ethics*, 2nd ed. (London: Springer, 2009).

[12] Ken Zeichner, "Rethinking the Connections between Campus Courses and Field Experiences in College-and University-Based Teacher Education," *Journal of Teacher Education* 61, no. 1–2 (2010): 89–99.

[13] James Trevelyan, "Reconstructing Engineering from Practice," *Engineering Studies* 2, no. 3 (December 13, 2010): 175–95, https://doi.org/10.1080/19378629.2010.520135.

[14] Tovey, *Design Pedagogy*.

[15] Michael Eraut, "Learning from Other People in the Workplace," *Oxford Review of Education* 33, no. 4 (2007): 403–22.

[16] John Seely Brown, Allan Collins, and Paul Duguid, "Situated Cognition and the Culture of Learning," *Educational Researcher* 18, no. 1 (1989): 32–42.

[17] Etienne Wenger, *Communities of Practice: Learning, Meaning and Identity* (New York: Cambridge University Press, 1998).

[18] David Boud and Elizabeth Molloy, "Rethinking Models of Feedback for Learning: The Challenge of Design," *Assessment & Evaluation in Higher Education* 38, no. 6 (2013): 698–712.

[19] S. Billett, *Learning in the Workplace: Strategies for Effective Practice* (London: Routledge, 2001).

[20] Phil Hodkinson, Gert Biesta, and David James, "Understanding Learning Culturally: Overcoming the Dualism between Social and Individual Views of Learning," *Vocations and Learning* 1, no. 1 (2008): 27–47.

[21] Christopher Winch, Alis Oancea, and Janet Orchard, "The Contribution of Educational Research to Teachers' Professional Learning: Philosophical Understandings," *Oxford Review of Education* 41, no. 2 (2015): 202–16;

[22] Jenny M Gormley et al., "School Nurses' Reports on Reopening Roles, Practices, and Concerns during the COVID-19 Pandemic at the Start of the 2020–2021 School Year," *The Journal of School Nursing* 39, no. 2 (2023): 143–49.

[23] Ojo and Makura, "Using a Digital Studio as an Alternative to Engaging Students Enrolled for Communication Design: Implications for a Post-COVID-19 Pandemic Lockdown Era." *South African Journal of Higher Education*, 40, no. 1 (2026): 269-295.

[24] Jack Mezirow, "Learning to Think like an Adult," *Learning as Transformation: Critical Perspectives on a Theory in Progress*, 2000, 3–33.

PBL offers a powerful framework for bridging the gap between theoretical knowledge and professional practical competence. However, PBL does come with logistical and pedagogical challenges, and ongoing innovation and research will continue to expand its relevance.

THEORETICAL FRAMEWORK

PBL is informed by several educational and philosophical frameworks. First, experiential learning theory, which emphasises learning as a process where knowledge is created through experience.[25] Second, constructivism, which views learning as an active, contextualised process of constructing knowledge rather than acquiring it.[26] Also, situated learning proposes that learning is most effective when embedded in authentic, social contexts.[27] Lastly, reflective practice argues for the role of reflection in transforming experience into learning, particularly in professional practice.[28] These theoretical roots make PBL particularly relevant to professional education, such as communication design, where the goal is to understand knowledge and to apply it appropriately in complex, dynamic situations.

METHODOLOGY

This paper provides an in-depth review of the existing literature surrounding PBL and adopts a narrative inquiry framework.[29] Practical examples were drawn from individual projects undertaken by 16 second-year students and the collaborative work done in teams of four. Narrative self-reflection data were sought from each participant through a narrative reflection form. Two students withdrew from the study, and one was absent. Therefore, only 13 students submitted the completed qualitative reflective instrument. The instrument consisted of four detailed sections, each aiming to capture aspects of the students' experiences and provide an opportunity for individual students to express their design choice and narrative voice.

Section 1 focused on the individual growth and creative confidence that students developed while executing their projects. This section prompted students to reflect on how they evolved personally and creatively throughout the process.

In Section 2, the various challenges and feedback received from peers and instructors were addressed both during and after project completion. This reflection enabled students to evaluate how these challenges influenced their learning experience and outcomes.

In Section 3, the dynamics of collaboration and specific skills developed through working with others were investigated. Students reflected on their interactions with teammates, the contributions made, and the lessons learned.

In Section 4, the resources and tools used were explored, along with the learning barriers they faced. This examination helps illuminate the practical aspects of their projects, including what facilitated their success and what obstacles they overcame.

The collaborative, team-based approach encouraged dialogue among the students and emphasised the crucial importance of peer interaction in the learning process. PBL enhances learning outcomes by replicating the real-world dynamics and professional settings, thereby preparing students for future challenges.

As this study was conducted in a studio setting where the researcher was the design lecturer, particular care was taken to address ethical concerns, including power dynamics, informed consent, and the protection of students' rights. Participants were provided with clear instructions about the study's purpose, procedures, and their right to withdraw at any time without academic consequences.

