**Transdisciplinarity through praxis: building solutions to challenges through collective problem solving in the classroom**

**Abstract**

This article aims to show how transdisciplinarity can be used as an effective approach for problem-solving and collaboration by reflecting on a series of collaborative lectures. The departments of Digital Design and Strategic Communication at the University of Johannesburg co-created and co-presented lectures on innovation aimed at bridging the divide between education and practice, referred to as a pedagogical practice better known as praxis. A key argument in this article is that to achieve praxis necessitates the employment of multiple levels of knowing that transcend multidisciplinarity and interdisciplinarity insofar as the emphasis is placed on a holistic solution based outcome that could not be achieved otherwise, which is referred to as transdisciplinarity. From this perspective, students from two disciplines were used to conceptualise inequality in the workplace, as introduced and taught in line with the pedagogical theoretical principles of Locke and Pestalozzi.

The students needed to work together to develop communication strategies to tackle and propose solutions to those organisations’ poly-contextual gender inequality issues. This article showcases how multi-pronged assessment design allows educators to facilitate shared collaborative spaces and mediated engagement between students, and how such collaboration can yield significantly more creative and more sustainable solutions.

**Introduction**

Education is consistently dogged by the perception that it is in crisis (Bitzer 2009). Various disciplines constantly complain about the lack of skilled graduates coming out of higher education (Asonitou 2015). Graduates often fall short of employers’ requirements for socially attuned critical thinkers and proactive problem solvers, and thus graduates frequently rely on being told what to do.

The starting point in addressing this challenge is in the classroom as students arrive as blank slates in higher education, ready to be moulded by their educators. The pedagogical approach in higher education determines how these students learn and process information throughout their educational experience at the undergraduate level. Often educators place themselves at the centre of the student experience rather than teaching from a student-centric view.

This article aims to demonstrate how this typical approach can be changed, where the learning is reversed so that students take on real-life challenges and work on finding solutions to real-life problems by engaging with social problems in the classroom. In this regard, the European Commission (2009) states: “The broader involvement of actors and, consequently, the increased number of stakeholders involved in science has challenged the role of science in society and the traditional academic freedom of researchers”.

This article reflects on an exercise in which two lecturers with combined communication and innovation industry experience of almost twenty years took on the task of designing a teaching and learning project that sought to simulate a real-life industry experience for third-year students. The lecturers realised the value of immersing students in multi-level epistemologies through the lens of transdisciplinarity. From this perspective education is seen as key to solving complex social challenges through facilitating active participation and the cultivation of social legitimacy among multiple stakeholders. A key advantage of adopting transdisciplinarity is that it includes multiple stakeholders, such as academia, civil society and policymakers, which helps to mould well-rounded and better skilled graduates.

**Theoretical grounding – transdisciplinarity**

Transdisciplinarity is an approach that has evolved significantly over the past four decades and, in reference to looking at the world differently, Du Plessis, Sehume and Martin (2001:11) say “transdisciplinarity has gained conceptual and practical traction for its transformative value in accounting for the complex challenges besetting humankind, including social relations and natural eco-systems”. Du Plessis *et al*. (2001:21) explain that transdisciplinarity aims to

...combine expertise in diagnosing the problem, initiating research tools and combining the results of solving problems with a long-term aim whilst mindful of competing binaries such as those pitting the object vs. the subject, global vs. local, tradition vs. modernity, black vs. white, white vs. non-white, competition vs. equal opportunities, knowledge expansion vs. assimilation capacity, oral vs. written and the spiritual vs. materialist.

It follows from the definition and description of transdisciplinarity and its aims that the education system is at the forefront of facilitating societal change through challenging existing epistemological and ontological assumptions and through proposing action research in the classroom. This process involves the “re-contextualisation of science” so that science can play an active role in society (European Commission 2009:11). In essence, this means that many different kinds of knowledge are recognised and seen as co-constitutive of experienced realities. In other words, textbook and scientific knowledge is not seen as the only truth, but rather as dimensions of reality. Society and science are not seen as separate which enables students to immerse themselves in real-life problems.

Besides including diverse stakeholders such as academia, civil society and policymakers in the public and private sectors, transdisciplinarity allows for the appreciation of social phenomena from a multiplicity of angles. It also affords societies creative ways of seeking solutions to challenges that may appear impossible to solve.

