

Design education and internship: stakeholder perspectives on students' employability and personal growth

- ¹. Chipambwa Walter, Department of Clothing and Textile Technology, Chinhoyi University of Technology, Zimbabwe
- ². Hahlani Onsimos, S, Department of Art, Design and Technology Education, National University of Science and Technology, Zimbabwe
- ³. Dewa Victor. M, Department Creative Art and Industrial Design, Chinhoyi University of Technology, Zimbabwe

✉ Correspondence

Corresponding Author's Name: Chipambwa Walter

Email: wchipambwa@cut.ac.zw

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Abstract

Internship learning gives students a chance to apply and practice skills they will have learned or acquired whilst gaining career and life experience. Public and private Higher Education (HE) institutions in Zimbabwe have incorporated internships as a training methodology. The purpose of this study was to establish the impact of the internship in building skills and competencies on design students from a leading design school in Zimbabwe. The survey method was used to obtain the views of industrial mentors, lecturers, and the students themselves after their return from industrial attachment. Nine industrial mentors were conveniently sampled from the database of companies that usually take these design students for internship. In-depth interviews were conducted with fifteen student participants who had returned from the internship to establish their views on the student's skills and strengths before and after the internship. Four lecturers who teach in the design faculty were also interviewed to give their input on curriculum expectations and achievements as far as internship is concerned in design education. Results of the findings revealed that confidence levels in dealing with practical industry-type tasks which were weak before the internship exercise were very high after the exercise. A marked improvement in the student's analytical skills, practical skills, working speed, accuracy, and paying attention to detail was also evident. To improve design education, the curriculum must promote design teaching and learning from the lower levels of education and support projects that encourage co-research and co-design between academia and industry through the internship programmes. The study also recommends that universities and colleges that teach design-related fields should prioritise the procurement of up-to-date training equipment. The study concludes that industry, academia, and the student can design projects that can improve societal problems in the form of collaborations and these become internship capstone design projects.

Keywords: Design Education, Employability Skills, Experiential Learning, Internship; Mentorship, Professional Development;

1. INTRODUCTION AND BACKGROUND

In an era characterised by rapidly evolving industries and increasingly complex global challenges, the integration of practical experience into higher education programmes has become key. Design education is at a point where it needs to change because employers want to hire people who learn fast and can switch between roles easily, which is different from the usual focus on specific subject skills (Kaur Majithia, 2017). Such integration serves as a crucible where theoretical knowledge is tested, refined, and ultimately transformed into actionable expertise (Ramaraj & Nagammal, 2017). This transformation is particularly evident in the context of internships, which provide students with invaluable opportunities to apply their skills, gain exposure to real-world projects, and cultivate the professional acumen necessary for success in their chosen fields. Design problems are complex and interactive, which helps students learn how to understand, organize information, and come up with solutions, as well as develop skills, knowledge, and an understanding of future roles (Ramaraj & Nagammal, 2017; Van den Beemt et al., 2020). The educational curriculum of universities and colleges alone can never be enough to produce wholesome students without the involvement of the industry. According to Bolli et al. (2021), institutions of higher learning introduced internships as they were facing criticism that they were putting more focus on soft skills at the expense of practical skills hence the introduction of mandatory internships (Silva et al., 2018). Like many other universities and training institutions the world over, many Zimbabwean universities and colleges have made internships a mandatory part of their programmes. Globally it has been reported that internships offer significant benefits to undergraduate students in higher education as they enhance their employability and personal development (Bolli et al., 2021; Ndamase & Lukman, 2024; Pianda et al., 2024). Chitrao et al. (2024) report that internship enhances classroom-learned content as the student applies this in a real-world setting. Ismail, (2018) also cites that internship improves skills such as teamwork, communication, and professionalism in students as these are often not fully developed in an academic setting. In the same vein Ndamase and Lukman, (2024) mention that internship improves the employability of students as some companies use them as a recruitment tool for future employees. Internships give students hands-on experience that bridges the gap between theory and actual application, giving them valuable skills and insights into their chosen disciplines.

In Zimbabwe's higher education system, internship or attachment refers to a process where a student is expected to gain practical experience in a real-world environment related to their area of study. Internship for undergraduate students in higher education in Zimbabwe serves an essential function in connecting academic knowledge with practical experience for students (Muchemwa, 2018). Studies by Chaminuka and Mtezo, (2019) and Dondofema et al. (2020) report that internship students in Zimbabwe face challenges such as having no pay or allowances given to them by the companies and also being assigned to roles that have no relationship with their programme of study. Similarly, Bukaliya, (2012) mentions that some workers perceive interns as a threat to their roles, and in certain instances, supervisors may have qualifications that are inferior to those of the student interns. In Zimbabwe, internships are acknowledged as a significant component of higher education as supported by the Nziramasanga Commission (1999) which compels institutions of higher learning to create linkages with organisations where their students can get internships. Internship serves as an experiential learning tool which is an important component in design education. Experiential learning is the process of converting experience into knowledge.

Chinhoyi University of Technology's School of Art and Design offers a variety of undergraduate design-related programmes that are done over four years. For all these programmes, during the third year, every student is required to spend a minimum of eight months doing an internship at a related organisation as approved by the faculty. These organisations that the

universities are those seen to be endowed with skilled personnel, appropriate machinery, and infrastructure, as well as an environment that is conducive to the development of skills and competencies in students. Students are attached to these organisations after going through two years of intensive learning of both practical and theoretical content at the university. An important point to note is that it is not uncommon for the university laboratories and workshops to lack some special equipment, materials, and infrastructure that are of paramount importance to the training process. It is assumed that the gap created by this unfortunate situation is covered during the industrial attachment exercise where students will be attached to carefully vetted organisations that have enough facets to cover this gap. This study explores the perspectives of design students on the impact of the internship programme in building skills and competencies in the chosen design field.

