

REFERENCES

- Abramson, M. (1996). Partnership Imperatives: A Critical Appraisal. In M. Abramson, J. Bird and A. Stennett (Eds.). *Further and higher education partnerships: the future for collaboration*. SRHE and OUP, UK. 7-18.
- Abramson, M., Bird, J. and Stennett, A. (1996). Introduction. In M. Abramson, J. Bird and A. Stennett (Eds.). *Further and higher education partnerships: the future for collaboration*. SRHE and OUP, UK. 1-3.
- Altbach, P. G. (1998). *Comparative higher education: Knowledge, the university and development*. Ablex. USA.
- Anderson, G. (with Nancy Arsenault) (1998). *Fundamentals of educational research*. RoutledgeFalmer: London.
- Ayiku, M. N. B. (1991). *University-productive sector linkages: Review of the state-of-the-art in Africa*. AAU, IDRC Canada.
- Bassey, M. (1999). *Case study research in educational settings*. Philadelphia, OUP.
- Bassoppo-Moyo, T. C. (undated). *The Zimbabwe integrated teacher education course (ZINTEC) program: Fifteen years after*.
<http://coe.memphis.edu/coe/ICL/tmoyo.html>. Accessed 23/8/2011.
- Bellner, M. and Pomery, J. (2005). Service learning: intercommunity and interdisciplinary explorations: setting the stage. In M. Bellner and J. Pomery (Eds.) *Service learning: Intercommunity and interdisciplinary explorations*. University of Indianapolis Press, Indianapolis. 1-13.
- Bergman, M. M. (2008). The Straw Men of the Qualitative-Quantitative Divide and their Influence on Mixed Method Research. In M. M. Bergman (Ed). *Advances in Mixed Methods Research: Theories and Applications*. Sage: London. 11-21.
- Biggs, J. (1999). *Teaching for Quality Learning at University: What the student does*. SRHE & OUP: UK & USA.
- Biggs, J. (2003). *Teaching for quality learning at university: What the student does*. (2nd ed) SRHE and OUP, UK and USA.
- Bloom, B. S. (Ed.) (1956). *Taxonomy of educational objectives: The classification of educational goals, Handbook 1 Cognitive domain*. David McKay Company Inc., New York.
- Bloomgarden, A.H. and O'Meara, K.A. (2007). Faculty role integration and community engagement: harmony or cacophony? *Michigan Journal of Community-based Learning*. 13(2). 5 - 18.
- Bonnet, M. (1997). Computers in the classroom: Some values issues. In A. MacFarlane. *Information Technology and authentic learning: Realising the potential of computers in the primary classroom*. Routledge, London & NY. 145-159.
- Boud, D. (2006). Aren't we all learner-centred? The bittersweet flavour of success. In P. Ashwin (Ed.). *Changing higher education: The development of learning and teaching*. 33-46. Routledge, London & NY.
- Boud, D., Cressey, P. and Docherty, P. (2006). Setting the scene for productive reflection. In D. Boud, P. Cressey and P. Docherty. *Productive reflection at work*. Routledge, UK. 3 - 10.
- Bouge, E. G. and Hall, K. B. (2003). *Quality and accountability in higher education: Improving policy, enhancing performance*. Praeger, USA.
- Bowden, J. and Marton, F. (1998). *The University of Learning: Beyond quality and competence*. RoutledgeFalmer, London & NY.

- Briggs, A. R. J. (2002). Monitoring and evaluating learning. In T. Bush and L. Bell (Eds.). *The principles and practice of educational management*. Paul Chapman Publishing, London. 170-184.
- Bringle, R. G., Games R., Foos, C. L., Osgood R. and Osborne R. (2005). Faculty fellows program: Enhancing integrated professional development through community service. In Mac Bellner and John Pomery (Eds.) *Service learning: Intercommunity and interdisciplinary explorations*. University of Indianapolis Press, Indianapolis. 15-28.
