

A “Watershed” for Educational Transformation: Deployment of Carpe Diem Learning Design Methods in a South African Context

Gilly Salmon, Antoinette van der Merwe and Arnold Schoonwinkel

Education Alchemists, Ltd., United Kingdom

Abstract: This action research project describes the application of a large-scale collaborative learning design method to a major educational transformation programme at a South African university. Our findings determined that Carpe Diem learning design was an appropriate methodology for contributing to and creating key moments and movements (“watersheds”) in educational transformation in the South African context and beyond. We demonstrated that the impact of an original one-week collaborative intervention, covering all faculties and 10 major degree programmes, was sustained over the following three years. It created acceptance and strong interest across the campus in transforming learning and proved a fitting catalyst for programme renewal initiatives. It placed the university and the service to its students in a much stronger position in unexpected circumstances. We offer suggestions for those who would like to try a collaborative design approach for transformation.

Keywords: programme renewal, Carpe Diem methodology, learning design, creative collaborative groups, threshold concepts, authentic assessment, catalysts, watershed moments, sustainability, “future-proofing”, South Africa.

Institutional Context

In 2017, the Vice-Rector (Learning and Teaching) at Stellenbosch University (SU) emphasised in his annual Environmental Plan (the Plan) that programme renewal actions needed to be rooted in the South African socio-economic context and that the University’s academic programmes should produce graduates equipped to impact nationally and globally. The Plan laid out actions across four key focus areas and aimed to inspire the University’s Faculties to contribute to and efficiently sustain the SU’s targets.

The Plan emphasised modern pedagogies and was aligned to the SU vision, requiring innovation, future focus, integration and inclusiveness. The agenda for transformation encompassed addressing students’ discontent and enabling their voices to be heard as well as extending and deepening the curriculum. The Plan stressed the importance of design and redesign of academic programmes to address these issues and opportunities. The strategic intent therefore included renewal of academic programmes with emphasis on employability and cost-effectiveness.

A key aspect of the Plan noted that although SU deployed blended learning in various forms, the increased use of information and communication technologies needed to be more beneficial to students, strategically employed and integrated into the whole of learning provision. This intent was underpinned by improved technology platforms and connectivity as well as the further development of digital literacy.



Choice of “Carpe Diem” for Learning Design

SU sought methodologies that provided evidence of achieving change and transformation in curriculum planning and in the student experience and an increase in the deployment of appropriate technologies. The methods also needed to maintain the integrity of the South African and SU's contexts and preserve ultimate accountability to the “knowledge owners”: the University's programme and module and leaders.

The reluctance of some University lecturers to embrace change in their pedagogy over time is well documented (Laurillard 2012; Sharpe, Benfield & Roberts, 2006). Academics tend to frame issues relating to learning, teaching and assessment in terms of their own discipline – their own “tribe and territory” (Becher & Trowler 2001). This strong disciplinary focus, arising from epistemological and social sources, can inhibit acceptance of change. Academics work within the dominant discourse about teaching in their discipline and may be antipathetic to staff development, advice, theory and research that are not discipline based (Siry, 2018). Some may be keen to try out new technologies but may be “unsympathetic to centrally determined initiatives and unable to gain support for their own ideas” (Hannan, 2005, p. 981).

Collaborative learning design has been undertaken at scale at various institutions and the approach has proven to be suitable for all disciplines and levels of learning (Salmon, 2013). Specifically, Carpe Diem methodology ensures that the academic lead is constantly respected as the knowledge owner; hence, wider acceptability and, indeed, motivation can be observed, contributing to acceptable transformation and renewal efforts. This ultimately opens doors for the university to achieve a wider reshaping for the future (Posselt et al, 2019).

SU explored the Carpe Diem learning design methodology. The framework of Carpe Diem is based on a “resource” definition of change (Salaman & Asch, 2003), focusing on development of capability through collaborative effort and identification of the institution's core capabilities and existing strengths (what it is good at, what makes it special and what it can do well and differently). The Carpe Diem process is a co-operative, team-based learning design process created through research and prototyping from the year 2000 and is embedded in well-respected pedagogical research (Salmon, 2011, 2013). SU subsequently engaged with Professor Gilly Salmon, the originator of the method, to explore the potential benefits of Carpe Diem, its flexibility and its appropriateness for the South African context and SU's plans.