The higher education experience is supposed to prepare students for the real world in their chosen profession or discipline. They need to be taught how to become competent professionals who can solve problems and can think independently (Asonitou 2015). The expectation is that their three- to four-year undergraduate experience should equip students with the necessary skills to compete successfully with their peers in their industry of choice (Ismail & Mohammed 2015).

However, the reality is that higher education curricula are often focused on developing students' technical skills for their professions (Ismail & Mohammed 2015), and we argue that this is no longer adequate for developing work-ready students. In this regard, Culkin and Mallick (2011:348) observe that “Universities are [also] under increasing pressure from government to embrace the employability agenda”. At present, the requirements for work-ready graduates goes well beyond technical competence, and includes a comprehensive range of both technical and soft skills (Asonitou 2015). Employability skills include self-directed learning, problem-solving, professional competitiveness, emotional intelligence and intercultural competence, to name a few (Asonitou 2015; Ismail & Mohammed 2015; Fall, Kelly, MacDonald, Primm & Holmes 2013). These skills require rigorous training through a re-imagination of the curricula to develop well-rounded graduates who are ready for the world and who are socially aware.

Over the past four decades there has been an increase in initiatives taken to reinforce the roles of science in society (European Commission 2009). The Mapping the Activities of Science in Society (MASIS) Report aims to demonstrate the need to always examine social issues from different angles using different kinds of knowledge that converge in building new knowledge. One of the major trends is increased public/private interaction and an increase in the strategic use of science, primarily through education.

Employees need to be socially conscious in order to drive shared value between organisations and the societies around them. This social conscientising of future employees starts in the classroom. This requires educators to use the classroom as a microcosm for the real world, using the curriculum to build in real-world application and to simultaneously develop students’ employability skills (Fall *et al*. 2013). The assessments administered to students need to be creatively designed with these outputs in mind, and not simply be done to complete a curriculum requirement that leaves students ill-equipped to think critically.

Experiential education, as conceptualised by John Locke (Forkner 2013), places the emphasis on training students “step by step to face the demands of real life” (Androne 2014:75). This pedagogical approach to learning by doing coined the term 'praxis'. Locke’s view on this method of teaching was that students needed to be able to demonstrate their curiosity and that educators needed to support them patiently through the process and help them to increase their knowledge (Androne 2014) by drawing on different systems of knowledge. Pestalozzi, among other scholars, popularised experience-based, student-centred learning 200 years after Locke’s work, extending it by also embracing the diverse cultural and developmental perspectives of students. The essence of this pedagogy is an appreciation that collective learning hinges on the mobilisation of intellectual, social and cultural capital that enables the realisation of deliberate change (Moore 2015).

The design of higher education curricula at present is significantly siloed (Bitzer 2009), and often does not seem to consider the collaboration required in the real world. In working environments, individuals from different disciplines are often placed in transdisciplinary teams in order for organisations to harness the power of each team member’s skills and strengths. Higher education needs to mirror this real-world experience early in students' educational experience in order to equip them with the right mix of technical and interpersonal skills to enable them to work with a diversity of talented individuals who participate in achieving a common goal (Lund 2014). This age is one of a combination and conjunction of knowledge and sciences and “that is transdisciplinarity” (Losada 2014:20.9).

Cultivating this transcendent relationship that integrates disciplines has benefits for all stakeholders and is a vital component of the pedagogy of praxis. A closer relationship between community, industry and higher education is vital for the successful development of work-ready students, positioning universities as key drivers for understanding society’s future requirements for services and products as well as processes (Chandrasekaran, Littlefair & Stojcevski 2015). To make the praxis exercises relevant for students, they need to work with topics and challenges that they can relate to and that can provide solutions to issues they face in their personal social contexts.

This relationship implies that there needs to be a much broader involvement of actors beyond educators and students to build a truly transdisciplinary experience, and, consequently, an increasing number of stakeholders are getting involved in holding science to account through education. Aside from being conceptually dense, transdisciplinarity is often misunderstood and even confused with multidisciplinarity and interdisciplinarity and this needs to be clarified. For this purpose, Table 1 below provides a snapshot of the differences between multidisciplinary, interdisciplinary and transdisciplinary research.