- Bringle, R. G., Phillips, M. A. and Hudson, M. (2004). *The measure of service learning: Research scales to assess student experiences*. APA, Washington.
- Bryman, A. (2008). Why do researchers integrate/combine/mesh/blend/mix/merge/ fuse quantitative and qualitative research? In M. M. Bergman (Ed.). *Advances in mixed methods research: Theories and applications*. Sage, London. 87-100.
- Bunting, I. and Cloete, N. (2004). *Developing performance indicators for higher education: A South African case/study*. Centre for Higher Education Transformation, Cape Town
- Butin, D. W. (2005). Service learning as postmodern pedagogy. In D. W. Butin (Ed.). *Service learning in higher education: Critical issues and directions*. Palgrave MacMillan, NY. 89-104.
- Butin, D. W. (2010). *The education dissertation: A guide for practitioner scholars*. Corwin, California.
- Cantor, J. A. (1995). *Cooperative education and experiential learning: Forming community-technical college and business partnerships*. Wall & Emerson, Inc., Canada.
- Carriere, A. (2006). *Community engagement through partnerships*. Paper presented at the Council for Higher Education – Higher Education Quality Committee/JET-Community Higher Education Service Partnerships Conference on Community Engagement in Higher Education. 3-5 September 2006, Cape Town.
- Cave, M., Hanney, S. and Kogan, M. (1991). *The use of performance indicators in higher education: A critical analysis of developing practice (2nd ed)*. Jessica Kingsley, London.
- Chambers, T. C. (2005). The special role of higher education in society: As a public good for the public good. In A. J. Kezar, T. C. Chambers, and J. C. Burkhardt. (Eds.). *Higher Education for the public good: Emerging voices from a national movement*. Jossey-Bass, California. 3-22.
- Choy, S. & Haukka, S. (2009). Industrial attachment for instructors in TVET delivery. (Chapter VIII.15). In R. Maclean & D. N. Wilson. *International Handbook of Education for the changing world of work: bridging academic and vocational learning*. Vol 3. Springer, UNESCO. 1367-1382.
- Cooks, L. and Scharrer, E. (2006). Assessing learning in community-service learning: A social approach. *Michigan Journal of Community-based Learning*. 13(1). 44 - 55.
- Cooper, H. (2010). *Research synthesis and meta-analysis: A step-by-step approach*. 4th ed. Sage, LA.
- Copley, B. (2008). Holistic intelligence: Excellence through integration. In P. H. Du Toit. *Reader for Postgraduate Studies in Professional Development and Facilitating Learning*. Department of Curriculum studies: University of Pretoria. 67-71.
- Cowan, J. (1998). *On Becoming an innovative university teacher: Reflection in action*. SRHE & OUP, London.

- Creswell, J. W. (2002). *Research design: Qualitative, quantitative and mixed methods Approaches*. Sage Publications, USA.
- Creswell, J. W., Clark, V. L. P., Gutmann, M. L. and Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (Eds.). *Handbook of mixed methods in social and behavioural research*. Sage Publications: USA. 209-240.
- Creswell, J. W. and Clark, V. L. P. (2007). *Designing and conducting mixed methods research*. Sage Publications, USA.
- Creswell, J. W. and Garrett, A. L. (2008). The “movement” of mixed methods research and the role of educators. *South African Journal of Education*. 28:321-333.
- Creswell, J. W., Clark, V. L. P. and Garrett, A. L. (2008). Methodological issues in conducting mixed methods designs. In M. M. Bergman (Ed.). *Advances in mixed methods research: Theories and applications*. Sage, London. 66-83.
- Crossman, P. (2004). Perceptions of ‘Africanisation’ or ‘endogenisation’ at African universities: Issues and recommendations. In Zeleza, P. T. and Olukoshi, A. (Eds.) *African universities in the twenty-first century*. II. CODESRIA: Senegal. 319-340.