---

[25] Pamela Napier and Terri Wada, "Bridging the Skills Gap: The Design Education Landscape with AI and Experiential Learning," *Design Management Journal* 19, no. 1 (2024): 19–30; Kolb and Kolb, "Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education"; Peter Wright and John McCarthy, *Experience-Centered Design: Designers, Users, and Communities in Dialogue* (San Rafael, CA: Morgan & Claypool Publishers, 2010); Tovey, *Design Pedagogy*.

[26] Jean Piaget, *To Understand Is to Invent: The Future of Education* (Grossman Publishers, 1973); Lev S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, ed. Michael Cole et al. (Cambridge, MA: Harvard University Press, 1978).

[27] Lave and Wenger, *Situated Learning: Legitimate Peripheral Participation*.

[28] Donald A Schön, *The Reflective Practitioner: How Professionals Think in Action* (Routledge, 2017).

[29] Klaus Kripendorff, *Content Analysis: An Introduction to Its Methodology*, vol. 4 (Thousand Oaks, CA: Sage Publications, 2018).

All data were anonymised using pseudonyms, and any identifying information was removed during analysis.

Application of PBL in a Communication Design Studio Practice Module

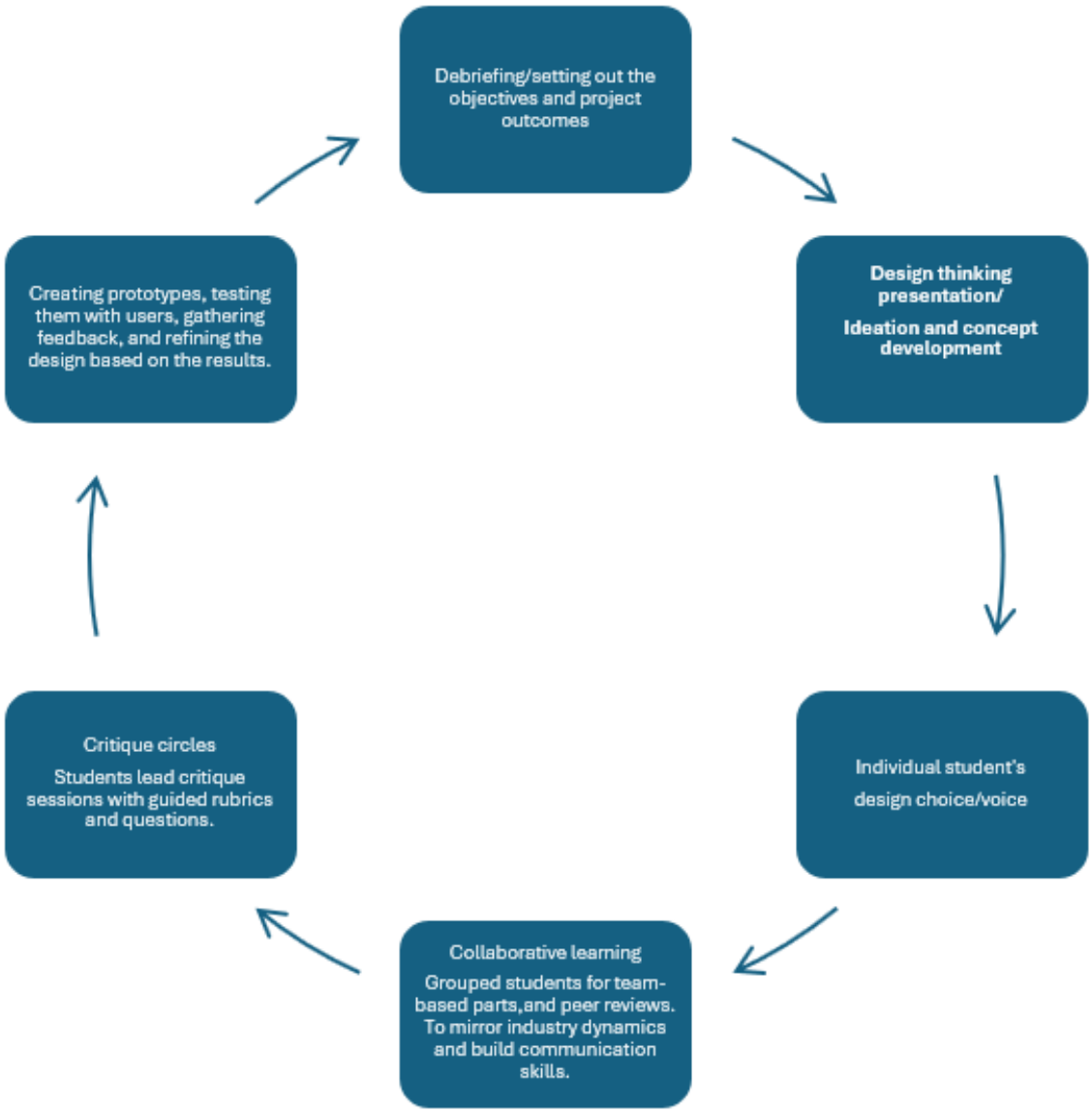

Figure 1. Map of the PBL learning process and outcomes

Debriefing, setting out the objectives, and project outcomes

The design students were presented with a design project, which was a unique opportunity to participate in a real-world project to celebrate the 20th anniversary of the university. Students created individual posters to reflect their interpretation of the anniversary milestone. The posters were integrated into a larger 3D display, which was both an artistic installation and a functional element.