Theoretical framework

Becker, (1962) and Rosen, (1976) introduced the Human Capital Theory (HCT), which asserts that employees possess a collection of talents that may be enhanced through training and education. The information, skills, abilities, and experiences people gain that increase their marketability in the labour market are referred to as human capital (Xu & Fletcher, 2017). Student internships are a practical and experiential form of human capital development because as they do their internship they accumulate human capital hence their value in the labour market increases. Through internships, undergraduate students get opportunities to acquire job-specific skills, industry knowledge, and professional networks, all of which enhance their employability and productivity. According to the HCT theory (Becker, 1962), an internship is a form of human capital investment in the student who gets paid little or no wages in exchange for skills and experiences that will increase their productivity and job market value. From the perspective of employers and society, internships contribute to the development of a skilled and productive workforce. While internships are a valuable form of human capital investment, when students are not paid any wages it can limit opportunities for those from lower socioeconomic backgrounds. In design education there is a direct link between practical outputs that students exhibit as final year capstone design project and their practical internship experience. This is a result of practical investment attained through internship which aligns with the core principles of Human Capital Theory.

Literature review

Design education has increasingly emphasized the incorporation of internships within curricula, recognizing the profound impact of practical experiences on students' personal and professional growth (Barbarash, 2016; Bender, 2020). The fusion of theoretical knowledge and hands-on practice enables students to navigate real-world challenges, ultimately enhancing their employability and skill sets (Ismail, 2018). Design education plays a major role in students' acquisition of major professional competencies and personal development. Lukaka, (2023) opines that art and design education increases student creativity and critical thinking skills. In support of this notion, Tang et al. (2020) mention that design studies promote the development of critical thinking, creativity, and problem-solving skills through an extended curriculum that is a combination of theoretical foundations and practical elements. This dual focus is particularly applicable as it equips students for a variety of career paths as well as for such qualities as flexibility and resilience when working with complex problems in the design world. According to Bender, (2020) when design students go for internships their experiences further solidify these competencies, providing real-world contexts that bridge classroom learning with industry expectations. These work practices are a critical forum through which students have the opportunity to apply what they have learned and be provided with constructive criticism and feedback, crucial to their career development. According to Smith et al. (2010), undergraduate students who take work practice develop the necessary competencies that aid them in career progression. The impact of internship on students

extends beyond simply gaining technical skills. Students get an opportunity to self-reflect on their assigned design project outputs and also cultivate a personal design philosophy reinforcing the idea that theory without practice is dead, and practice without theory is blind (Hoskins et al., 2011).

Design education and professional development

Through internships, design students apply theoretical knowledge to solve real design problems, thus further building their self-efficacy and demonstrating their capabilities to potential employers. Such skill development has become a precondition for employment globally as the design sector expects one to develop a portfolio of their design work. In their study on final-year students, Donnelly et al. (2020) opine that workplace skills were evident as students had gained these during internships, reinforcing the importance of hands-on learning in curriculum design. With its focus on innovative problem-solving techniques and iterative design processes, design education, fosters self-confidence by encouraging students to experiment, take risks, and learn from their mistakes (Ramaraj & Nagammal, 2017). Design education programmes prioritise project-based learning, wherein students cooperate on practical assignments, cultivating teamwork and improving problem-solving skills. This hands-on approach to the design education curriculum aligns with findings from Lor, (2017) who underscores the significance of high-impact experiences in developing employability skills, such as communication and critical thinking. Thus, design education, fortified by experiential learning, significantly contributes to students' professional and personal growth.

Impact of internships on personal development

When undergraduate students go for internship programmes they gain practical skills as they will be able to bridge theoretical knowledge with practical application within their chosen fields. The design profession comprises various specialty areas such as fashion design, product design, graphic design, interior design, jewellery design, and many more. One of the critical skills required in each design area is the ability to sketch the idea so that it can be visualised. Through the internship, students are allowed to turn these illustrations into real projects in the form of prototypes or mock-ups hence developing their practical skills. Students can overcome real-world obstacles by participating in such events, which develops critical thinking and problem-solving abilities that go beyond classroom instruction. (Makoni et al., 2024; Matyokurehwa et al., 2017). According to Dondofema et al. (2020), students also learn professional etiquette as they are taught workplace norms and expectations, which are essential for their future careers. This is also supported by Smith et al. (2010) who argue that the nature of knowledge gained through work-integrated learning experiences significantly differs from conventional academic settings, emphasising the necessity of practical engagement in the educational process. This integration not only enhances professional competencies but also nurtures personal attributes such as resilience and adaptability. Ultimately, the personal growth derived from internships underscores their importance in design education, enriching students' overall educational journey and future professional endeavours (Anjum, 2020; Levine et al., 2006). Internship also allows the student interns to do self-reflection and self-assessment of their skills as they can be given tasks where their design outputs are critiqued by customers. Such environments also build more confidence in the students thus positively impacting their personal growth (Jordan & Matzke, 2025). As students are working as interns the company at which they will be working impacts their sense of belonging and identity and this has an impact on their confidence level in any task assigned to them also. Moreover, as they build relationships with colleagues and clients, students also refine their communication styles and adaptability, which are crucial for professional success (Maertz et al., 2014). Ultimately, these transformative experiences not only bolster self-assurance but also equip students with vital skills necessary for thriving in dynamic workplace settings.