- Danner, H. (2002). The hermeneutic approach in educational theory and practice. In Philip Higgs (Ed). *Metatheories in educational theory and practice*. Heinemann, South Africa
- Dawson, C. (2009). *Introduction to research methods: A practical guide for anyone undertaking a research project*. 4th ed. How To Books Ltd, Oxford. 175-199
- Dennison, B. and Kirk, R. (1990). *Do, review, learn, apply: A simple guide to experiential learning*. Blackwell Education: Oxford.
- Denscombe, M. (2003). *The good research guide: for small-scale research projects*. OUP.
- Denzin, N.K.P. and Lincoln, Y.S. (2005). *Handbook of qualitative research*. Sage Publications.
- Department of Education [South Africa] (2003). *National curriculum statements, Grades 10 -12 (General): Overview*.
- DeVellis, R. F. (2003). *Scale development: Theory and applications*. (2nd ed). Sage Publications: California.
- Dicks, D. J. (1993). Designing organisations that learn. In M. Shaw and E. Roper (Eds.). *Quality in education and training*. Aspects of Educational and Training Technology. XXVI. Kogan Page: London. 3-9.
- Dochy, F.J.R.C., Segers, M.S.R., and Wijnen, W.H.F.W. (1990). Selecting performance indicators. In L.C.J. Goedegebuure, P.A.M. Maasen, and D.F.Westerheijden (Eds.). *Peer review and performance indicators: Quality assessment in British and Dutch higher education*. Centre for Higher Education Policy Studies, Utrecht. 135-153.
- Doorley, T.L. and Donovan, J. M. (1999). *Value-creating growth: How to lift your company to the next level of performance*. Jossey-Bass: San Francisco.
- Du Toit, P. H. (2008). *Introduction to reader for postgraduate studies in professional development and facilitating learning*. Department of Curriculum studies: University of Pretoria.
- Du Toit, P. H., De Boer, A. and Steyn, T. (2007). Learning style flexibility. In P. H. Du Toit. *Reader for postgraduate studies in professional development and facilitating learning*. Department of Curriculum studies: University of Pretoria. 37-51.
- Dunlosky, J. and Hertzog, C. (1998). Training programs to improve learning in later adulthood: helping older adults educate themselves. In D. J. Hacker, J. Dunlosky

- and A. C. Graesser. (Eds.). *Metacognition in educational theory and practice*. Lawrence Earlbaum Associates, NJ. 49 – 275.
- Ebong, M.B. (2004). University-industry relations in Nigeria. In Zeleza, P. T. and Olukoshi, A. (Eds.) *African universities in the twenty-first century*. II. CODESRIA, Senegal. 555-570.
- Feldman, A.M., Moss, T., Chin, D., Marie, M., Rai, and Graham, R. (2006). The Impact of partnership-centred, community-based learning on first year students' academic research papers. *Michigan Journal of Community-based Learning*. 13(1). 16-29.
- Ferrer, J. N., Romero, M. T., and Albareda, R. V. (2010). Integral transformative education. In S. Esbjorn-Hargens, J. Reams and O. Gunnlaugson. *Integral education: New directions for higher learning*. State University of New York Press, Albany. 79-103.
- Filippakou, O. and Tapper, T. (2008). Quality assurance and quality enhancement in higher education: Contested territories? *Higher Education Quarterly*. 62(1/2), 84-100.
- Flick, U. (2006). *An introduction to quantitative research*. 3rd ed. Sage, London.
- Fitch, P. (2005). In their own voices: A mixed method approach to studying outcomes of inter-cultural service learning with college students. In Root, S., Callahan, J., and Billig, S. H. (Eds.). *Improving service –learning practice: research on models to enhance impacts*. Information Age Publishing, Greenwich. 187-211.
- Forsyth, H., Laxton, R., Moran, C., Van der Werf, J., Banks, R. and Taylor, R. (2008). Postgraduate coursework in Australia: issues emerging from university and industry collaboration. *Higher Education*. 57: 641-655.