The display was specifically designed to be dismantled and reconfigured, allowing it to adapt to various venues where key activities and events were held throughout the month. This exposure provides students with the opportunity to present their work to a broader audience, engaging the community and fostering a sense of pride in their contributions.

The brief was open-ended to allow freedom of ideas. The students were encouraged to interact with the client or stakeholder. In this case, the client was the institution's marketing unit. Also, provisions were made for iterative design with critique sessions and feedback from the lecturer, marketing staff, and peers.

Design thinking presentation

The lecturer effectively guided the students through the comprehensive design thinking process, which consists of five essential stages: empathise, define, ideate, prototype, and test. This systematic approach focuses on addressing problems from a human-centred perspective, ensuring that the needs and experiences of end-users are prioritised throughout the solution development.

During the presentation, students were encouraged to enhance their ability to empathise with users by understanding their feelings, thoughts, and motivations. They learned the importance of conducting thorough research to uncover insights that inform the problem definition stage, where specific challenges are articulated based on the data gathered.

Moving into the ideation phase, students were encouraged to think creatively and brainstorm a wide range of potential solutions, fostering an atmosphere of innovation. The lecturer emphasised the value of collaboration and open-mindedness in generating ideas.

As they progressed to prototyping, students were taught how to create tangible representations of their ideas, allowing them to visualise concepts and identify any potential issues. Finally, the testing stage provided them with insights into how to gather feedback, iterate on their designs, and refine their solutions based on real user experiences. Overall, this presentation promoted innovation and equipped students with a structured framework for managing their creative processes, empowering them to tackle complex problems effectively.

Collaborative learning exercise

In this collaborative learning exercise, the teams combined their individual 2D surface designs into a cohesive, collapsible 3D display. This activity required both artistic vision and careful collaboration among group members. The best of each participant was brought out by the hands-on activity.

Significant emphasis was placed on peer feedback. A safe and constructive environment was provided for each student to discuss their mistakes and the lessons learned. Constructive dialogue was fostered and enhanced students' ability to give and receive critical feedback, mirroring dynamics typical of professional environments. WhatsApp was used to coordinate group activities, schedule meetings, share updates, and make group calls.