**Table 1. Multidisciplinary, interdisciplinary and transdisciplinary research**

|  |  |  |
| --- | --- | --- |
| Multidisciplinary research | Interdisciplinary research | Transdisciplinary research |
| Working with several disciplines | Working between several disciplines | Working across and beyond several disciplines |
| Members from different disciplines work independently on different aspects of the project | Focuses on reciprocal action of disciplines | Involves relevant specialists, non-specialists, stakeholders and other participants |
| Juxtaposition of disciplines | Integration of disciplines | Transcends disciplines’ boundaries |
| Additive and collaborative | Common methodologies | Integration, assimilation, unification and harmony of views and approaches |
| The outcome is the sum of the individual partsAdditive: 2 + 2 = 4Food example - salad bowl | The outcome is more than the sum of the individual partsIntegrative: 2 + 2 = 5Food example - melting pot | The outcome integrates the individual parts and transcends each of their traditional boundariesHolistic: 2 + 2 = yellow Food example - a cake |

Source: Adapted from Choi and Pak (in Du Plessis *et al*. 2001:23)

It is clear from this analogy drawn between different kinds of knowledge and ingredients in products such as a salad bowl, melting pot and cake, as shown in Table 1, how transdisciplinarity proposes a different way of thinking. In other words, rather than focusing on the individual contribution of each stream of knowledge, the emphasis shifts to the outcome, which is to solve some kind of real-life problem holistically.

It is also apparent in this table that the inclusion of all stakeholders places the emphasis on a different kind of knowledge that challenges, among other things, the legitimacy of previous epistemological assumptions. It thus shifts the pedagogical focus to phenomenology and participative learning through addressing complex issues in the classroom. In this regard, Vanderstraeten and Biesta (2006) concur that education is an activity that aims to bring about change and state: “The idea of education implies that educators (parents and teachers) have the possibility to effect change in those at who their educational efforts are directed”. In terms of this approach, Vanderstraeten and Biesta (2006) show how a participatory approach towards education “moves the meaning away from the intentions of the individual subjects and moves it to the social practices which are constituted by cooperative and coordinate action”. Effectively, this means that the learners create meaning through their participation in real-life problem contexts where they also participate in creating solutions that change the problem’s contexts and, in doing so, re-contextualise science.

In the educational environment, this means that learners and other stakeholders need to become co-facilitators of knowledge and experience to meet the solution-based objectives of industries and, as we show in this instance, the communication industry in particular. Professionals in this industry often work in teams of people from different technical and experiential backgrounds, ranging from public relations and project management, to marketing, design and an unlimited range of other skills. This transdisciplinary industry framework allows for end-to-end production of integrative communication messages that are strategic and relevant to the current social context. The curricula for students studying different complementary disciplines are often not aligned with industry, hence trends and curriculum development tend to lag behind. Lund (2014:198), for example, concurs when he states that “Higher education has been behind the times recently in its ability to be innovative and keep up with workplace changes”. This incongruence in pace between the dynamic challenges facing the communication industry and the often stagnant higher education curricula across disciplines sends graduates into industry who are not equipped to deal with challenges that arise in the workplace (Lund 2014) and by extension, in society at large. Outdated education practices only serve to reinforce students’ old beliefs about what is important to industry (Lund 2014) and society, increasing the divide between multi-level stakeholders.

Adopting transdisciplinarity through praxis means that learning occurs through participative practices and experience rather than through only engaging with teachers, parents or other sources of information. As Moore (2015:np) explains, “contemporary insights into how we achieve innovation in social and economic practices (understood in their full complexity, rather than in any narrower technical sense) places emphasis on collaborative processes of learning that occur between multiple actors…, accumulating over time and achieving a nuanced and complex character that reflects the particularities of the spatial context”. We sketch the participative learning context and the case study and its outcomes in the following sections.

**Methodology – putting transdisciplinarity into action**

Two lecturers with a combined and shared history of industry collaboration spanning almost 20 years found themselves in another collaborative opportunity in higher education. Their experience working with new graduates over these years taught them that these graduates, in most cases, faced challenges in the real-life context of work that they had not been prepared for in the lecture halls. These experiences prompted the collaboration between two lecturers from two different disciplines, namely Public Relations, as a diploma offered by the Department of Strategic Communication and Interactive Design, as a programme in the Department of Digital Design, both at University of Johannesburg. The key consideration for this collaboration stemmed not only from their experience of graduates’ unpreparedness for the work environment and its continuously emerging demands, but also from literature that shows that employers do not seek out new graduates because of their lack of problem-solving skills (Lund 2014).

