

Institutional Project Report by Rajendran Govender, University of the Western Cape

1. Project title:

Exploring innovative pedagogical practices using ICTs across beginner teacher development programmes

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3. Aims and objectives

The study aimed at exploring innovative pedagogical practices towards making recommendations to enhance beginner teacher development programmes.

When thinking about innovative pedagogical practices, the main aim ought to be the establishment of a meaningful and long-term effect on students' learning. According to Law (2002), innovative pedagogical practice (IPP) is a 'product of change' and 'process'. Kozma and Anderson (2002) referred to a "newness" which means that in the operationalisation, one must be open to the unanticipated. Therefore, the importance of flexibility and the ability to adapt cannot be over-emphasised.

One should be cautious to conclude that the mere introduction of online learning and application of technologies would lead to innovative pedagogical practices; in fact, Zemsky and Massy (2004) and Cuban (2009) warn that it could support traditional pedagogical practices. The pedagogies should assist students to gain intrinsic motivation for learning and the ability to be self-directed and develop a sense of autonomy. This means that the introduction of innovative pedagogies must be more than a set of new instructional techniques or an overhaul of pedagogical practices, but rather it should aim to develop new dispositions of thinking and learning. Aspects related to ways of problem solving, the connection between reasoning and various cognitive abilities (Burns, Nettlebeck & McPherson, 2009), attention and working memory, the generation of arguments and proper reasoning (Brem & Rips, 2000) should be considered. The nature of student cohort, context, and the impact of the group in modifying individual cognitive biases should also be considered, as they were in our study.

All the above prompted thinking about a possible *change strategy* for the Faculty of Education in terms of pedagogical innovation in a blended and online teaching and learning environment. A *change strategy* provides for a framework to express long-term goals, but also to map and connect backwards the preconditions or requirements necessary to achieve the end goal. In doing so basic assumptions about the context should guide intended interventions necessary to create the desired change. Therefore, the research firstly aimed at determining the current pedagogical and assessment practices in the Faculty of Education at the UWC. A second aim was to work in a socio-constructivist paradigm to conceptually unpack "innovative pedagogical practices" and expectancies for online and blended tuition in beginner teacher development programmes. Thirdly, the study aimed at determining suitable instructional pedagogies to enhance teaching, learning and assessment in an online or in blended platforms.

An underpinning driver was to make suggestions towards appropriate pedagogies that link social justice/socially just pedagogy to the concept of culturally responsive pedagogy (Moje, 2007). This is to embed social justice issues within the knowledge, skills, and dispositions of teacher education programmes. Also considered were the scholarship, and actions of teacher educators to bring about social justice enhancing practices in the development of beginner teachers.

4. Processes and methods

A mixed methods approach was adopted for this study. Quantitative methods, limited to elementary descriptive statistics, were employed to determine the degree of occurrence of mediating processes to negotiate and articulate mental models for teaching, learning and assessment. This was followed up by a qualitative part consisting of semi-structured interviews. This qualitative part is situated mainly within the epistemological framework of social constructivist thinking which concerns itself with the process of how people construct meaning (Pilling-Cormick & Garrison, 2007:18; Rossingh & Chambers, 2011:62) and understanding.

A questionnaire was developed for a situational analysis of the most prominent current pedagogies in the online teaching and learning environment. Thirty-nine staff members from the Faculty of Education participated in the online survey, representing Educational Studies, Educational Psychology, Institute of Post School Studies (IPSS), Language Education and School of Science and Mathematics Education (SSME). The participants coded the questions pertaining to pedagogy and assessment to reflect their current practice in the offering of courses in the respective departments. The focus of the survey was on undergraduate courses.

The responses have been analysed on an individual level, but also per department in a consolidated spread sheet. The analysis of the individual responses brought insights about concepts not familiar to the participant, practices rarely used, and practices mostly used, respectively.

The consolidated sheets provided a visual presentation of the percentage of practices *never used* as well as the practices *mostly used* in a particular department. There were instances where an individual participant deviated from the departmental average. The latter was taken into consideration when establishing the general trends and outliers.

The *qualitative part of the study* consisted of semi-structured interviews with 13 staff members representing all the departments in the Faculty of Education. The semi-structured interviews intended to prompt more detail on choice pedagogies and instructional design practices on a digital platform. Based on the responses in the questionnaire and possible interviews, a gap analysis was done which informed the recommendations arising from the study.

The participants were requested to respond to the following:

- ✓ The general framing of their instructional design choices
- ✓ Ways in which pedagogy choices differ from the face-to-face offering when the tuition moved online
- ✓ The most prominent teaching and learning approaches informing their pedagogy choices
- ✓ The kind of preparatory work that they require students to do prior to online sessions
- ✓ Nature and level of participation expected of students during the online sessions
- ✓ The structure and format of the tuition, learning and assessment tasks and activities during online sessions
- ✓ The purposes of feedback
- ✓ The format of feedback provision
- ✓ The degree of alignment between assessment tasks and feedback
- ✓ The use of feedback during online sessions
- ✓ The degree of alignment between intended learning, assessment and feedback
- ✓ The kind of reflective processes incorporated in teaching, learning and assessment practices.