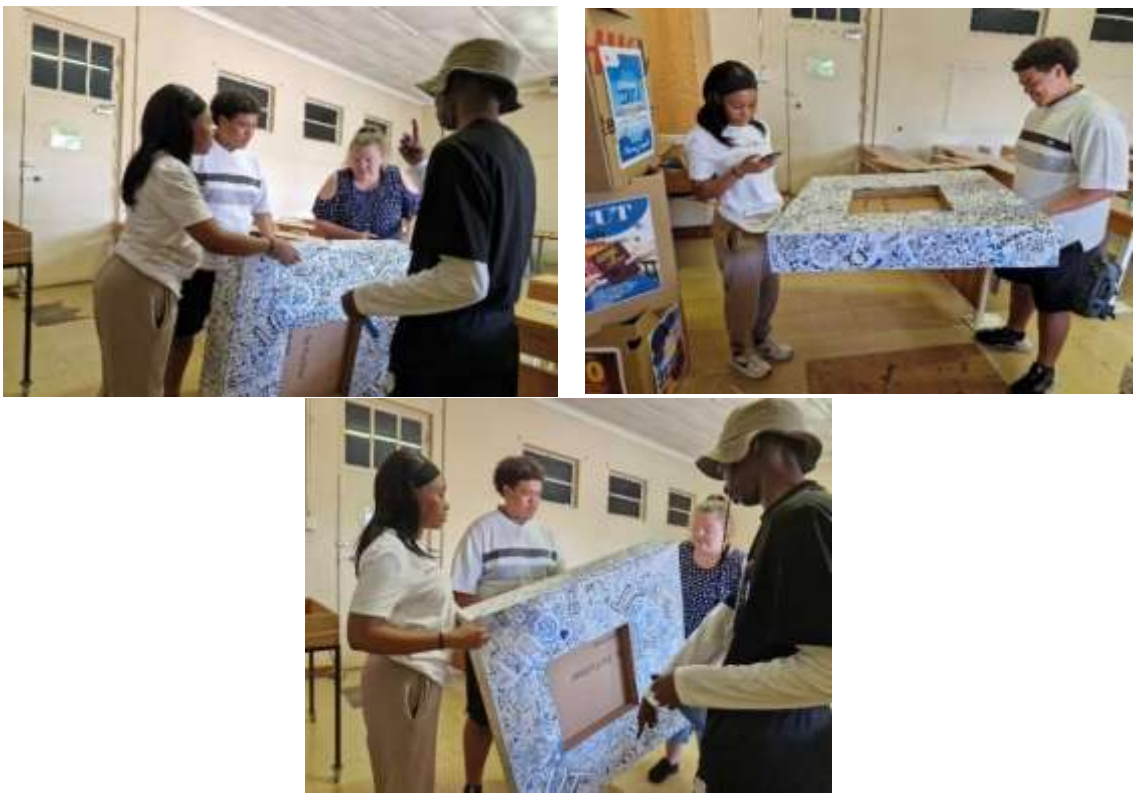

Figure 2: Students' design and collaborative actions while providing design solutions.

PRESENTATION OF RESULTS AND DISCUSSION

Section 1: Students' growth and confidence

The question prompted the students to reflect on how they evolved personally and creatively throughout the process.

What aspect of this project are you most proud of, and why?

The aspect of this project that I am most proud of is the creation and freedom of composition. It allowed me to experiment with some design elements that I would otherwise not have attempted (P1).

Creating something simple was one of my proudest creations, as it got straight to the point while also showing some good illustrations (P2)

I am proud of the design. I was able to add relevant design elements creatively. I'm proud because I really tried to make the object more realistic (P3).

I am proud of how I managed to balance the colours. I used the CUT corporate colours even on the 3D elements to create contrast and balance (P5).

I am proud of working with layout and typography because layout and typography influence the emotional tone of a message. A clean, minimal layout with soft typography can create a calming and elegant effect (P6).

The type of manipulation, I used some of the tools on Adobe Illustrator tools which helped me a lot to navigate. Also, internet tutorials assisted me; therefore, seeing my design coming together and receiving positive feedback from my lecturer is a good sign that I am moving in the right direction (P7).

The most aspect I am proud of is my images that are inserted in the zero of the number '20' years of the central University anniversary. I am proud of it because it represents and shows how CUT students work, and you see that they are proud and happy about their graduation (P8).

Concept development and freedom to think. Also, experimenting with composition, selecting colours, and typography allowed me to express my style and come up with a purposeful design (P11).

The students' responses demonstrated that enthusiasm regarding the creative liberties afforded was a catalyst for active learning, aligning with Vygotsky's constructivist learning theory, which promotes higher-order thinking through social interaction and experiential learning.

Students' responses highlight the significance of creative autonomy, experimentation, technical development, and conceptual growth in their sense of achievement. This aligns with constructivist learning theory, particularly Lev Vygotsky's idea that knowledge is actively constructed through engagement and social interaction. Guided studio practice and lecturer feedback (noted in P7) allow students to navigate Vygotsky's Zone of Proximal Development, where scaffolded support enhances their competence and confidence.

The emphasis on experimentation and creative freedom also reflects Kolb's Experiential Learning Theory, which views learning as a cyclical process of concrete experience, reflective observation, conceptualization, and active experimentation. Students illustrate this cycle through design tasks, reflecting on their decisions and refining outcomes based on critiques.

Additionally, these findings resonate with Amabile's Componential Theory of Creativity[30], which stresses intrinsic motivation and domain-relevant skills. Students' pride in their experimentation reflects strong intrinsic motivation, essential for creative performance. The freedom to "express my style" (P11) indicates the development of a creative identity vital in higher design education.

Moreover, the role of feedback (P7) supports Hattie and Timperley's claim that formative feedback[31] enhances confidence and achievement by clarifying direction. Positive lecturer feedback appears to have strengthened students' self-efficacy, in line with Bandura's theory that mastery experiences and social persuasion promote greater confidence.

What design tasks or processes made you feel the most confident and energised?

Well, the composition of the layout and colour palette selection (P1).
The group work allowed me to gauge how I would work with people of different personalities and how to deal with and work around people's changing moods. It showed me how in group environments morale can affect how efficiently people work (P11).

Everything about the whole project made me feel confident because it seemed so beautiful and bright. It also matches CUT colours (P3).

Creating the poster in Adobe Illustrator. I enjoy using Adobe Illustrator, and I'm becoming more confident with it (P4).

The planning of the project was most energising. I was also excited to use 3D elements freely on a poster (P5).

I feel confident to have created one of the Central University of Technology's 20th anniversary big posters that is installed on the heart of the campus wall. This is monumental (P6).

I feel very confident every time I'm using Adobe Illustrator because it has a variety of tools that one can learn every day, even when checking YouTube, you can learn something from others. As for Photoshop, I am still learning and polishing up my skills (P7).

My poster's background design made me feel the most confident and energised, because of the energy lines that move around, showing technological power (P8).

The purpose and outcomes of this real-life project instilled a sense of pride and confidence in the students. Each student had the opportunity to evaluate their design growth in relation to their classmates and for their work to be chosen for public display.