It became apparent that discipline-specific knowledge provided students with the technical skills of the respective disciplines without showing them how to work with different kinds of knowledge and in multidisciplinary teams to look at problems from different perspectives with the aim of developing solutions. As Moore (2005:np) shows, the attachment to discipline-specific boundaries “tends to be geared to reproduce sustained patterns of performance – the deepening of specialised regimes – rather than to producing innovative responses that are sensitive to change”. As the discussion earlier shows, transdisciplinarity is still in its infancy and its application has not been publicised to any significant degree as yet. Therefore, the aim of this article is to show how the conditions for the application of transdisciplinarity in the workplace can be created in the classroom through collaborative projects between different disciplines that are focused on solving real-life problems and transcending inter-disciplinary and multi-disciplinary boundaries by engaging with multi-level stakeholders.

It is a general observation that students who study different disciplines do not generally engage with each other about their course content and do not typically work in teams comprising multiple disciplines to address the same problem. It has been observed that this is the case even for complementary disciplines, arguably because disciplinary boundaries remain well entrenched. This means that the advantages of adopting transdisciplinary and hence joint problem-solving capacity remain unrecognised. It is emphasised that transcending these boundaries requires expertise, dedication, continuous dialogue and the explicit inclusion of all stakeholders, including ordinary citizens, minorities, disadvantaged communities, religious groups, diverse gender representatives, and so forth. It was from these points of reference that the lecturers embarked on this project in an overarching effort to demonstrate to learners how disciplines can collaborate to find solutions to problems that seem impossible to solve by implementing practice in the classroom.

The brief for the project stated that the Interactive Design (ID) and the Public Relations (PR) third-year students had to work with the topic of gender inequality, during the second semester of the 2016 academic year to enable the alignment of the academic calendars of both lecturers. The reason for the choosing this topic was that it had been prioritised in the United Nations (UN) global sustainability objectives and also because South Africa is known to be characterised by patriarchy, gender-based violence and discrimination against women (Oliphant 2015; Davis & Meerkotter 2017). In terms of the UN Global Compact, the Women Empowerment Principles, and the Istanbul Convention, among several other global initiatives and commitments, the issue of gender inequality has been prioritised within the Millennium Development Goals. Most countries, including South Africa, fall below the UN target of a 50/50 employment ratio between men and women, with clear implications for all graduates.

It is therefore clear that this topic was relevant and relatable to all students across disciplines, given that of all the students who enrolled for higher education in South Africa, 58% were female, according to the Council for Higher Education (CHE) (2013). However, the findings of StatsSA on Gender Statistics in South Africa (2011:26) reported that “within each population group, a smaller proportion of women than men are employed… lowest for black Africans”. It is thus clear that the threat of unemployment for female graduates remains a reality.

Crossing disciplinary boundaries, according to Moore (2015), can be a costly exercise in terms of time, resources and intellectual and emotional resources. It involves a clear and strategic placement of themes and activities that align with each field’s curriculum requirements that enable transdisciplinarity at the same time.

The ID students were instructed to develop their own strategic communication objectives in terms of creative solutions through conceptual communication design. The PR students, on the other hand, were instructed to use mixed research approaches to gain insights into globally relevant communication strategies and messages. Students had to use multiple resources and engage with multi-level stakeholders, including ordinary citizens, communities, employed and unemployed people, adults, children, or any other stakeholder whose views could be considered relevant to this project.

The lecturers worked together to develop a workshop framework that would provide a safe and protective work environment for students who had not worked together previously. A total of four workshop sessions were scheduled, with efforts made to accommodate everybody’s timetables. The first workshop session was held on 16 September 2016, attended by 17 students, representing their respective groups.

Initially, the groups displayed some reluctance to participate in a transdisciplinary project that required them to reach beyond their comfort zones. The two groups of students sat in separate groups at the start of the first workshop. After hearing the lecturers’ respective accounts of their experiences of practising transdisciplinarity their initial reluctance seemed to dissipate and they appeared to have a clearer understanding of their assignment brief and the requirements for project delivery. It was noted that the ID students were, initially, far more open and eager to collaborate, as indicated in their feedback to their lecturer.