The responses to semi-structured questions served as confirmation of findings from the survey. Furthermore, some pointers were found to how a socio-constructivist paradigm could frame innovative pedagogical and assessment practices and expectancies for online and blended tuition. The responses also

provided justification for the instructional pedagogies that would be suitable to enhance teaching, learning and assessment in an online or in blended teaching and learning environment.

5. Achievement and Challenges (including findings)

The analysis was done per department in the Faculty of Education. Departmental specific pedagogical and assessment practices were determined and visually represented which enabled departmental specific recommendations for the enhancement of pedagogical and assessment practices.

Since the student cohort and the qualifications on offer in the IPSS department differ from the rest of the departments in the Faculty of Education, specific attention was placed on the interpretation of *andragogy* in the Institute, whilst still probing the other departments in the study. The principles of andragogy, the humanistic conception of self-directed and autonomous learning as well as the facilitation of learning were considered in the interpretation of the IPSS profile and the alignment with assessment practices in this department.

The interpretation of the responses was done in terms of the degree of adherence to the core principles of andragogy and that adult learning is based upon comprehension, organisation, and synthesis of knowledge rather than rote memory. The need for having a strong inner motivation to develop a new skill or acquire a particular type of knowledge, active participation in the planning of their learning, but also practical application was considered. Meaningful engagement, such as posing and answering realistic questions and problems would be necessary for deeper learning. Adult learners would need to find the reason for learning and would mostly seek information that would improve their situation. Prior experience and context are known to influence adult learning. It is important, therefore, to conduct diagnostic assessment practices to determine the completeness and appropriateness of prior learning in a course on offer.

Groupwork, socialisation, peer learning would be beneficial. Active participation in an inviting, collaborative, and networking environment would thereby make for efficient learning.

5.1 General trends emanating from the online survey

In terms of the structure of online sessions and the place of reflective practices, comments and feedback on tasks and activities are rarely used as introduction to online sessions. Journaling occurs mostly as a reflective activity but is not often used as a pedagogy. Furthermore, journaling is utilised as a tool for students to express *understanding* of concepts, but not to reflect on challenges or to determine what guidance they would still require to gain a deeper grasp or understanding. The inclusion of questions in the journaling would assist the lecturer to monitor not only what the students understand, but also to identify gaps in understanding. This means that a greater emphasis on the *how* and *application* is necessary.

Focus group discussions are rarely used and groupwork is mostly incorporated in Years 3 and 4. Peer engagement is in instances utilised as assessment practice, but very seldom as pedagogy. Peer participation and motivation are seldom utilised, while peer motivation and assessment are not practised at all.

Authentic simulated activities are rarely used as part of instructional design – this should be incorporated in preparation for teaching practice as mini teaching sessions, role play, simulated critical responses, debate and dialogue. It could be that narration of understanding is viewed as part of discussion. Inquiry-based investigations are rarely used in courses other than research methodology.

The following appear *mostly* in the pedagogical practice: Discussion; Lecture and explanation; Narration of concepts; Topic-based discussions.

The following appear *rarely* in pedagogical practice: Action-oriented activities; Critical analysis; Inquiry-based investigations; Observation and analysis; Problem-based strategies; Peer engagement and reflection; Feedback as reflection and pedagogical practice.

Some participants did not code phrases and concepts that they are not familiar with. These include the use of *“lecturer's comments are referred to as general introduction”, “simulations”, “observation and analysis”* and the utilisation of peers as part of instructional design and in assessment practices.

5.2 Findings emanating from the semi-structured interviews

A few participants reiterated the importance of social justice, connectivism and ubuntu principles as underpinning their instructional design choices. Some evidence was found of a humanistic approach, a nurturing pedagogy of heart and ethics of care that would inform instructional design choices.

All the participants acknowledged teaching and learning as a social construct with language as tool. It was evident that students are still hesitant to participate if they do not have the appropriate field terminology and demand of English as language of teaching and learning. It is therefore suggested that the development of academic literacy should be prioritised and incorporated from the first year of study. The low degree of student engagement during online sessions echoes findings from research done by Albrecht (2011). It was found that some students perceive the physical absence of a teaching facilitator in an online environment to be *unfavourable and demotivational*. It could also be that students might not engage with preparatory work that needs to be done prior to online sessions because of psycho-emotional reasons, a feeling of inferiority to be “put on the spot”, or they shy away from taking educational risks.

The ability to provide feedback and to use feedback as adaptation in tuition planning seems to still need strengthening. The utilisation of peer assessment and feedback are low. Evidence of the utilisation of feedback as a pedagogy could not be found.