Learning Design as a Transformation Vehicle

The objective behind the Carpe Diem methodology is that every moment during the workshop is spent on designing something that can be put into immediate use with learners; hence, the term “Carpe Diem” (Latin for “Seize the Day”) is deployed. There are two types of Carpe Diem methodology: one for planning overall programmes, for example full degrees, and another for the practical development of modules.

The Carpe Diem learning design process originated as an intensive approach to curriculum and pedagogical design aimed at promoting innovation and creativity and at addressing student needs and drivers (Salmon, 2013; Usher, MacNeill & Creanor, 2018) using cross-professional teams. The module Carpe Diem process draws on agile collaborative project development, creative and visual

techniques, and storyboarding (Lewrick et al, 2018; Roam, 2016) workshops have been developed and rehearsed since the first research in the year 2000, and a massive amount of scaling, diversity of application, crowdsourced feedback and evaluation has occurred since then (Armellini, Salmon & Hawkrigde, 2009; Salmon, 2013; Salmon & Wright, 2014; Vlachopoulos, 2018).

In 2017, the Carpe Diem process for degree programmes was at the prototype stage and being trialled as a one-day intensive workshop. The programme Carpe Diem process drew on systems thinking (Checkland, 1999; Berg & Pooley, 2013, Ghangurde, 2011), authentic assessment (Villarroel et al, 2017) and threshold concepts (Land et al, 2016; Burch et al, 2015; Currie, 2017; Timmermans & Meyer, 2019). The methodology was designed to be fast, agile and action based, including rapid prototyping (Dilan & Aydin, 2019).

Both programme and module workshops finish the day with the collaborative establishment of well-developed and agreed action implementation plans. The optimal process is for a broader team to undertake the programme workshop and then smaller teams draw on the programme storyboards and threshold concepts for specific module development.

Carpe Diem had been scaled up at the University of Western Australia (UWA) over three years, resulting in highly collaborative change and an upturn in student satisfaction and experience ratings (Oakley, 2016; Salmon, 2013). UWA, and many other universities, found the Carpe Diem approach appropriate because of its emphasis on innovation, creativity and addressing students' experiences (Salmon et al, 2019). The approach aligned well with the SU vision of being innovative and future focused. Graduate attributes and outcomes were also key priorities for the University (Strategy for Teaching and Learning, 2013).

Student needs and contextualised academic programme redesign were also important elements within the wider South African context during the 2015-2016 #FeesMustFall student protests, together with an intensification of the call for the transformation and decolonisation of the curriculum (Costandius, Nell, Malgas, Alexander, Setati & Mckay, 2018; Le Grange, 2016).

Setting up Carpe Diem Learning Design at Stellenbosch University

As part of the holistic programme renewal project, all 10 faculties at SU were asked to nominate one candidate programme for programme renewal. After extensive discussions with the Vice-Deans (Teaching and Learning), Dr van der Merwe initiated discussions with Professor Salmon to engage her as facilitator of a “catalyst” workshop from 17 to 21 May 2017. Pre-workshop discussions included information about the South African and SU contexts and the identified 10 programmes from across the University.

The workshop programme was set up in a pleasant, large off-campus location but with easy access from the University. A large “ballroom” was set up “cabaret” style. Each faculty group was named a “pod” and had its own label, tables, flip charts, wall space, extensive creative resources, and fruit, drinks and snacks.

Day 1 (Monday) included briefings for the facilitator and development staff and development sessions for the support, technological and leadership staff. Day 2 (Tuesday) was the “programme day”, and Days 3 and 4 (Wednesday and Thursday) were devoted to modules. Day 5 (Friday) was retained for

feedback, further discussions with the senior university team, research, evaluation and action planning.

Just over 100 staff attended one or more sessions during the week. Attendance and retention were very high with each of the ten faculties retaining a critical mass of lecturers engaged throughout the process.

At the end of Day 2 (the *programme* Carpe Diem event), each pod had unique outputs. These included “rich pictures” depicting their future graduates, new student-centred aspirational missions, curriculum and mode-of-learning storyboards that included timings and course credits, threshold concepts and authentic assessment commentaries, detailed task-based action plans and “Footprints to the Future” (messages and reminders to the module design teams). Most notable during the process was the exceptional support, feedback and interest that each pod offered to its colleagues from other disciplines, which ultimately resulted in enabling the key SU drivers to become more fully embedded across the institution. Perhaps the most encouraging outcome of all was the visible development of collaboration and engagement across programmes and faculties.