Students' experiences during internships

Internships serve as pivotal experiences in students' educational journeys, particularly in design education, where hands-on practice is essential. Highlights from a study in Taiwan by Chen et al. (2011) show that the experiences of students during internships have the potential to push other students in their institution to influence or discourage other students to prefer or avoid the company. Similarly, Gautam, (2017) reports that students' experiences during internship create a desire for them to re-join the organisation upon completion of their studies. Mentorship and supervision also play key roles in shaping students' internship experiences by providing guidance, and support, and fostering professional development (Schneider et al., 2024). Effective mentorship enhances students' learning outcomes and career readiness, while supervisors' engagement directly influences the quality of the internship experience

Challenges of internship programmes

Organisations to which students get internship experience differ in terms of their size and range of activities. This implies that there is a variation in terms of quality which might cause some students to feel they wasted their time during the time of internship as they will tend to compare with their counterparts (Khumalo & Dewah, 2018). Dondofema et al. (2020) bemoan a lack of standardised evaluation methods in Zimbabwe's institutions of higher learning for measuring the success of internship programmes. They argue that this can hinder the success of the internship programme as it is common to have students from various institutions at one company. Bukaliya, (2012) also highlights that in the Zimbabwean context, student interns face several challenges including supervisors withholding information, and or not giving enough time to assist the interns. Notwithstanding the difficulties mentioned, internships are essential for preparing students for the real world by offering them competent professional guidance (Bolli et al., 2021; Khumalo & Dewah, 2018; Matyokurehwa et al., 2017; Ramaraj & Nagammal, 2017).

Studies across different contexts have consistently highlighted the role of internships in enhancing student competencies. For example, Bolli et al. (2021) in Switzerland found that students who completed internships earned significantly higher incomes after graduation, underscoring the professional value of work-integrated learning. In South Africa, Ndamase and Lukman (2024) reported that internships improved employability and soft skills such as teamwork and communication, though challenges such as lack of support and inconsistent supervision were also noted. In the Zimbabwean context, Bukaliya (2012) observed that student interns often faced challenges including inadequate mentorship, lack of financial support, and being assigned irrelevant tasks, which limited the overall benefits of attachment. Similarly, Chaminuka and Mtezo (2019) found that while internships contributed positively to professional growth, issues such as misalignment between academic preparation and workplace demands persisted. Beyond Africa, Ismail (2018) showed that internships in higher education enhanced professional competencies such as teamwork and communication, while Chen et al. (2011) in Taiwan revealed that internship experiences influenced students' willingness to re-join organisations after graduation, demonstrating their role in career orientation.

Although these studies collectively demonstrate that internships foster professional and personal growth, they also reveal persistent limitations, such as insufficient institutional support, misaligned curricula, and industry-related challenges. Importantly, most existing research has focused on general education, business, or engineering students, with limited attention given to design education despite its unique demands for creativity, technology adoption, and portfolio development. Furthermore, few studies have integrated multi-stakeholder perspectives, which is bringing together students, lecturers, and industry mentors to provide a holistic understanding of how internships shape professional and personal

development. This study seeks to address this gap by exploring the experiences of design students in Zimbabwe alongside insights from lecturers and industrial mentors.

2. METHODOLOGY

The study adopted a qualitative research methodology as it sought to explore the perspectives of students, lecturers, and industrial mentors on the role of internship programmes in the professional and personal development of undergraduate design students. The qualitative methodology was chosen as it provides an in-depth understanding of participants' experiences, perceptions, and insights, which are critical to addressing the research objectives (Oranga & Matere, 2023).

The study employed a case study design, focusing on a specific cohort of undergraduate design students at CUT, their lecturers, and industrial internship mentors. Using a case study approach provides an in-depth examination of particular events, yielding substantial qualitative data that can uncover fundamental patterns and linkages. As stated by Yin, (2014) a case study research design allows one to study the phenomena in real real-life context and it also allows flexibility in instruments that can be used for data collection (Creswell, 2014).

This qualitative study involved three distinct groups of participants who took part in the interviews:

Students: Fifteen (15) undergraduate design students who had completed internships as part of their academic curriculum at CUT were interviewed. Five students from each of the three distinct specialty design areas that is fashion design, industrial design, and fine art were chosen to participate. These students were selected purposively to ensure diversity in terms of gender, year of study, and internship experiences. The total population was made up of students in their final year who had recently returned to campus.

Lecturers: Four (4) lecturers who had experience in managing the internship programme in the School of Art and Design at CUT were interviewed. Since the School of Art and Design has two departments namely Clothing and Textile Technology (CTT) and Creative art and Design (CAD) two lectures were selected from each department to ensure fair representation. The lecturers were given names Lecturer1, Lecturer2, Lecturer3 and Lecturer4 for ease of reference in the presentation and discussion of their views in this study. These lecturer participants were chosen based on their extensive experience in design education and their role in facilitating internship programmes within the faculty.

Industrial Mentors: Nine (9) industry professionals who had mentored students during their internships were interviewed. Three mentors were purposively selected for each of the following specific design areas fashion design, fine art, and industrial design. These mentors were selected to provide insights into the industry's expectations and the student's performance in real-world settings.

Data was gathered using semi-structured interviews since they provide flexibility in exploring participants' experiences while maintaining focus on the research objectives (Adams, 2015). For the lecturers and undergraduate design students' interviews were conducted face-to-face whilst for industrial mentors they were done virtually through the Google Meet platform. Interviews lasted an average of 35 minutes and they were audio-recorded with participants' consent.