During the first workshop both lecturers introduced themselves and their roles in the process of the assignment. Students were given specific timelines and delivery dates. The purpose of the collaboration was placed within a broader context to foster synergies and obtain buy-in from all participants. The project for the PR students was to develop strategic PR communication campaigns against gender inequality in the workplace and to brief the ID students who would develop the visual material that would be used to pitch the campaign for each group. The ground rules were set as: 1) respect for each other; 2) clear negotiation of the parameters for work to be done; and 3) commitment to the project within the scope of each participant’s other study commitments.

The PR students formed groups of five to seven members, while the ID students worked in pairs according to their individual strengths pertaining to design skills, and each pair would engage with no more than four PR groups. The reason for this arrangement was to ensure flexibility and to accommodate the difference in class sizes as there were many more PR students. After the introduction and overview at the first workshop, students were given the opportunity to engage freely without observation so that they could introduce themselves to each other and establish teams. The duration of the first workshop was approximately one hour.

The first workshop laid the groundwork for the remaining three workshops and students could familiarise themselves with the lecturers so that they could feel comfortable to discuss their progress and ask questions when necessary. The lecturers placed those students who could not attend the first workshop in groups. All questions and concerns raised by students were documented and addressed with each group individually after the workshop.

The second workshop was held a week after the first. During this working session, students were given feedback and insights gained from interactions between lecturers and groups were shared. During this workshop students’ understanding of the topic became more apparent and they gained insight into how to develop socially relevant communication campaigns. The PR students were guided in their processes of finalising their communication strategies for the campaign pitches so that they could develop clear briefs for the ID students. This engagement was structured to minimise frustration and obstacles to enable successful and productive communication between students from complementary disciplines.

Seventeen PR students attended the second workshop where they were assisted in understanding the creative design process. They also learned the importance of respecting this process and of creating reasonable expectations relating to briefing and delivery, and speaking to one contact person only during briefing to avoid any confusion. Those groups who did not attend the second workshop were assigned to ID pairs. The workshops were the only opportunity for students to engage face to face. The last two workshops were not mediated by the lecturers and students could work at their own discretion and manage their engagement independently. These last two workshops enabled students to take ownership of their projects and to develop relationships of trust in each other to deliver the best possible communication campaigns that addressed the issue of gender inequality in the workplace.

**Results and findings**

The assignment for this project was divided into three separate deliverables for the PR students, to foster multiple levels of engagement between the student groups and their stakeholders over a period of two months. The assignment deliverables consisted of 1) group presentations; 2) a single report per group; and 3) peer reviews; with the deadlines for each set in the same order. All rubrics for the assignment were provided to the students in order to build a sense of transparency between lecturers and students on how they would be assessed. The presentation slots allocated for the PR class were twenty-minute sessions per group. Their presentations needed to focus on all the steps taken to develop their ideas, including the visual creative elements collaborated on. The presentation was limited to a maximum of five slides per group and had to include evidence of their: a) research and key findings; b) insight(s) from key findings; c) target group; d) call to action; e) channels to be used by geography; and f) expected campaign results. The presentations provided an opportunity for the PR students to experience the simulated role of client-facing teams in bringing forth the integrated research, dialogues, community engagement, strategy development and visuals of their campaign. Students received instant feedback during presentations (see Appendix 1 for rubric), so that they could use it to refine their final reports. The final group report was limited to ten pages per group and the PR student groups could include significantly more information than in their presentations (see Appendix 2 for the report rubric).

The assignment for the ID students required them to research and understand the topic of gender inequality in the workplace using primary and secondary research methods. This included sharing research insights among themselves and with the PR student groups so that they could strengthen their overall strategies. They were required to understand the integration, translation and synthesis of the strategic objectives, target audience insights and strategic messaging contained in the brief from the PR group members. This process had to be translated into a well-crafted and meaningful visual communication. The ID lecturer required the students to develop the skills to draw more insights and information from the social challenge, extracting the most valuable insights through discussion with the PR students and asking them focused questions. This simulated process would help them to improve their understanding of potential clients and audience needs by strategically assessing what needed to be communicated, and would enable them to determine the appropriate medium. Understanding these critical elements would help them to determine the appropriate interactive design medium, packaging of the campaign message and selection of appropriate visuals that would best meet the strategic communication goals of the public relations campaigns across the mutually agreed channels.