Section 2: Challenges, peer support, and lecturer support after completion

This reflection allowed students to assess how challenges impacted their learning experience and outcomes.

What kinds of feedback did you receive during this project, and how did it help you grow or identify areas for improvement?

The first concept was not perceived well, as it seemed very basic to the eye of the lecturer, but many students prefer the simple look. However, the improved version was much better with the feedback from the lecturer; it improved my understanding of what good communication material is (P2).

[30] T. Amabile, and M. Pratt. "The Dynamic Componential Model of Creativity and Innovation in Organizations: Making Progress," *Making Meaning. Research in Organizational Behavior*, (2016): 36.
[31] Hattie, J., & Timperley, H. (2007). The Power of Feedback. Review of Educational Research, 77, 81-112. https://doi.org/10.3102/003465430298487

I received good feedback telling me where to fix. Such as increasing font sizes and adding a white background behind the CUT logo. This feedback really helped me grow and improve my design (P3).

I received feedback that I forgot to add the CUT branding and its slogan to my design. I also need to create more appealing balloons and use the corporate colours of CUT (P4).

My first design did not have the correct colours, and the university branding protocol was not adhered to. My lecturer guided me on doing the design the correct way (P5).
I received feedback on how to create a focal Point. Using the Central University of Technology brand colours correctly. Choosing clear, readable typography. To use one or more images originated from CUT (P6).

I received feedback that challenged me to think creatively about users' experience and functionality of my design product (P13)

Now I can recognise that San-serif fonts such as Helvetica are good for print design, like posters and layouts. Also, learnt that the focal point gives readers a direction (P10).
My lecturer helped me to know that there is something called pixelated images. Meaning not having a clear or sharp picture. This can lead to poor results when printing your work. The other feedback was that I was improving on my work, and I should work on time management (P7).

To change the fonts to ones that convey a sense of celebration and to rearrange the elements on the poster. I took the feedback I received to heart. It helped me identify areas for improvement, and while working on my final poster, I felt confident about what needed to be done and how to achieve it. Currently, a large version of my poster project is displayed on a wall at the centre of our campus, where students and visitors can engage with it daily. This outcome makes me feel proud and fulfilled regarding my development (P8).

The challenges I went through were minimal, and they were working in group environments. The project did not pose any difficulty (P1).

I would love it if more projects like this happen, as they simulate a real-world working environment as a designer with the benefit of the university providing materials for construction-based projects and design mock-ups (P9).

Constructive feedback on improving the visual balance of hierarchy and clarity in my design. This helped me refine my design and understand how a small adjustment can make a big impact (P11).

In the implementation of PBL within the fields of communication design and studio-based learning, lecturers or experienced design practitioners must play an active role in guiding students. The students identified the necessity for continuous, constructive feedback to scaffold the learning experience.

Were there moments of frustration during the project? What caused them, and how did you deal with them?

Dealing with people's moods and their effect on productivity.
How I dealt with it is that I would try to improve the individual's mood I found improves group productivity (P1).

Going from the first concept to the second concept was frustrating.

Having to basically start over made me very frustrated, as it made me want to give up, but I pushed through and completed the project. The outcome of the improved version with the comments received from the lecturer was something I am proud of (P2).

I originally wanted to match the background colour with the CUT logo. However, when I tried to blend it, I ended up with a different colour, which was incorrect. To resolve this issue, I added a texture to achieve a darker shade of blue (P3).

I struggled to find ideas at that time. I felt overwhelmed and stressed, which hindered my creativity. If I had known how to control my mind, I could have performed better and avoided feeling burned out (P4).

Yes, during the 3D rendering, the image had a lot of noise that was visible on the poster (P5).

Too many ideas, too many projects, along with this group project, not enough studio space. Struggled to decide on what to include and exclude. Focusing on the core message and layout guidelines really helped me to complete the project (P6, P9, P10, P13).

Struggling to find a suitable background that complements your fonts and visuals can be discouraging, especially when you see others making progress with eye-catching designs. It can make you feel like you're falling behind. To overcome this challenge, I focused on conducting research and regularly sought guidance from my lecturer (P7).

Yes. Dealing with conflicting feedback from my peers

Section 3: Collaboration and skills development through collaboration

Students reflected on their interactions with teammates, contributions made, and lessons learned.

What new habits, techniques, or interpersonal skills did you develop while working with others?

I developed awareness of people's emotions in a group work environment. I also developed unique design techniques that are unique to me as a designer that I will develop further in my graphic design career (P1).
Understanding how different people work and getting to know how I should work in a team. This made me discover how to work and not get frustrated, even when others are not as committed as I am and work through the challenges of frustration in a team (P2).

The new skill I developed involved altering the colour by adding a texture to darken the background. I also learned how to make an object appear more realistic and enhance the vibrancy of the colours. Iterations, prototyping, and testing processes (P3, P13)

By working with others, I was taught how to cut better and to communicate with people working together to cut and build a giant display (P4).