The interview guides for the three distinct participant groups were developed separately as they sought to address unique perspectives. To encourage extensive expression of the participants' views, the guides for all the three groups included open-ended questions focusing on:

- The perceived value of design education in preparing students for internships.

- The impact of internships on students' professional and personal development.
- Challenges faced during internships and suggestions for improvement.

The interview data was analysed using thematic analysis following the guidelines as suggested by Naeem et al. (2023). The following steps were part of the process:

1. Transcription: Identification of initial themes after familiarisation with data.
2. Selection of keywords: Examine the data to identify recurring patterns.
3. Coding: Assign short phrases to segments of data.
4. Theme Development: Grouping codes in meaningful ways to find trends and connections that answered the research question.
5. Conceptualisation: Identification of ideas emerging from the data and aligning them to research objectives
6. Development of Conceptual Model: Creating a distinctive representation of the data as guided by existing theories

The study followed ethical research practices, such as obtaining informed consent from all participants, and maintaining participant confidentiality and anonymity. Participants were also allowed the freedom to withdraw from the study at any time without consequence.

3. RESULTS

Important themes emerged from the data obtained through the interviews held with the three specific groups of participants namely students, lecturers, and industrial mentors. For the sake of clarity and coherence, information extracted from each of the three participants' groups is presented separately. Considering the importance of the student participants as the key subject on which the impact of internship is perceived, a summary of the key themes extracted from this group are presented explicitly in a table in this section. These views are later on analysed in the discussion section alongside with the views of lecturers and industrial mentors to determine the impact of the internship exercise.

The data gathered from interviews was examined to identify main themes and sub-themes concerning students' personal experiences and practical skills gained from the internship programme. This was done through a thematic process that identified important topics that related to the positive impact of the internship programme on the undergraduate design students at Chinhoyi University of Technology. The thematic analysis process was done following the six stages method outlined by Christou, (2022) to yield many key themes and their corresponding sub-themes.

Thematic analysis of the interviews generated several themes that captured students', lecturers', and industrial mentors' perspectives on the internship experience. Five major themes emerged across the data: (1) software and technology gaps, (2) building confidence and professional identity, (3) curriculum–industry alignment, (4) acquisition of practical and soft skills, and (5) sustained industry linkages and employability. These themes are presented below as the main units of analysis, supported with verbatim quotes from participants and summary tables. While the results are organised into thematic categories, voices from students, lecturers, and mentors are interwoven to provide a multi-stakeholder perspective on how internships shape students' professional and personal development.

Design student responses

Data obtained in this study clearly shows a wide difference in students' competencies in the period before and after the internship. The engaged student participants from the three degree

programmes indicated that they were now able to design market-ready designs for their respective industries as a result of their internship/ industrial attachment experience. All the engaged students from Clothing Fashion Design, Creative Art and Industrial Design, indicated that the pre-internship knowledge and skills they had on the use of design software proved to be very general in the face of design tasks encountered during the internship. A fashion design student mentioned,

"The CorelDraw we learned was good for designing posters and fashion sketches, but not really useful for pattern drafting," Student 7

The recurrent view from the fashion design students was that while the CorelDraw software they learned at the university provided a good foundation for them to migrate to other vector-based garment design software, the knowledge and skill it provided were general and less useful in the design of garments. All the five students interviewed insisted that the software was appropriate for general tasks such as creating concept boards and the general production of fashion illustrations that did not require detailed mathematical measurements. A summary showing themes from the student responses and their corresponding illustrative quotes is given in Table 1.

Table 1. Summary of themes from design students

Theme	Illustrative Quote	Description and Interpretation
Self-confidence and independence	"I was hesitant to handle clients during my first days but through assistance and guidance from my mentor I can now handle all clients."	Students expressed that during the internship their mentors helped them to gain confidence in their design tasks.
Feedback and self-reflection	"My supervisor always gave me feedback on any design task and that boosted my confidence as a design intern."	Students highlighted that feedback from customers and their co-workers helped them to be more confident.
Ethical and Social Responsibility	"I had to balance my creative freedom in design with materials to use and also taking into account customer expectations."	Students mentioned that the internship programme helped them understand social responsibility and sustainability in design.
Practical skills and competencies	"I learned how to use the automatic laser engraving cutting machine on wood. With these skills I am now able to produce parts used to manufacture market-ready products."	Gained practical skills and handling different equipment or machinery used in industry. Students expressed ability to work productively in the production systems of the companies where they were attached.
Soft skills	"I now appreciate the importance of teamwork, collaboration, and how to schedule my tasks so that I meet deadlines."	Students developed soft skills working with different people and on various design projects.
Challenges	"My supervisor gives me a lot of work and I end up doing this over the weekend leaving me little time to rest."	Student interns are given huge workloads and non-work-related assignments by supervisors.
Technology	"I was taught AutoCAD in class but in industry, they use different software and had to learn it from scratch."	The university needs to invest in new equipment and software

		for use in the studio by design students.
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Similarly, concerning the AutoCAD software, all the five Creative Art and Industrial Design students interviewed argued that the software was more appropriate in introducing them to computer-aided design. One student explained,

"AutoCAD helped me understand the basics of computer-aided design, even though in industry I had to switch to SolidWorks and Rhino." Student 2

Another commented,

"At first I thought AutoCAD was outdated, but it actually gave me a foundation that made it easier to learn other design software." Student 4