The responses provided evidence of both lecturer reflection and student reflection activities. In some instances, mention was made of the use of e-portfolios. Some use journaling on a weekly basis for students to reflect on concepts and learning, others deal with course evaluation and an annual survey as part of reflective practice. In instances the reflective activities, journaling and essays form part of continuous assessment and eventually the promotion mark.

Evidence could not be found of how reflective practices are structured and whether guiding questions and pointers are given to encourage deeper thinking through reflection.

5.3 Recommendations

Based on findings from both the survey and the semi-structured interviews, recommendations were made to enhance pedagogical enhancement through collaborative sensemaking across the departments. The recommendations include ways to deal with discovery-based and experiential instructional designs. Project and research-based pedagogy (Hugerat 2016; Shafaei & Rahim 2015; Koparan & Güven 2014) should be encouraged to enable staff to deal with problem-solving as pedagogy. The finding about low student engagement is dealt with in reference to the use of a flipped classroom approach. Suggestions about developing self-directedness and thinking dispositions as well as the use of feedback as pedagogy are included in the recommendations.

Socially just assessment practices are highlighted. Specific suggestions are made regarding formative assessment for learning and the utilisation of a “flipped assessment practice” approach. The alignment of intended learning outcomes, the role of assessment criteria in learning, reflective practices and productive thinking should receive dedicated attention. A matter of concern regarding the misalignment of assessment instruments with the intended task is addressed in suggestions on how to develop effective assessment instruments to enhance learning.

The changes linked to innovative pedagogies ought to manifest in improved lecturer-student relationships as well as the alignment of module content with intended application and assessment tasks. Student performance and the monitoring of the through-put rate would be a quantitative measurement indicator.

One way to measure socio-emotional learning and innovation is to include the students (canvass student views/voices) in data analysis and reflection processes and to determine the level of engagement in self-reflection about their competencies as well as decision-making and problem-solving activities.

6. References

- Alberth, A. (2011). Critical success factors in online language learning. *TEFLIN journal*, 22(1), 16-33.
- Brem, S.K. & Rips, L.J. (2000): Explanation and Evidence in Informal Argument. *Cognitive Science*, 24 (4), 573-604.
- Burns, N.R., Nettelbeck, T. & McPherson, J. (2009): Attention and Intelligence. A Factor Analytic Study. *Journal of Individual Differences*, 30 (1), 44-57.
- Cuban, L. (2009). *Oversold and underused*. Harvard University Press.
- Holubova, R. (2008). Effective Teaching Methods: Project-based learning in Physics. *Online Submission*, 5(12), 27-36.
- Hopfenbeck, T.N. (2021). Who is feedback for? *Assessment in Education: Principles, Policy & Practice*, 28:3, 209-211.
- Hugerat, M. (2016). How teaching science using project-based learning strategies affects the classroom learning environment. *Learning Environments Research* 19(3):383–395.
- Koparan, T., & Güven, B. (2014). The Effect of Project Based Learning on the Statistical Literacy Levels of Student 8th Grade. *European Journal of Educational Research*, 3(3), 145-157.
- Kozma, R. B., & Anderson, R. E. (2002). Qualitative case studies of innovative pedagogical practices using ICT. *Journal of computer assisted learning*, 18(4), 387-394.
- Law, N. (2002, March). Leadership, change management and good pedagogic practices. In *APEC Cyber Education Cooperation (ACEC) International Workshop on e-Educational Leadership in ICT*. Bangkok, Thailand, March.
- Mirriahi, N., Alonzo, D., McIntyre, S., Kligyte, G., & Fox, B. (2015). Blended learning innovations: Leadership and change in one Australian institution. *International Journal of Education and Development using ICT*, 11(1).
- Moje, E.B. (2007). Developing Socially Just Subject-Matter Instruction: A Review of the Literature on Disciplinary Literacy Teaching. *Review of Research in Education*, March 2007, Vol. 31: 1–44.
- Pilling-Cormick, J. & Garrison, D.R. (2007). Self-directed and self-regulated learning: conceptual links. *Canadian journal of university continuing education*, 33(2):13-33.
- Rossingh, H. & Chambers, W. (2011). Project-based learning and pedagogy in lecturer preparation: staking out the theoretical mid-ground. *International journal of teaching and learning in higher education*, 23(1):60-70.
- Shafaei, A. & Rahim, H.A. (2015). Does project-based learning enhance Iranian EFL students' vocabulary recall and retention? *Iranian Journal of Language Teaching Research* 3(2):83–99.
- Styla, D., & Michalopoulou, A. (2016). Project Based Learning in Literature: The Lecturer's New Role and the Development of Student's Social Skills in Upper Secondary Education. *Journal of Education and Learning*, 5(3), 307-314.
- Zemsky, R., & Massy, W. F. (2004). Thwarted innovation: What happened to e-learning and why. A final report for *The Weatherstation Project* of The Learning Alliance at the University of Pennsylvania in corporation with the Thomson Corporation: Pennsylvania.