I had never removed noise from a 3D rendering before, so I eventually learned a new skill (P5).

Sharing ideas, handling feedback, and working towards a common goal (P6).

Discussing concepts and creating solutions. Constructive communication (P10, P13)

To keep the project moving forward, we neglected our differences and avoided disagreement (P12).

Communication. I'm one of the people who takes time to warm up to people, but having my classmates helped me to communicate better, and them keeping us up to date is what I will always be grateful to them for. Also helping with projects or tools where I don't understand (P7).

Learning how other students use Adobe Suite has helped me greatly this year with my school projects. Additionally, learning different techniques and styles modernises you as a person (P9).

I learned how to effectively arrange fonts, images, and other elements on a single page to make it visually appealing and suitable for a poster (P8, P12).

I learned the value of diverse perspectives, how to compromise when needed, and advocate for strong ideas (P13)

The group work closely resembles a real-world point-of-purchase project. Students assume various roles, such as group leader or project manager, fostering collaboration and effective communication. Students were assigned distinct tasks along with diverse roles and responsibilities, leading to invaluable experiences. Each student started with individual design work before transitioning to group collaboration, cultivating unique narratives about their experiences with teamwork. The findings show they gained insights into how their peers approached tasks, managed their time, demonstrated resourcefulness, completed assignments thoroughly, produced graphical distinction work, communicated effectively within the group, and accomplished their goals.

How did working as part of a team influence your approach to solving design problems?

Collaborating in a group is fast-paced and promotes experimentation among members. My approach tends to be slower, which allows me to learn new techniques for addressing various design challenges (P1).
Everyone's ideas and designs contributed significantly to the project. Different concepts from various design students inspired me to develop new perspectives on the topic (P2).

It influenced my approach in a good way because communication was involved, and everyone had to take part so in that way it teaches you how to take your responsibility (P3, P9).

It helped me realise that everyone has ideas and solutions on how to make or fix things. You are not alone in fixing the problem, and your way could be wrong (P4).

Building the final structure was different. I was not experienced in building a structure like that, but having a team helped me figure it out (P5).

Research, brainstorming, and sketching multiple ideas are the best basic steps to start with when you solve a design problem (P6).

Always respect time, as some people may struggle to wake up in the morning or tend to arrive late to scheduled meetings. They have also contributed to my understanding of time management. Additionally, there's no need to get stuck on a single design; it's important to move on to another design so you can rectify your mistakes (P7, P10).

Collaborating as a team has influenced my approach to solving design problems. Observing everyone's contributions inspires me and highlights how amazing both the project and the team's efforts can be. Other members explaining to me what I do not understand was helpful (P8, P11).

The students underscored the significance of teamwork, communication, flexibility, time management, and the importance of learning from the ideas of others to provide optimal solutions. Designers must avoid fixating on a single idea, explore alternative designs, and identify better solutions.

Section 4: Resources and barriers

Practical aspects included elements that facilitated success and obstacles to overcome.

Were there any design tools, technologies, or resources you wished you had access to during the project? How might they have improved your work?

Yes. More Cardboard boxes, because having a limited amount allowed no room for mistakes (P1)

Using Adobe Illustrator and Adobe Photoshop so well for this project made me feel like a professional. We were exposed to using thicker boards and doodling using markers and glossy paper to make a big display structure collaboratively. These resources are not what I was familiar with. I am happy I was able to learn how to handle this medium (P2).

Yes, printing machines would have helped by showing me various qualities and the process I needed to see (P3, P9).

There were none. I already had the tools and technologies I needed. I just needed to come up with a better design (P4).

Yes. I wish we had better cutting tools. Because the box was thick and our cutters were not strong enough (P5).

Yes, AI generator. I wanted the circular elements in my design to resemble 3D bubbles, symbolising the celebration of the 20th anniversary (P6).

AI. I wish the lecturer would allow us to use AI for some of the projects, not for designs, but for processes that can illuminate what the design is envisioning but cannot realise (P7).

I believe I utilised every design tool, technique, and resource available for my project, which led to my improvement (P8).

Some students expressed a desire to use AI tools for specific aspects of design, such as visualising 3D elements or enhancing processes difficult to realise manually. AI has potential as a tool for idea exploration. The lesson learned was to maximise the potential of every resource available, whether physical materials or software tools. The students' comments reveal the importance of having access to the right tools and resources. However, constraints do challenge students to be resourceful.

What external challenges (e.g., time, institutional support, access to materials) made completing the project more difficult?

Time is crucial for designers. As we take on more projects, we need more time to achieve better results (P1, P2, P3, P6, P10, P11, P13).

Access to free materials is essential; for instance, having printers nearby allows us to see how our designs will look when printed. This way, we can make corrections before finalising the project (P12).

Limited materials and time hindered the progress and completion of the work. Some teammates focused more on their individual posters and contributed less to the group effort (P4, P9).

We did not face any external challenges. The only challenge was when the structure/display fell, and we had to reinforce the base of the display (P5).