These accounts demonstrate that while AutoCAD was not directly used in industry, it played a key role in easing students' transition to the more advanced design software such as Rhinoceros3D and SolidWorks. While the views of students in the Bachelor of Fine Art programme had less reference to software challenges, the issue of the generality of the knowledge and skills they brought from the university was also alluded to. Students from this programme went into detail explaining that although the skills they gained in painting, sculpture, ceramics, and many other art production activities gave them a good foundation, they tended to be general as they were done with limited technologies and in limited time during the short semesters. One fine art student mentioned,

"If we had more exposure to 3D modelling software at school, I could make lifelike virtual sculptures, not just clay models." Student 13

The sentiments by the students indicated the need for the inclusion of more specific virtual modelling software that allows deeper spatial expression that would allow them to produce better artworks. The Bachelor of Fine Art students highlighted the need for the university to increase the use of modelling software in the programme to make it more relevant to the modern world where artworks are increasingly being showcased and consumed in the virtual space. The obtained data showed unanimous agreement by the engaged students that the internship exercise gave them a long uninterrupted time that allowed them to master several specific skills that are key in their fields of specialties. All the engaged students indicated that the exercise had equipped them with skills to produce market-ready products as they did not pose such skills before the internship experience. One fashion design student mentioned,

"Now I can take a client from consultation to finished garment on my own." Student 9

On the same note an industrial design student highlighted,

"I even asked the lecturers to allow me to give CAD tutorials to juniors, because I felt I could help them with the experience I gained from my internship experience." Student 1

From the fine art, one student mentioned,

"If the university is willing to provide resources, I can organise my colleagues and we will design and install life-size monumental public art to improve the ambiance of the university." Student 11

There was a clear display of practitioner confidence in the students during the interviews as all of them indicated a willingness to share their skills with junior students in their areas of specialty. Of special interest to this research is an incident where one of the internship returnees from the Creative Art and Industrial Design programme presented a written request to the Department's chairperson, requesting to give remedial lessons on Computer-Aided Design software to the other students. All the interviewed students from the Clothing Fashion Design programme informed the researchers that they had built a convincing portfolio of client-ready garments that many people were willing to buy. The students were willing to show photographs of various products that they produced under their industrial mentors with unwavering confidence. The findings underlined experiential learning's transformational significance in strengthening students' practical knowledge as they are allowed to test their ideas before actual product realisation. Results from the interview with students also revealed that students had learned a lot in terms of practical issues and equipment used in industry. Students doing the fashion design programme highlighted the opportunity they got to use some specialised industrial machines as the sector has different equipment for certain tasks which the university does not have.

Lecturer responses

Interviews with the four design lecturers yielded a lot of informative information about the goals of the curriculum, especially in the period before the internship exercise. This was more so because all the lecturers' interviews preceded the interviews with the students, whose views equipped the researchers with a lot of relevant follow-up questions to clarify issues raised by the students.

The multifocal nature of the design curriculum

A contentious issue that drew a lot of attention in the lecturers' views on the curriculum was the inclusion of a lot of content-based theory modules in the university curriculum. While all four lecturers interviewed admitted that the inclusion of many of these modules significantly reduced time for the practical modules, there was a consensus in their views that these modules were necessary to create a wholesome and socially informed designer. One lecturer responded, "Design thinking needs designers to understand various social concerns and appreciate social, economic, political, and other settings, making training in 'theory' modules vital." Lecturer 4

The common view emerging from the interviews with the lecturers was that the design curriculum was structured to lay a foundation without which students would be able to master the knowledge, skills, and competencies that they obtained during the internship.

Curriculum alignment pre-internship and post-internship

Data yielded during the lecturers' interviews played an important role in reflecting the impact of the internship exercise on design students. The engaged lecturers highlighted the important role that internship plays in covering the practical skills gap that universities alone cannot fill because of the shortage of equipment in their various design departments. Issues of unavailability of up-to-date software and modern high-tech technologies that students usually meet for the first time in the industry were discussed with passion by all four lecturers. All four lecturers reported clear improvement in students returning from internship with unanimous mention of improvement in confidence in design tasks, analytical skills, accuracy, speed, and excellent attention to detail when performing design tasks. Some of the responses were,

"There is a marked difference in the standard that we are seeing when assessing design work from internship returnees, as their work is now of high quality." Lecturer 2

"Students from internship show a lot of confidence and agility in using various machines in the sewing lab and even assist juniors in operating some of the machines." Lecturer 3

All the lecturers alluded to the fact that students' love and appreciation of their field of specialty and future careers was very high after the internship exercise. An issue of interest raised by two of the interviewed lecturers was that a lot of the internship returnees are known to maintain contact with their former attachment organisations, with some of them continuing to receive design tasks from the organisation which they do and send using the internet or go for weekend jobs. It was clear from the views of these lecturers that the student's skills and competencies obtained during the internship effectively prepared them for their future careers as designers.

Industrial mentor responses

Technology gap academia vs industry

Issues raised by the interviewed industrial mentors brought three major issues to the fore. The first issue is the lack of confidence and fear that interns display during their early days in the workplace. Disputing the follow-up question by the researchers that asked if this lack of confidence was not a result of the interns' unfamiliarity with the new environment, one of the mentors emphatically argued that it was clear that the interns were hesitant to maneuver through the machinery and software because they were meeting some of them for the first time. These informants dwelt on the need for the university to introduce the students to trending software as some of the software currently being used by the universities has limited relevance in today's industry. One of the mentors indicated that he gives new interns a few weeks to familiarise themselves with software and other high-tech equipment before involving them in the organisation's client-driven design tasks.

Need to involve industry in the pre-attachment teaching/learning.