- Frazer, M. (1994). *Quality in higher education: An international perspective*. In D. Green (Ed). What is quality in higher education? SRHE & OUP, Buckingham. 101-111.
- Fryer, M. (2007). *Moving from the ivory tower to the community*.
http://www.ocufa.on.ca/Academic_Matters_Oct2007/moving_from_the_ivory_tower.pdf . accessed 25/3/2008.
- Fullan, M. (1993). *Change forces: probing the depth of educational reform*. Falmer Press, New York.
- Garrick, J. (2000). Flexible learning, work and the management of intellectual capital. In V. Jakupec and J. Garrick (Eds.). *Flexible learning, human resource and organisational development*. Routledge, London. 239-256.
- Geelan, D. (2006). *Undead theories: constructivism, eclecticism and research in education*. Sense Publishers, Rotterdam/Taipei.
- Gillham, B. (2000). *Case Study Research Methods*. Continuum: London.
- Giroux, H. A. (2001). *Theory and resistance in education: towards a pedagogy for the opposition*. Bergin & Garvey, London.
- Goddard, W. & Melville, S. (1996). *Research methodology: An introduction*. Juta & Co. Ltd, Lansdowne.
- Gray, P. S., Williamson, J. B., Karp, D. A. & Dalphin, J. R. (2007). *The research imagination: an introduction to qualitative and quantitative methods*. Cambridge, NY.
- Guba, E. G. and Lincoln, Y. S. (1989). *Fourth generation evaluation*. Sage, California.
- Hatcher, J. A. and Erasmus, M. A. (2008). Service learning in the United States and South Africa: A comparative analysis informed by John Dewey and Julius Nyerere. *Michigan Journal of Community Service Learning*, Fall 2008, 49 – 61.
- Henderson, S., Fair, M., Sather, P. and Dewey, B. (2008). Service learning research as a feedback loop for faculty development. In M. A. Bowdon, S. H. Billig and B. A.

- Holland. *Scholarship for sustaining service learning and civic engagement*. Information Age Publishing: California. 113-137.
- Heyneman, S. P., Kraince, R., Lesko, N. and Bastedo, M. (2007). higher education and social cohesion: A comparative perspective. In P. G. Altbach (Ed.). *Higher education in the new century: Global challenges and innovative ideas*. Sense Publishers, Rotterdam. 55-78.
- Hiborne, J. (1996). Ensuring quality in further and higher education partnerships. In M. Abramson, J. Bird and A. Stennett (Eds.). *Further and higher education partnerships: The future for collaboration*. SRHE and OUP, UK. 58-71.
- Higher Education Quality Committee (2006). *A good practice guide and self-evaluation instruments for managing the quality of service learning*. Council on Higher Education: Pretoria..
- Hinchey, P. H. (2010). *Finding freedom in the classroom: A practical introduction to critical theory*. Peter Lang, NY.
- Hodgson, V. (2006). Participative assessment and the learner's experience. In P. Ashwin (Ed). *Changing higher education: The development of learning and teaching*. 33-46. Routledge, London and NY.
- Hoyrup, S. and Elkjaer, B. (2006). Reflection: Taking it beyond the individual. In D. Boud, P. Cressey & P. Docherty. *Productive reflection at work*. Routledge, UK. 29 – 42.
- Hyland, T. (1994). *Competence, education, and NVQs*. Cassell, London.
- Illeris, K. (2005). A comprehensive understanding of learning. In P. Jarvis and S. Parker. *Human learning: An holistic approach*. Routledge, UK. pp.87 – 100.
- International Bank for Reconstruction and Development/World Bank (2000). *Higher education in developing countries: Peril and promise*. The Task Force on Higher Education and Society, Washington.
- Jacoby, B. (2003). Fundamentals of service learning partnerships. In Jacoby, B. and Associates. *Building partnerships for service learning*. Jossey-Bass, San Francisco. 1-19.
- Jansen, J., Herman, C. and Pillay, V. (2004). Research learning. *Journal of Education*, 34, 79-102.