The only thing I think kills me in most cases is always listening to other people's opinions on certain events of our projects and time management. I need to manage my time differently then I won't be left behind or be behind schedule. In most cases, if I am up to date, then I don't submit or show my lecturer my progress, then I decide to slow down my pace (P7).

I revised my design three times to achieve my final project. Although it was challenging, the revisions helped me create a better end product (P8)

Challenges included time, as balancing the project with other academic commitments proved difficult. Thus, effective time management is essential. More time is required for better results, especially when working on complex tasks or multiple projects at once. Group dynamics (e.g., teammates focusing more on individual tasks rather than contributing equally to the group effort) was a challenge that hindered progress. Better communication and accountability within the team ensured all members were equally involved in the project.

Furthermore, when the display structure needed reinforcement, the need for quick problem-solving skills and adaptability skills was highlighted. The process of revising designs multiple times was challenging but beneficial for creating a better product. Revision emphasises the value of iteration in design and the importance of reflecting on feedback and adjusting to improve the final result.

RECOMMENDATIONS

To enhance communication design education, institutions should integrate PBL across curricula to foster creativity, collaboration, and professional skills, while aligning learning outcomes with both global and local standards. Strengthening industry and community partnerships, implementing transparent assessment practices, and investing in educator development are essential to support effective PBL implementation. Furthermore, encouraging research and international collaboration will further refine best practices and align PBL with the United Nations Sustainable Development Goals (SDGs).

CONCLUSION

This paper asks the question of how higher education can effectively equip students with the essential skills necessary to navigate their future careers and to excel and emerge as leaders in a competitive professional world. Integration of PBL within communication design curricula can bridge the gap between theoretical academic learning and the practical realities of the industry. PBL immerses students in real-world scenarios where they confront authentic challenges, thereby fostering a deeper understanding of collaborative dynamics essential in team-based projects.

Through PBL, students cultivate a variety of practical skills that extend beyond mere design knowledge. They gain expertise in time management as they balance multiple project components and deadlines, develop robust problem-solving abilities by tackling complex design issues, and refine their engagement in iterative design processes, which encourage critical thinking and adaptability. These competencies are indispensable in a field characterised by constant evolution and innovation.

By embracing PBL, educational institutions can enhance students' readiness for the multifaceted complexities they will encounter in professional environments. PBL is a transformative pedagogical framework that prepares students to emerge as both innovative creators and versatile problem solvers in their future careers.

BIBLIOGRAPHY

Alwi, S Khurram Khan, and Afrah Abdul Karim. "Bridging the Employability Gap: Aligning Higher Education Curricula with Industry-Required Competencies in the Digital Era." *Journal Of Business Strategies* 18, no. 2 (2024): 93.

Amabile, T., & Pratt, M. (2016). The Dynamic Componential Model of Creativity and Innovation in Organizations: Making Progress, Making Meaning. Research in Organizational Behavior, 36, 157-183. https://doi.org/10.1016/j.riob.2016.10.001

Barrows, Howard S. "Problem-based Learning in Medicine and beyond: A Brief Overview." *New Directions for Teaching and Learning* 1996, no. 68 (1996): 3–12.

Benner, Patricia, Christine A. Tanner, and Catherine A. Chesla. *Expertise in Nursing Practice: Caring, Clinical Judgment, and Ethics*. 2nd ed. London: Springer, 2009.

Billett, S. *Learning in the Workplace: Strategies for Effective Practice*. London: Routledge, 2001.

Botes, Vida Lucia, and Umesh Sharma. "A Gap in Management Accounting Education: Fact or Fiction." *Pacific Accounting Review* 29, no. 1 (February 6, 2017): 107–26. https://doi.org/10.1108/PAR-01-2016-0002.

Boud, David, and Elizabeth Molloy. "Rethinking Models of Feedback for Learning: The Challenge of Design." *Assessment & Evaluation in Higher Education* 38, no. 6 (2013): 698–712.

Boud, David, and Nicky Solomon. *Work-Based Learning: A New Higher Education?* . Buckingham: SRHE and Open University Press, 2011.

Brown, John Seely, Allan Collins, and Paul Duguid. "Situated Cognition and the Culture of Learning." *Educational Researcher* 18, no. 1 (1989): 32–42.

Department of Higher Education and Training (DHET), South Africa. *White Paper for Post-School Education and Training*. Pretoria: Government Printers, 2013.

Eraut, Michael. "Learning from Other People in the Workplace." *Oxford Review of Education* 33, no. 4 (2007): 403–22.

Gormley, Jenny M, Vanessa Poirier, Kathleen A Hassey, Maria Van Pelt, and Lichuan Ye. "School Nurses' Reports on Reopening Roles, Practices, and Concerns during the COVID-19 Pandemic at the Start of the 2020–2021 School Year." *The Journal of School Nursing* 39, no. 2 (2023): 143–49.