Day 3 and Day 4 were the *module* days, which resulted in the design of 15 modules. The module pod participants created new “design briefs” for themselves that aligned with SU’s learning and teaching principles, the mission of the specific programme and new aspirations for student achievement and engagement.

The driver for the module storyboarding process became the number of total student study hours for each module. The output included detailed storyboards for the modules under re/design, including full calendars with agreed placement of face-to-face teaching (lectures, seminars and visits), electronic resources and interactions, frequent and effective feedback, and the allocation of formative and summative assessments. All module teams deployed the five-stage model for scaffolding (Salmon, 2011) and online interactive activities called e-tivities (Salmon, 2013). Participants in the module pods visibly enjoyed the development and prototyping of e-tivities, having the opportunity to trial each other’s prototyped ideas and give immediate constructive feedback. In the first survey following the Carpe Diem week, all participants bar one noted that e-tivities were of value to them.

Research and Evaluation

Action research was embedded in the research design through week-long activities and follow-ups. Action research was chosen to accommodate the ongoing changes and interventions with the values, drivers, knowledge, energy and commitments of the stakeholders in the SU programme renewal process. Through this methodology, the senior University strategic team planned to extend the collaborative learning community and promote the sustainability of the project. The team also wished to enable further cycles of research, analysis and the shaping of future actions (Greenwood, 2018). The action research provided a platform for all participants in the Carpe Diem process to contribute, to be valued and involved over time.

The action research included consideration of the workshop delivery, based on the needs and drivers contained in the Plan, the design of the week-long intervention, later implementation and then the recruitment of participants for feedback over time. The initial intensive study continued over a period

of one year (which was the most viable and realistic timescale), providing for an agile, scalable and flexible project within a discipline and ethical inquiry into outcomes (Mullarkey & Hevner, 2018).

As is indicated in our findings, a longer period is desirable to test for the embedding of transformation and the impact on student learning. However, one year proved enough to see the seeds of change. As we write, we can place the ongoing actions in context over a total of three years. The action research was guided by a small research team and embedded into the broader project evaluation of the overall programme renewal project.

Action research techniques were mixed mode, including constant feedback through surveys and discussion with participants, and participant observation by the transformation leaders and facilitators. Raw data, observations and results were triangulated for rigour, understanding, interpretation and confidence (Flick, 2018).

Findings

First Survey

Feedback from the Carpe Diem workshop week was collected in June 2017, one month after the week-long session, using a survey. Among the 54 attendees who responded, 47 had attended Day 2, 3 and 4 – the programme day – and the two-day module event. Most of the participants believed that the workshop was meaningful in terms of the SU module renewal process, and 10 participants indicated that it was “indispensable”. Similarly, most participants believed that the workshop was meaningful for the programme renewal process, with 16 participants indicating that the workshop was “indispensable”.

Participants highlighted the following positive and beneficial aspects of the workshop:

- The Carpe Diem method of rapid planning of programme renewal was beneficial to them.
- The visual mapping techniques enabled them to review and renew their programmes while having “the end in mind” and “working backward from outcomes to pedagogical design”.
- The sessions provided them with a structured and guided way to reflect on their programme renewal design whilst considering the future of their programmes.
- Participants realised the value of the facilitator role; the facilitator’s guidance and skills were positive aspects of the workshop.
- Participants realised that educational renewal was not an isolated activity but involved all programmes across the institution.

Additionally, participants highly appreciated working in teams with other programme members in a moderated creative space and during a focused time. The group work helped to establish synergy and enabled participants to exchange creative and original ideas. They reported that the whole process had a sense of joint endeavour and purpose, which, alongside the collegial input, created excitement around the programme design, typically previously viewed as an isolated “administrative” process. Participants mentioned that Carpe Diem was a beneficial framework; by seeing the “bigger picture”, they felt that it was useful to create a “roadmap” with milestones and that these aided both module and programme renewal.

The workshop also provided an opportunity for participants to communicate with staff from other faculties in the University, learn about their work and practice, and exchange views. Participants from the faculty academic staff and professional support staff emphasised that the opportunity to collaborate with colleagues from around the University and to spend time learning from them was one of the most beneficial outcomes of the workshop.