Although there was variance in the modalities of execution, the issue of involving industrial experts in some of the teaching/learning activities in the university was alluded to by several industrial mentors. Six of the nine participants expressed an interest in delivering occasional guest lectures. For example, one mentor said, "If the university invites us, I am willing to give a lecture once or twice a semester to update students on what is happening in industry," (Mentor 1). All nine participants emphasised the importance of bringing students for educational tours, with one stating, "Educational visits to our workshops would help students see current technologies that the university cannot afford to purchase," (Mentor 3). Mentors generally argued that universities struggle to keep pace with technological change because it is rapid and costly, as another mentor noted, "Machines change almost every two years; no university can update equipment that fast," (Mentor 9).

Effective adaptation to the industrial environment by interns

The issue of good adaptation to the industrial environment also emerged as one of the important themes from the interviews with the industrial mentors. All nine informants from this group expressed satisfaction with the rate at which the interns adapt to the new software and machinery. Some of the responses included,

"Within three months, our student interns can handle client jobs with minimal supervision," Mentor 5

"Student interns are quick learners even when we switch to new software, they can easily adapt." Mentor 8.

The responses of all the nine informants showed that within three months, most of the interns will have adapted to the systems of the organisations. Interestingly, the same respondents who showed contempt for some of the old software used by the university agreed that familiarity with these old software programmes helped the students to quickly migrate to modern software. Five of the informants also praised the interns from universities for displaying good learning aptitude, and analytical skills in addition to the well-developed interpersonal skills that they generally displayed. The mentors generally attributed these to the effective growth in knowledge and skills that the students go through in the eight months of internship. Most of the industrial mentors indicated that by the time they complete the period of internship, most of their interns will be polished enough to operate as full-fledged designers who can handle the challenges of most design studios.

4. DISCUSSION

The study's findings show that all undergraduate students gained practical experience through internship despite the different levels of impact of the programme on each one of them. Students reported that the internship programme provided them with a critical opportunity to apply theoretical knowledge from their design education to real-world projects. This emphasises how crucial internships are in bridging the gap between practical practice and academic study. However, some students noted gaps between content learned in the classroom and workplace demands, suggesting a need for more industry-aligned curricula. Results from the study revealed that the internship programme significantly enhanced technical skills such as software proficiency and prototyping and, soft skills such as teamwork and communication. Bolli et al. (2021) state that internship was introduced in higher education as it only promoted soft skills but from this study, it is also evident the internship programme developed some soft skills among the undergraduate design students. This suggests that design programmes should integrate more opportunities for collaborative projects and client interactions such that students learn these in a classroom setup. Through internship design, students managed to get to appreciate the industry standards, professional ethics, and workplace dynamics. This exposure made the students grow professionally and personally similar to the positive impacts of internship mentioned by (Barbarash, 2016; Bender, 2020; Ismail, 2018). Internship mentors play a key role in building confidence among the student interns and their feedback on any design task given to students helps to build confidence among these students. Dondofema et al. (2020) state that student interns need good support systems as they might be nervous due to high expectations from their supervisors or colleagues. Many students felt that the design education curriculum from their university did not fully prepare them for the practical demands of internship. The view was also alluded to, by lecturers and industrial mentors highlighting the need to incorporate more project-based learning and inviting industry guest lecturers to help bridge this gap. Results also revealed challenges facing students such as lack of guidance, and overwhelming workloads and this is similar to other research on internships by authors (Bukaliya, 2012; Dondofema et al., 2020; Khumalo & Dewah, 2018; Matyokurehwa et al., 2017). These challenges highlight the need for clearer communication between students, educational institutions, and employers to

ensure internships are structured and supportive. This can be done through workshops on time management for students and also internship coordinators creating timelines or expected milestones that are shared with various companies to which students are attached.

Internship is a transformative programme and all students highlighted its importance to their career growth as some preferred to go back to their former companies after finishing their studies. According to the human capital theory (Becker, 1962), an internship is an investment by the company as the student develops more skills hence increasing their employability and their value on the job market resulting in some companies preferring to employ their former interns (Gautam, 2017). Because of this, the internship programme is an essential part of the design education curriculum; however, further research is needed to fully understand how the internship programme affects students' personal and professional lives over the long run. The results also reveal a gap in technological investment between the institution and industry as students were exposed to new technologies and equipment during internships. This suggests a need to look at various options available for the university to equip the students with knowledge of these technologies before they go for an internship. Industrial visits can be arranged with industry to expose design students to new trajectories in new technologies. Participating in design contests at international level as an institution can also generate income that will be used to purchase new equipment for the design studio. Strategic partnerships with the creative arts sector and the design industry can also help the institution in acquiring new technologies. Collaboration in design research is crucial for the development of the design sector and institutions can benefit from equipment that will be purchased for specific projects thus there is a need for more research projects that are done under the institution but for the industry to benefit. In design education, students present final-year capstone design project and their former internship companies can play an important role in supporting these students if they manage to create good networks during the internship period. Thus, there is a need to educate and emphasise to the students the crucial role internship programme plays in shaping their careers.

5. CONCLUSION

The study focuses on the impact of internships on undergraduate design students at Chinhoyi University of Technology. An internship is an essential programme for students, serving as a kind of experiential learning that provides practical experience and facilitates the acquisition of new technologies within the industry. The study highlights the need to engage guest lecturers from the industry and use industrial visits as these can help students model their career paths. Institutions of higher learning need to integrate more practical, industry-aligned projects into the curriculum and establish stronger partnerships with industry professionals. Companies also need to provide structured mentorship following the guidelines in the programme and provide fair compensation to the student interns as this motivates them. Students should view the internship programme as an opportunity to build their careers thus they have to create networks leveraging on internships, build their design portfolios, and actively seek feedback from their mentors as this is crucial for their professional growth. In conclusion, internships are an integral part of design education that provides students with practical experience. By merging theoretical knowledge with practical training via academic internship programmes, students might be better equipped to apply their concepts in the actual realm of design practice.