The ID students were assessed in terms of the demonstration of their understanding of the brief through their integration of valuable strategic insights in their conceptual and design processes. The manner in which they translated the strategic communication message and developed it into appropriate visuals, through a crafted narrative directed at the intended target audience, played a significant role in their results.

Of the fifteen PR student groups working in collaboration with the ID groups, three assignments stood out very clearly above the rest insofar as they demonstrated their ability to embrace transdisciplinarity. During the assessment of their deliveries, it was clear that the students collaborating in these three groups had fostered a close working relationship, taking their community into account, and working towards their joint overall success. These groups ensured that they delivered on the curriculum expectations that were set out by both lecturers, both from a public relations and an interactive design point of view. Their approach to unpacking the assignment project brief elements and answering it demonstrated critical application of theoretical grounding, as well as practicability in execution. The three best projects, as jointly agreed by the lecturers were for (see Appendix 3 for visuals):

* Women Rise (infographic)
* Colourless Thoughts (visual concept)
* Working Woman (animation video)

These students demonstrated a clear understanding of the real-world problem of gender inequality in the workplace. Colourless Thoughts group members spent time engaging with retail employees, peers and females in their communities, for example, to understand the products and attitude of the organisation towards gender equality. The multinational organisations they selected for their assignment projects were grappling with serious workplace gender inequality issues, which they demonstrated in their research. Not only did they look at organisational sources, but also uncovered information from the social media backlash that BIC had endured so that they could interrogate the manufacturer’s approach to gender inequality in the workplace.

The Women Rise group spoke to different Uber drivers and a number of users of the cab hailing service to interrogate their perceptions of female drivers, the scarcity of these drivers and the comparison of South African narratives to some international case studies in countries such as Saudi Arabia. The manner in which the overall campaigns were presented, including both the visuals and content, was seamless i.e. represented the cake analogy. The visual representations of the campaign communication strategies during the presentation pitches conveyed the message the groups aimed to put across very clearly, even with minimal content.

Colourless Thoughts as a campaign concept advocated that women do not want to be boxed in or labelled, and that they do not have to think like men for their thoughts to be valid. Their visuals reflected this insight in their presentation. On the other hand, Working Woman used its findings that equal work does not mean equal pay for women to build this story through an animated video. This was a visual demonstration of the typical experience of the diverse range of women they spoke to that women believe that they often work harder than their male counterparts for less recognition. When the PR students from each of these top three groups were presenting to lecturers and tutors, each of the group members was significantly more confident in their delivery compared to their classmates. They all presented well within the allocated time, and allowed comparatively more time for questions and answers in their presentation sessions. It was clear from these top groups' campaigns that they embraced transdisciplinarity insofar as the knowledge and insights they gained reflected their engagement with different kinds of knowledge and it represented the different levels of knowing that could not be gained from textbook content only.

Successful teamwork rests on the efforts of all the individuals in the group (Andersen 2004), and the top three groups really harnessed the power of collaboration towards transdisciplinary campaigns. Their thinking and approach was diverse, outside the bounds of their specialisations and each group dealt with very specific elements of gender inequality in the workplace in an integrated manner. The main contributor to their assessment success was that all groups went outside of the confines of their university environment to speak to different people and engage with the different kinds of knowledge, opinions and stories of many stakeholders in constructing their campaigns. The issues they tackled ranged from women empowerment, to unfair labour reward practices and bad gender stereotyping through products and services provided by their chosen organisations.

The main reason, as observed by the lecturers, as to why these groups were so successful is that 1) they embraced the collaboration process without specialist egos; 2) worked on coming up with relevant solutions to the issue and not simply focusing on the different disciplines; and 3) kept an open and respectful flow of communication with all stakeholders. The three groups all attended the workshop briefs, and thus understood the assignment brief clearly as well as the expected deliverables from each process. The public relations students from the three groups spent significant time consulting with their lecturer to refine their strategic insights, which made it easier for them to share with and brief the interactive design students. Given a clear brief, which they had input on, the interactive design students from these three groups could easily work on a conceptual visual translation of the strategic insight(s) into something tangible and visually appealing.

The assignment was a good simulation for the students of what would happen in a typical communication campaign development environment in the industry. The project allowed a very hands-on and practical approach to learning by using a relevant social issue to develop solution-based thinking. While there were successes within this project’s transdisciplinary output formula, there were also some areas for significant improvement from an academic structure and student discipline point of view. In the mediated process, the public relations students learned the importance of a well-constructed brief for designers, based on tangible research, being open to adjusting their communication for successful collaboration, and each discipline respecting the other by recognising the power of joint problem-solving.