Participants were also asked about the potential use of Carpe Diem frameworks and pedagogies for future module renewal. They believed that an understanding of threshold concepts (Burch et al, 2015), deployed extensively during the workshop, could act as a motivator for lecturers to influence those colleagues who had not attended workshops regarding their module renewal:

... we could clearly see that we needed to repack our modules accordingly.

A number of participants believed that the Carpe Diem method was easy to use and flexible and that, with some adjustments, it could provide a framework to which each module within a department could be aligned, resulting in simultaneous and collaborative renewal. They also noted that the “end in mind” approach would enable lecturers to collaborate on the renewal process and create more coherent and integrated modules.

Participants concurred that Carpe Diem would be an easy process to repeat. They also thought that having such workshops regularly could be beneficial, especially at the faculty level.

Some participants noted fewer positive aspects of the workshop, for instance, that when working with large numbers of people, it was not easy to maintain the same pace amongst all the groups (pods). Some participants mentioned that they did not like the hands-on activities. Several respondents felt that shorter sessions would be more practical. Some individuals felt that the method was not suitable for all faculties.

Six Months After the Event

One of the researchers conducted an interview with Dr van der Merwe six months after the Carpe Diem intervention week. To summarise, SU had noted differing responses across the 10 faculty groupings and within the module groups, too. This interview was themed; the most notable issues identified were the following:

Obtaining commitment from lecturers who did not attend the workshop

As demonstrated by the one-month-later survey, most participants left the Carpe Diem intervention week with considerable enthusiasm for taking forward plans for change in their programmes and modules. However, they needed to convince and engage others in their faculties to determine ways forward to sustainable and scalable fresh thinking and implementation. Mixed success was reported in this area at the six-months point in this continuing process of change. There was no doubt that participants were able to communicate better with others and with each other, resulting in “softer landings” than they might have had, but for the researchers, the question remains as to the ways in which broader engagement and wider dissemination could have been achieved more smoothly and quickly.

We noted, perhaps unsurprisingly, that where the Carpe Diem participants had proposed the most radical changes, there was more resistance to wider dissemination of their proposals. Where there were smaller incremental changes, these were more easily communicated and realised.

Collaborating within faculties

Across most faculties, however, enabling collaboration and shared agreements for action during the Carpe Diem workshop resulted in much more cohesive teamwork across their faculty groups, which had important implications for overall transformation.

Enhancing and sustaining the outcomes

Our conclusions from the findings are to find ways of engaging those who did not attend and experience the workshop. This is likely to necessitate some “disruption” of their thinking before acceptance of the proposed changes. It will also be necessary to ensure that the right people who have the skills, influence and authority to drive change attend in future.

SU sought to find a scalable approach and implemented and developed the Vice-Deans Forum for Teaching and Learning around the programme renewal initiatives. The forum meets once a term, and the Vice-Deans discuss progress with programme renewal initiatives within their respective faculties. Funding for programme renewal has been secured as part of a national grant that allows for buy-out time for lecturers to engage with programme renewal activities by means of workshops to plan and research to determine the impact of programme renewal activities. Many of the faculties have also adopted and adapted the Carpe Diem approach for their specific contexts. The module Carpe Diem process was also scaled up locally, hence gradually sharing the overall approach and benefits with some evidence of a move towards a “tipping point” in transformation.

Survey Outcomes After 12 Months

A survey was sent to the 76 participants who had attended the Carpe Diem workshop, either partially or completely, in May 2017. Feedback was received from 25 participants.

Feedback was received from all the faculties, except from Arts and Social Sciences. Seventy-two percent of the feedback was received from teaching staff (professors and lecturers) and 24% from professional academic support staff.

As can be seen from Figure 1 below, the majority of the respondents (76%) indicated that they continued with the formal programme redesign process in their respective faculties and groups, in accordance with the action plans drawn up during the Carpe Diem workshop. About half of the respondents indicated that they also further reviewed the programme threshold concepts and added new learning resources and types of assessment as indicated in their action plans.