6. RECOMMENDATIONS

Curriculum–Industry Alignment

- Universities should integrate more industry-relevant software, technologies, and project-based learning into design programmes. Guest lectures, industrial tours, and collaborative projects with practicing designers can help bridge the gap between what is taught and what is required in the workplace.

Structured Mentorship and Support Systems

- Internship host companies should be encouraged to provide structured mentorship, clear role definitions, and regular feedback mechanisms. This ensures interns are not underutilised or overloaded and that they gain meaningful, career-building experiences.

Investment in Facilities and Technology

- Institutions should prioritise investment in up-to-date training equipment and digital design software, or pursue partnerships with industry to access emerging technologies. This reduces the technology shock students face when they go for internships.

Strengthening Long-term Industry Partnerships

- Universities should establish formal partnerships with design firms that go beyond internship placements to include collaborative research, capstone design projects, and post-internship opportunities. This creates sustainable networks for students and enhances employability.

REFERENCES

- Adams, W. C. (2015). Conducting Semi-Structured Interviews. In K. E. Newcomer, H. P. Hatry, & J. S. Wholey (Eds.), *Handbook of Practical Programme Evaluation* (pp. 492–505). Wiley.
<https://doi.org/10.1002/9781119171386.ch19>
- Anjum, S. (2020). Impact of internship programmes on professional and personal development of business students: a case study from Pakistan. *Future Business Journal*, 6(1), 2.
<https://doi.org/10.1186/s43093-019-0007-3>
- Barbarash, D. (2016). Knowledge and skill competency values of an undergraduate university managed cooperative internship programme: A case study in design education. *Asia-Pacific Journal of Cooperative Education*, 17(1), 21–30.
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(5), 9–49.
- Bender, D. (2020). Education and Career Skills Acquired During a Design Internship. *International Journal of Teaching and Learning in Higher Education* 2020, 32(3), 358–366. <http://www.isetl.org/ijtlhe/>
- Bolli, T., Caves, K., & Oswald-Egg, M. E. (2021). Valuable Experience: How University Internships Affect Graduates' Income. *Research in Higher Education*, 62(8), 1198–1247.
<https://doi.org/10.1007/s11162-021-09637-9>
- Bukaliya, R. (2012). The potential benefits and challenges of internship programmes in an ODL institution: A case for the Zimbabwe Open University. *International Journal on New Trends in Education and Their Implications*, 3(1), 118–133.

- Chaminuka, L., & Mtezo, J. Z. (2019). Using internship as a tool for professional development in universities: a case of the Zimbabwe Open University. *African Perspectives of Research in Teaching & Learning*, 3(1), 22–32.
- Chen, C.-T., Hu, J.-L., Wang, C.-C., & Chen, C.-F. (2011). A study of the effects of internship experiences on the behavioural intentions of college students majoring in leisure management in Taiwan. *The Journal of Hospitality Leisure Sport and Tourism*, 10(2), 61–73. <https://doi.org/10.3794/johlste.102.294>
- Chitrao, P. V., Bhoyar, P. K., & Divekar, B. R. (2024). Internships for Experiential Learning in MBA Curriculum. In *Securing the Future through Sustainability, Health, Education, and Technology* (pp. 86–97). Routledge. <https://doi.org/10.1201/9781003587200-6>
- Christou, P. A. (2022). How to use thematic analysis in qualitative research. *Journal of Qualitative Research in Tourism*, 3(2), 79–95. <https://doi.org/10.4337/jqrt.2023.0006>
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Sage.
- Dondofema, J., Mwenje, J., & Musemwa, L. (2020). The Industrial Attachment Programme - History, Benefits, Challenges and its Adoption in Zimbabwe: A Review. *Asian Journal of Education and Training*, 6(3), 412–420. <https://doi.org/10.20448/journal.522.2020.63.412.420>
- Donnelly, R. C., Choistealbha, J. U., & Fitzmaurice, M. (2020). The student experience of final year in an undergraduate degree programme in Education Studies. *The All Ireland Journal of Teaching and Learning in Higher Education (AISHE-J)*, 12(2), 1–33.
- Gautam, P. K. (2017). Satisfaction from Internship Programme and Changing Attitude: A Perceptual Survey from Hotel Management Students. *International Research Journal of Management Science*, 2, 52–64. <https://doi.org/10.3126/irjms.v2i0.28046>
- Hoskins, J., Schuette, C. T., & Charlton, M. L. (2011). Programme Improvement and Practice: In-Service and Pre-Service Student Teaching Reflections. *International Christian Community of Teacher Educators Journal*, 6(2).
- Ismail, Z. (2018). Benefits of Internships for Interns and Host Organisations. *K4D Helpdesk Report, Birmingham UK: University of Birmingham*.
- Jordan, M. P., & Matzke, C. S. (2025). A Roadmap for Establishing a Successful Internship Programme in State Capitals and Beyond. *Journal of Political Science Education*, 21(1), 84–104. <https://doi.org/10.1080/15512169.2024.2349533>
- Kaur Majithia, R. (2017). What's Next in Design Education? Transforming role of a designer and its implications in preparing youth for an ambiguous and volatile future. *The Design Journal*, 20(sup1), S1521–S1529. <https://doi.org/10.1080/14606925.2017.1352676>
- Khumalo, N. B., & Dewah, P. (2018). The value of industrial attachment to the archives and records management students at the National University of Science and Technology in Zimbabwe. *Journal of the South African Society of Archivists*, 51, 123–147.
- Levine, R. B., Haidet, P., Kern, D. E., Beasley, B. W., Bensinger, L., Brady, D. W., Gress, T., Hughes, J., Marwaha, A., Nelson, J., & Wright, S. M. (2006). Personal growth during internship. *Journal of General Internal Medicine*, 21(6), 564–569. <https://doi.org/10.1111/j.1525-1497.2006.00383.x>
- Lor, R. (2017). Design Thinking in Education: A Critical Review of Literature. *Asian Conference on Education & Psychology*, 36–68.