Hattie, J., & Timperley, H. (2007). The Power of Feedback. Review of Educational Research, 77, 81-112. https://doi.org/10.3102/003465430298487

Hodkinson, Phil, Gert Biesta, and David James. "Understanding Learning Culturally: Overcoming the Dualism between Social and Individual Views of Learning." *Vocations and Learning* 1, no. 1 (2008): 27–47.

Hung, Woei, Diana H J M Dolmans, and Jeroen J G Van Merriënboer. "A Review to Identify Key Perspectives in PBL Meta-Analyses and Reviews: Trends, Gaps and Future Research Directions: W. Hung et Al." *Advances in Health Sciences Education* 24, no. 5 (2019): 943–57.

Kolb, Alice Y., and David A. Kolb. "Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education." *Academy of Management Learning & Education* 4, no. 2 (June 2005): 193–212. https://doi.org/10.5465/amle.2005.17268566.

Kripendorff, Klaus. *Content Analysis: An Introduction to Its Methodology*. Vol. 4. Thousand Oaks, CA: Sage Publications, 2018.

Lave, Jean, and Etienne Wenger. *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press, 1991.

Li, Tingting, Weidong Wang, Zhijie Li, Hongmiao Wang, and Xiaodan Liu. "Problem-Based or Lecture-Based Learning, Old Topic in the New Field: A Meta-Analysis on the Effects of PBL Teaching Method in Chinese Standardized Residency Training." *BMC Medical Education* 22, no. 1 (December 31, 2022): 221. https://doi.org/10.1186/s12909-022-03254-5.

Mezirow, Jack. "Learning to Think like an Adult." *Learning as Transformation: Critical Perspectives on a Theory in Progress*, 2000, 3–33.

Napier, Pamela, and Terri Wada. "Bridging the Skills Gap: The Design Education Landscape with AI and Experiential Learning." *Design Management Journal* 19, no. 1 (2024): 19–30.

Narciso, Sara Denise. "Project Based Learning in Communication Design." *Futures of Education, Culture and Nature - Learning to Become* 1 (January 21, 2022). https://doi.org/10.7146/fecun.v1i.130252.

National Planning Commission. "National Development Plan 2030: Our Future-Make It Work,"

2012.
Ojo, Olutunmise A., and Alfred H. Makura. "Using a Digital Studio as an Alternative to Engaging Students Enrolled for Communication Design: Implications for a Post-COVID-19 Pandemic Lockdown Era." *South African Journal of Higher Education* , 2026:269-295.

Piaget, Jean. *To Understand Is to Invent: The Future of Education*. Grossman Publishers, 1973.
Schön, Donald A. *The Reflective Practitioner: How Professionals Think in Action*. Routledge, 2017.
Tovey, Mike. *Design Pedagogy*. London: Routledge, 2016. https://doi.org/10.4324/9781315576695.
Trevelyan, James. "Reconstructing Engineering from Practice." *Engineering Studies* 2, no. 3 (December 13, 2010): 175–95. https://doi.org/10.1080/19378629.2010.520135.
Vygotsky, Lev S. *Mind in Society: The Development of Higher Psychological Processes*. Edited by Michael Cole, Vera John-Steiner, Sylvia Scribner, and Ellen Souberman. Cambridge, MA: Harvard University Press, 1978.
Wenger, Etienne. *Communities of Practice: Learning, Meaning and Identity*. New York: Cambridge University Press, 1998.
Winch, Christopher, Alis Oancea, and Janet Orchard. "The Contribution of Educational Research to Teachers' Professional Learning: Philosophical Understandings." *Oxford Review of Education* 41, no. 2 (2015): 202–16.
Wright, Peter, and John McCarthy. *Experience-Centered Design: Designers, Users, and Communities in Dialogue*. San Rafael, CA: Morgan & Claypool Publishers, 2010.
Zeichner, Ken. "Rethinking the Connections between Campus Courses and Field Experiences in College-and University-Based Teacher Education." *Journal of Teacher Education* 61, no. 1–2 (2010): 89–99.

ABOUT AUTHOR

Ojo, Olutunmise Adesola is a visual communication designer. He holds a Master's Degree in Graphic Design from the Central University of Technology in Free State, South Africa, and a PhD in Art and Design: Communication Design from the Tshwane University of Technology in Pretoria, South Africa. Passionate about the evolving landscape of communication design and visual arts, Ojo draws inspiration from intuition, current trends, technology, and creativity. With over 35 years of professional experience in design, advertising, and printing, he has spent more than 20 years as a lecturer in higher education. He teaches various subjects related to communication design techniques, innovation, entrepreneurial education, and professional practice at the Central University of Technology in Free State, South Africa. His academic pursuits align with scholars focusing on visual art and communication design education, green design, and innovation and entrepreneurship training. Ojo is particularly interested in enhancing the visibility of art and design and fostering creative economy activities. He has supervised and examined postgraduate art and design students at several South African universities. Additionally, he has presented research papers at both national and international conferences and published articles in peer-reviewed accredited journals.