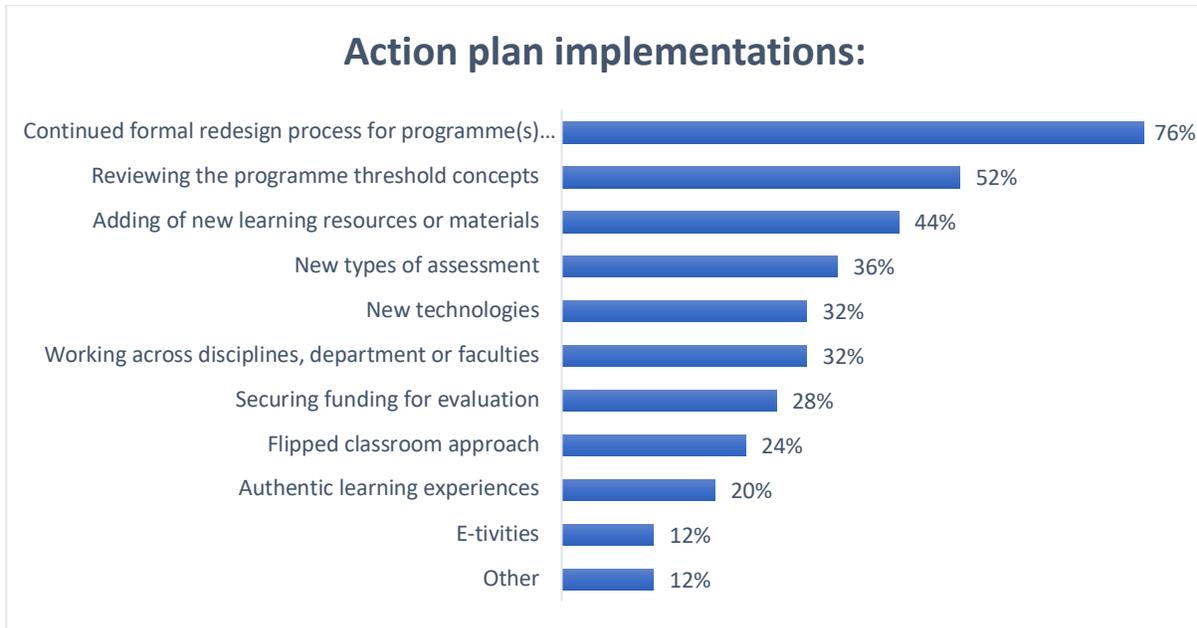


Figure 1: Elements implemented from the action plans created in the Carpe Diem workshop (respondents could select more than one) – n = 25.

The reasons given for why they had not implemented certain aspects of the action plan items included time constraints and that some of the programmes were still in the planning and development phase. Respondents also noted that other elements of the action plans would be implemented at a later stage. It is clear from Figure 2 that the faculties are relatively satisfied with the assistance received, with only 20% indicating that they needed more academic staff support than already available.