- Lukaka, D. (2023). Art Education and its Impact on Creativity and Critical Thinking Skills: A Review literature. *International Journal of Arts and Humanities*, 1(1), 31–39. <https://doi.org/10.61424/ijah.v1i1.15>
- Makoni, F., Mafi, Z., & Ray, S. (2024). Faculty development for supervisors of medical student rural attachments in Zimbabwe. *African Journal of Primary Health Care & Family Medicine*, 16(1). <https://doi.org/10.4102/phcfm.v16i1.4641>
- Matyokurehwa, K., Madziva, I., & Makoni, K. (2017). Towards Academic Internship Relevance: A Closer Look at the Perspectives of Supervisors and Students. *Journal of Entrepreneurship and Business Innovation*, 4(2), 1. <https://doi.org/10.5296/jebi.v4i2.11971>
- Muchemwa, S. (2018). Programme Improvement: Analysis of Internship Assessment of the Bachelors of Languages and Communication Degree at One University in Zimbabwe. *International Journal of Social Sciences & Educational Studies*, 4(4). <https://doi.org/10.23918/ijsses.v4i4p64>
- Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research. *International Journal of Qualitative Methods*, 22. <https://doi.org/10.1177/16094069231205789>
- Ndamase, M., & Lukman, Y. (2024a). The Impact of the Internship Programme on Students in A Selected Public Higher Institution in The Eastern Cape, South Africa. *Research in Social Sciences and Technology*, 9(2), 246–260. <https://doi.org/10.46303/ressat.2024.34>
- Ndamase, M., & Lukman, Y. (2024b). The Impact of the Internship Programme on Students in A Selected Public Higher Institution in The Eastern Cape, South Africa. *Research in Social Sciences and Technology*, 9(2), 246–260. <https://doi.org/10.46303/ressat.2024.34>
- Oranga, J., & Matere, A. (2023). Qualitative Research: Essence, Types and Advantages. *OALib*, 10(12), 1–9. <https://doi.org/10.4236/oalib.1111001>
- Pianda, D., Hilmiana, H., Widiyanto, S., & Sartika, D. (2024). The impact of internship experience on the employability of vocational students: a bibliometric and systematic review. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2386465>
- Maertz P, C., A. Stoeberl, P., & Marks, J. (2014). Building successful internships: lessons from the research for interns, schools, and employers. *Career Development International*, 19(1), 123–142. <https://doi.org/10.1108/CDI-03-2013-0025>
- Ramaraj, A., & Nagammal, J. (2017). Examining the plausibility of fostering creativity through puzzles in architectural education: An exploratory sequential study. *Thinking Skills and Creativity*, 24, 48–62. <https://doi.org/10.1016/j.tsc.2017.02.001>
- Rosen, S. (1976). A theory of life earnings. *Journal of Political Economy*, 84(4), S45–S67.
- Schneider, J. R., Aaby, T., Boessenkool, S., Eriksen, E. F., Holtermann, K., Martens, I., Soulé, J., Steele, A., Zazzera, S., van der Meeren, G. I., Velle, G., Cotner, S., & Lane, A. K. (2024). Creating better internships by understanding mentor challenges: findings from a series of focus groups. *International Journal of STEM Education*, 11(1), 60. <https://doi.org/10.1186/s40594-024-00518-y>
- Silva, P., Lopes, B., Costa, M., Melo, A. I., Dias, G. P., Brito, E., & Seabra, D. (2018). The million-dollar question: can internships boost employment? *Studies in Higher Education*, 43(1), 2–21. <https://doi.org/10.1080/03075079.2016.1144181>
- Smith, J., Meijer, G., & Kielly-Coleman, N. (2010). Assurance of learning: The role of work integrated learning and industry partners. In M. Campbell (Ed.), *Australian Collaborative Education Network National Conference: Work Integrated Learning* (pp. 409–419).

- Tang, T., Vezzani, V., & Eriksson, V. (2020). Developing critical thinking, collective creativity skills and problem solving through playful design jams. *Thinking Skills and Creativity*, 37, 100696. <https://doi.org/10.1016/j.tsc.2020.100696>
- Van den Beemt, A., MacLeod, M., Van der Veen, J., Van de Ven, A., van Baalen, S., Klaassen, R., & Boon, M. (2020). Interdisciplinary engineering education: A review of vision, teaching, and support. *Journal of Engineering Education*, 109(3), 508–555. <https://doi.org/10.1002/jee.20347>
- Xu, D., & Fletcher, J. (2017). Understanding the Relative Value of Alternative Pathways in Postsecondary Education: Evidence from the State of Virginia. In *Bridges, Pathways, and Transitions: International Innovations in Widening Participation* (pp. 227–257). Elsevier Inc. <https://doi.org/10.1016/B978-0-08-101921-4.00014-2>
- Yin, K. R. (2014). *Case Study Research Design and Methods* (5th ed.). SAGE.