A few of the PR student groups were unfortunately unable to contact ID students using the details provided, and typically these were groups that had failed to attend the first workshop. This breakdown in communication was also a likely indicator of a weakness in the ID students’ personal communication skills and highlighted the need for this soft skill to be given attention within their own class teaching. Some of the ID students complained about PR student groups that sent them uncollated information which they felt they were simply expected to sift through. This was indicative of the lack of understanding of the joint approach, with these groups considering the ID students as simply there to do their bidding. While other PR students were reportedly putting the responsibility for their deliverables on the ID students, or using the collaboration to brainstorm ideas around the assignment without prior research i.e. a lack of preparedness to brief a developed public relations communication campaign strategy for pitch. These issues highlighted a general laziness in some of these cases and misunderstanding in others from the PR students, caused by absence from the workshops and sustained resistance to collaborate borne of insecurity about working differently.

The lecturers found the students mostly self-sufficient in working together and building in the collaboration made their own academic work more fun to engage with, especially with assessments. They mediated where necessary, consulted regularly with their own groups of students, with each other and with colleagues to smooth the collaboration process. Most of the less attractive assignments came from the weaker and ill-disciplined students in the classes, which required significantly more disciplinary intervention and incentivising through strict mark allocations. These measures were not all successful, as some groups did not have visual creative in their assignment projects nor were they confident with what they were presenting; a clear reflection of their lack of confidence and commitment to the unintegrated process they followed.

The benefits of collaboration in fostering a transdisciplinary setting for students far outweigh any of the challenges. The challenges experienced have given the lecturers an excellent opportunity to reflect on how to improve the process. Transdisciplinarity through praxis is unquestionably beneficial when assessing the personal growth and solution-based outcomes produced by the students. The benefits are not only for technical academic purposes, but for preparing students for the workplace by empowering them with employability skills such as improved interpersonal communication, team collaboration, teamwork cohesion and developing a keen sense of awareness in them regarding social issues. With the cries from industry that graduate recruits are often found lacking and not work-ready, the responsibility of creating strategic interventions falls on educators. Lecturers need to invest the time to design praxis projects such as the one presented, where the classroom becomes a simulation of the real world, to equip students with the experience to work in a transdisciplinary setting prior to them entering formal employment. This small project was an attempt to work towards creating that while respecting the structural confines of the university and curriculum boundaries. Remaining in regular contact with former colleagues helps keep the academics involved and attuned to the industry’s broad pain-points with graduate recruits, especially when these insights are used to help guide the praxis pedagogical approach in classrooms. This practice is an extension of the transdisciplinary environment, recognising that the solutions lie across various stakeholders that must actively seek to collaborate towards teaching and learning that keeps pace with industry trends.

This project has brought to light the importance of proactivity to integrate the education experience and good planning on the part of lecturers. Educators need to be actively engaging with content development and delivery to allow themselves to draw on the natural connections between disciplines that exist outside university walls. Experience with and in the industry is invaluable for all educators, and should be cultivated in order to assess first-hand the needs of the industry from their future professionals. Top management and academic department heads buy-in is also crucial to the success of these transdisciplinary projects, as lack of support at the top can potentially hamper the projects’ success, demotivate lecturers and perpetuate the industry view of universities churning out non-work ready graduates.

Based on the experiences in this exercise it is abundantly clear how students benefited from praxis and transdisciplinarity and how they could make a difference in real-life contexts. Ultimately, the task for educators is to prepare and equip students to be able to work successfully, competitively and sustainably with and within communities in our developing context. “No science, no knowledge can by itself, explain the complexity of the world, the complexity of life, the complexity of the human. Because of that, the time is not of separation but of conjunction, that is, transdisciplinarity” (Losada 2014:20.9).

**Conclusion**

The call to all stakeholders to participate in the achievement of global sustainability objectives and to tertiary institutions to adopt transdisciplinarity and praxis to facilitate collaboration among all stakeholders requires the redefinition of pedagogy as it has been practised. Through praxis, educators need to equip students with the opportunity to learn skills to help them cope successfully with real-world challenges in their chosen academic disciplines. It has been shown in this article that transdisciplinarity can only be achieved through praxis.