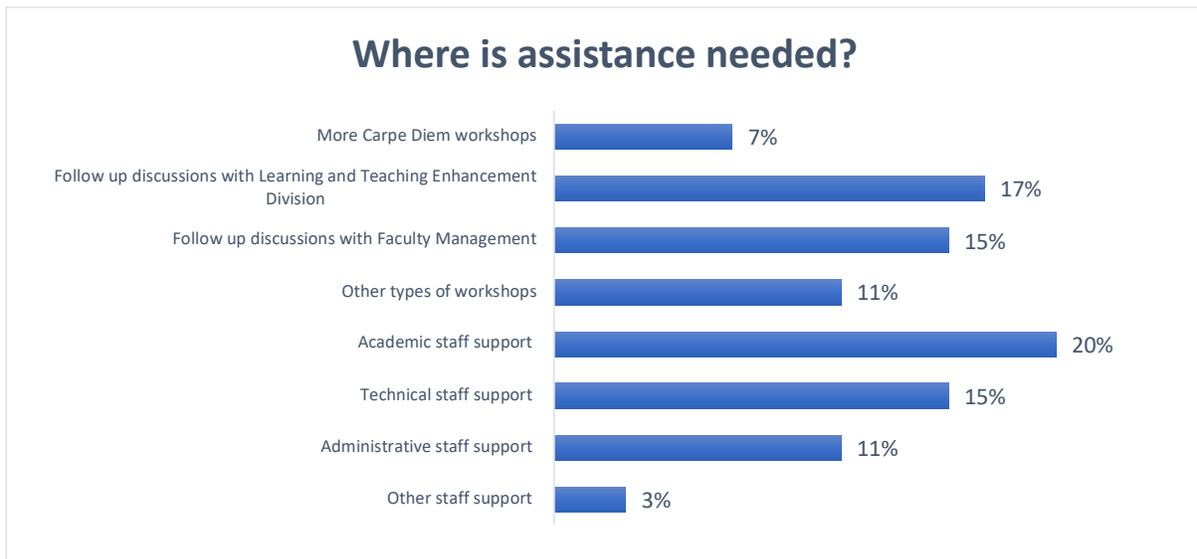


Figure 2: The assistance needed to support the academic programme transformation agenda.

It is clear from Figure 3 that one year after the workshop, most of the respondents strongly agreed or agreed with the following two statements:

- The workshop had an impact on the programme renewal process in my faculty (84%).
- I found the sharing among the faculties at the workshop very beneficial (76%).

The workshop, therefore, did have the intended catalyst impact in terms of the programme renewal process and continued to promote beneficial sharing among colleagues from all faculties.

Interestingly, the feedback after a year also confirmed the feedback after six months in terms of the acceptance by other programme members who had not attended the workshop. About half of the respondents (48%) indicated that those who had *not* attended the workshop were now nevertheless receptive to the new ideas generated at the workshop.

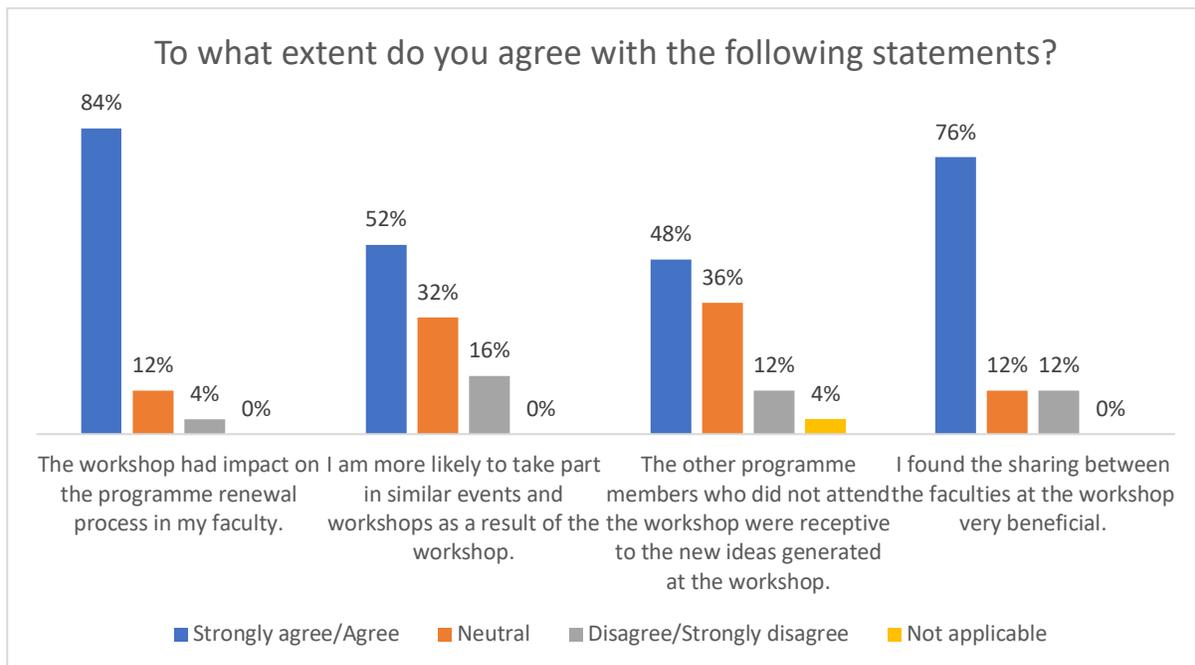


Figure 3: Statements regarding the workshop – n = 25.

When asked whether the respondents had used the skills acquired during the workshop, 68% responded “yes”. Eighty percent of respondents indicated that the workshop had changed their view on modules and programme design in that it had clarified and given structure as to how to go about starting the redesign process.

A suggestion made during the open feedback section of the survey was that more faculty members should be involved in similar types of workshop to increase skill levels and to facilitate cross-discipline collaboration.

Interpretations

SU's aspirations were high for the Carpe Diem intervention. It hoped that the methodology would systemically promote not only improved learning design, and through that process improve student experience, but also the wide range of achievements designated by the University's plans and

ambitions for holistic programme renewal. In short, the aim was to provide a “watershed” moment that would enable and promote an ongoing commitment to action.

First, we sought to determine to what extent Carpe Diem learning design was an appropriate methodology for transformation in the South African context and beyond. All the feedback on the intervention week and the actions since suggests that the methodology is almost universal in its overall acceptability to participants, both in the context and across disciplines and levels. Since the workshop taught design approaches, it left the purposes and decisions open to the individual academic leaders’ and teams’ deployment of their own specialist knowledge and principles, including sensitive areas. We were struck by how many participants regarded the experience as indispensable. Many staff thought that the workshop valued their contribution to the ongoing educational transformation process at SU by providing effective practical support. It promoted teamwork and collaboration across the diversity of staff, including differing disciplines, backgrounds and roles. There was no evidence that any aspect disturbed the participants in terms of the sensitivity and specialness of the South African context.

There was a challenge early around with the recruitment of an overseas facilitator. Whilst she was a specialist in the method, it was considered she may not be sufficiently sensitive to the specific SU and/or South African contexts. To address this challenge, the workshop organisers had detailed discussions with Professor Salmon (the facilitator), extended over a period before the workshop, and Professor Salmon had access to institutional documents providing the context at SU University. The respondents agreed after the event that the facilitator had proved sufficiently sensitive and had enabled the participants to take responsibility and accountability for their own decisions within their special contextualised understanding and knowledge.

Second, we explored to what extent that over time, the intentions of SU’s transformation agenda had been moved constructively in appropriate directions. To note, the keywords were “innovative”, “future focussed”, “integrated” and “inclusive”. Both the qualitative and quantitative research suggested that there was no doubt that the acceptability of Carpe Diem, the tangible excitement generated and the strong interest, in many cases proved a fitting catalyst for programme renewal initiatives. The SU Plan noted the need for design and redesign and the intervention has provided exactly that.

The ongoing and sustainable nature of collaborative learning purposes and schemes gradually tackled what might be interpreted as constructive “culture change” in terms of teaching and learning approaches and especially of peer working and integration across faculties within the institution. At least, given the strong commitment of the senior team and resources in terms of trained learning designers, Carpe Diem rapidly scaled, thereby had a direct impact on students’ learning experiences, faster than might have occurred through conventional staff development means. Very recent assessment of both the curricula, the contents and modes of learning of the modules suggest that students are now receiving better preparation for the workplace and for the global context than before the Carpe Diem intervention week.

The popularity of the e-tivities (online activities, Salmon, 2013) in the workshop with the staff suggests that these contributed to their growing understanding and capacity to easily and rapidly deliver more active learning for their students. Further, there is evidence of a greater sense of the importance of the

deployment of learning technologies. This has led to increased blended learning in all its forms sometimes in innovative ways, providing engagement and flexibility for students through different combinations of on-and off-campus programme delivery.

The programme Carpe Diem started with collaborative visualisation of graduates of the future and the key concepts that they would need, and the resulting 'rich pictures' presented as big pieces of shared visualisations, and these continued to provide inspiration throughout the rest of the workshop and, for some, for the following years.

The short intervention resulted in much-increased transformation efforts by those who had attended. Many of the artefacts such as the 'rich pictures', storyboards and 'footprints' were available for participants to take back to their colleagues. However, to improve workshop attendees' ability to take fast action, especially when they need to persuade or encourage colleagues back at their faculty or school to work on the changes envisioned, we discovered that more effort needed to be put into briefings and explanations to non-attendees, who are critical to the ongoing process.

Our overall conclusions, reviewed at regular intervals and now more than three years after the original intervention event, are that the Carpe Diem week provided a beneficial turning point for the University-wide programme renewal initiative — what we called the “Watershed” moment. The outcomes and impact went beyond the learning design initiatives and promoted cross-disciplinary working. Hence, some community building around educational transformation occurred, which is very difficult to achieve without a strong focus and vehicle for engagement.