The benefits of praxis through a transdisciplinary lens of integration include transformation and sustainability, having both practical and curriculum outcomes for students and lecturers. Students are exposed to other disciplines and encouraged to build their networks very early in their careers to solve social challenges. Relevant social contexts of communities are brought to the fore for students and they are exposed, in mediated classroom settings, to other social realities that will continue to impact them unless sustainably resolved. They are able to develop ideas collectively using both technical skills and softer employability skills in order to find creative solutions for tackling these social issues by tapping into multiple stakeholder groups.

While the authors fully acknowledge that the realities of university curriculum requirements must be taken into account, it is only through teaching innovation and the proactive initiative of educators that graduates can be exposed to alternative and creative ways of working. This project has hopefully demonstrated an example of how communication educators and their students can have fun with their curricula and requisite assessments, as well as the successful results of transdisciplinary outcomes as solutions to engaging real-world social themes, such as gender inequality in the workplace. This makes praxis a pedagogy suitable for training and preparing future graduates for the transdisciplinary context of the world of work.

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**Appendix 1 - PR3B assignment - Scoring Rubric for Oral Presentations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Scoring Criteria** | **Total Points** | **Score** |
| **Organisation****(15 points)** | The type of presentation is appropriate for the topic and audience. | 5 |  |
| Information is presented in a logical sequence. | 5 |  |
| Presentation appropriately cites requisite number of references. | 5 |  |
| **Content****(45 points)** | Introduction is attention getting, lays out the problem well and establishes a framework for the rest of the presentation. | 5 |  |
| Technical terms are well-defined in language appropriate for the target audience. | 5 |  |
| Presentation contains accurate information. | 10 |  |
| Material included is relevant to the overall message/purpose. | 10 |  |
| Appropriate amount of material is prepared and points made reflect their relative importance. | 10 |  |
| There is an obvious conclusion summarising the presentation. | 5 |  |
| **Individual presentation marks****Group members**  |
| 1. **Student name:**

**Presentation****(40 points)** | Speaker maintains good eye contact with the audience and is appropriately animated (e.g., gestures, moving around). | 5 |  |
| Speaker uses a clear, audible voice. | 5 |  |
| Delivery is poised, controlled and smooth. | 5 |  |
| Good language skills and pronunciation are used. | 5 |  |
| Visual aids are well prepared, informative, effective and not distracting. | 5 |  |
| Length of presentation is within the assigned time limits. | 5 |  |
| Information is well communicated. | 10 |  |
| **Score** | **Total Points** | **100** |  |

**Appendix 2 – PR3B assignment - Scoring Rubric for Report**

**PR3B Assignment Pitch Report Evaluation**

|  |  |
| --- | --- |
| Group members: | Date: |
| Brief Description/Industry/Organisation: |
| EVALUATION CRITERIA | SCORE SCALE |
| **Criteria** | **Description** | Unsatisfactory Good Excellent |
| 1. **Research and key findings**
 | The group used research methods, cited sources and identified key findings from it. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes:  |
| 1. **Insight (human truth)**
 | Identification and description of human truth research revealed. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Target group**
 | Target market based on insight, quantification of size/location/personas and group is well defined. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Problem or need**
 | The problem or need identified is real, target group has significant pain or has large number of unfulfilled needs. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Call to action or solution**
 | Clear outline of what target audience needs to think/do after receiving the communication. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Channels**
 | Based on goals, measurement and suitability for target audience. Mixture of owned, earned and bought. Global reach. | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Creativity**
 | Use of images, video and other tools. Innovation in packaging pitch ideas. Organisation selected and pitch approach.  | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Issue management processes**
 | Identification of potential issues and plan outlining potential measures.  | 1 | 2 | 3 | 4 | 5 |
| Comments / Notes: |
| 1. **Measurement of success**
 | Key performance areas and benchmarks for success. Expected results for pitched campaign across channels.  | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| 1. **Overall presentation**
 | Clear, convincing, engaging, passionate, covered all aspects of assignment and style of delivery.  | 1 | 2 | 3 | 4 | 5 |
| Comments/Notes: |
| **Total score** |  |
| **Overall comments** |  |

**Appendix 3 – Top three collaboration assignments**

**Women Rise**

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**Colourless Thoughts**

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**Working Woman**