The central drivers in the SU Plan provided appropriate and motivational joint goals, and a collegial atmosphere appropriate to the university environment. These proved to be well supported by the Carpe Diem framework. This continues to provide an adaptable and acceptable way forward for staff. In short, the intervention promoted ongoing joint endeavour and beneficial purpose.

Recommendations

Based on the SU action research experience, we offer some recommendations for other higher education institutions who want to initiate a similar transformation which include the following:

- Clearly communicate and demonstrate the strategic intent and senior leadership support for the initiative and include representatives from all faculties in the first big event to promote whole institution collaboration and engagement; i.e., ensure demonstration of commitment to the process and encouragement by senior leadership, and active engagement if possible.
- Brief participants before the workshops so they can prepare, without overburdening them, and share the value of and outcomes intended for the workshops.
- Start at the academic programme level and then proceed to the module level of Carpe Diem workshops, to allow academics to first visualise the ideal future programme graduate before working on the module detail and create a “cascade” of design thinking and agile delivery.
- Include diverse faculties and schools in one big event if possible, to promote whole-institution collaboration and impact.
- Ensure that evidence based researched pedagogical frameworks are deployed, demonstrating easy and quick ways of prototyping.

- Ensure, during the workshops, that there is ample opportunity and some time for sharing and discussions amongst colleagues of the same school, department or faculty, but also across the faculties.
- Ensure that each faculty leaves the workshops with viable plans containing follow-up actions and activities for which they take ownership and responsibility.
- Include, as soon as possible, a workshop within the faculties for participants who did not attend the full Carpe Diem intervention event to introduce them to the frameworks used and to obtain their engagement in the action plans generated at the workshops.
- Formulate a plan to ensure regular follow-up, continuous engagement, support and funding to sustain the momentum and impact of the workshops.
- Consider some action research to enable and value their plans at the point they are delivered to students.
- Provide sustained support and funding for the delivery and implementation of the programme renewal initiatives without detracting from the capability of programme and module leaders to continue to own and take responsibility for the changes.

Summary and Conclusions

The 2020s bring even more challenges in terms of creating and “future proofing” relevance for students and transformation for staff and institutions. It is our view that enabling future visioning with creative and collaborative design approaches offer the optimum way forward to meet students’ requirements and our best hope for accelerating transformation of higher education by creating the necessary “watershed” moments for all involved by seizing the day (Lewrick et al, 2018; Salmon, 2019).

Clearly, to enable sustainability, effort needs to continue to be put into implementation and support over a long period of time — longer than our initial action research has continued. In addition to ensuring engagement from academics and overall “raising the bar” for their potential for pedagogical understanding and design work on their teaching, the next stage should be to explore the impact on student learning for their contexts. Findings can then be fed back into the Carpe Diem methods.

As the unexpected Covid 19 crisis arrived in 2020, the programme renewal initiatives and the ability of Stellenbosch's students to study with quality online programmes became of even greater benefit. Stellenbosch University was prepared (Schoonwinkel, Van de Merwe & de Klerk, 2020).

Statement on Ethics

All data used in this study were de-identified to ensure the confidentiality and privacy of participants. To access the de-identified data used in this study, please email the corresponding author and provide a statement regarding the purposes of your request.

Ethical approval was obtained from Stellenbosch University, Project No. TL 2018 – 7525.

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Resources

There are extensive openly available video resources and handbooks about Carpe Diem learning design methodologies to be found at www.gillysalmon.com/carpe-diem.

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Authors:

Gilly Salmon is an Adjunct Professor at Swinburne University of Technology in Melbourne, Australia, Visiting Professor at Edge Hill University, UK and CEO and Principal Consultant of Education Alchemists, based in London. Email: gillysalmon@education-alchemists.com

Antoinette van der Merwe is Senior Director: Learning and Teaching Enhancement at Stellenbosch University and holds a PhD in Science and Technology Studies from SU. She has been involved in professional academic support for the past 23 years at SU. Her main research interests include the scholarship of educational leadership and the effective use of learning technologies in higher education. Email: advdm@sun.ac.za

Arnold Schoonwinkel obtained a master's degree in engineering from Stellenbosch University, a PhD in Engineering from Stanford University and an MBA from the University of Cape Town. He worked in industry and at Stellenbosch University as Professor in satellite engineering, Dean of the Engineering and as Vice-rector (Learning and Teaching). Email: schoonwi@sun.ac.za

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