- Jarvis, P. (2001). *Universities and corporate universities: the higher learning industry in global society*. Kogan Page, London.
- Jennings, W. and Caulfield, J. (2005). *Bridging the teaching/assessment gap: Showcase teaching*. ScarecrowEducation, USA.
- Kaye, B. (1994). Universities and society. In J. Neville (Ed.) *The silent university?: social responsibility and educational values*. University of New South Wales, The institute of Values Research. Institute for Values Research, Sydney. 5-11.
- Keckes, K. (2006). Behind the rhetoric: Applying a cultural theory lens to community-campus partnerships development. *Michigan Journal of Community-based Learning*. 12(2). 5-14.
- Kelchtermans, G. (2007). Teachers' self-understanding in times of perfromivity. In L. F. Deret ceterahin and C. J. Craig. *International research on the impact of accountability systems*. Teacher Education Yearbook XV. Rowman & Littlefield Education, UK. pp. 13 - 20
- Kerlin, B. A. (1992). *Cognitive engagement style, self-regulated learning and cooperative learning*. <http://kerlins.net/bobbi/research/myresearch/srl.html>
- Kermally, S. (1997). *Total management thinking: Ideas that are transforming management*. REPP, Oxford.

- King, E. (1986). *International yearbook of education. XXXVII-Technological occupational challenges, social transformation and educational responses*. UNESCO, Paris.
- Kodama, M. (2007). *The strategic community-based firm*. Palgrave MacMillan, New York.
- Kornhaber, M., Fierros, E. and Veenama, S. (2004). *Multiple intelligences: Best ideas from research and practice*. Pearson, USA.
- Kruss, G. (2005). *Working partnerships in higher education, industry and innovation: Financial or intellectual imperatives*: HSRC Press, Cape Town.
- Leedy, P. and Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.). Pearson, Merrill Prentice Hall, New Jersey.
- Leonard, D. C. (2002). *Learning theories A to Z*. Greenwood Press, USA.
- Lewis-Beck, M. S. Bryman, A. and Liao, T. F. (2004). *The Sage encyclopaedia of social science research methods*. Vol. 2. Sage, Thousand Oaks.
- Lincoln, Y. S. and Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications, Inc.: Beverly Hills, CA.
- Lumsdaine, E. and Binks, M. (2007). *Entrepreneurship from creativity to innovation: Effective thinking skills for a changing world*. Trafford, UK.
- Lundin, S. C. and Nelson, B. (2010). *Ubuntu!: an inspiring story about an African tradition of teamwork and collaboration*. Broadway Books, NY.
- MacGregor K. (2008). *Engaging developments on the up*.
<http://www.universityworldnews.com/article.php?story=20080222100232277> .
Accessed 25/3/2008.
- Manjarrés-Henríquez, L., Gutiérrez-Gracia, A., Carrión-García, A, and Vega-Jurado, J. (2009). Effects of university–industry relationships and academic research on scientific performance: Synergy or substitution? *Research in Higher Education*. 50 (8), 795-811.
- Maree, K. (2010). (Professor in the Faculty of Education, University of Pretoria).
Personal interview on 02/03/2010 .
- Marquardt, M. J. (2002). *Building the learning organisation: Mastering the 5 elements of corporate learning*. Davies-Black, Canada.
- Marsick, V. J. and Maltbia, T. E. (2009). The transformative potential of action learning conversations: Developing critically reflective practice skills. In J. Mezirow, E. W. Taylor and Associates. *Transformative learning in practice: Insights from community, workplace, and higher education*. Jossey-Bass, San Francisco. 160-171.
- Martin, D. and Potter, L. (1998). How teachers can help students get their learning styles met at school and at home. *Education*, 118(4), 1998. 549-556.
- Martin, M. (2000). University-industry partnerships: the changing context. In *International Institute for Educational Planning*, XVIII (3).
- Masebe, J. (2007). *Meta-evaluation for a programme reviewing at a university of technology*. M.Ed. dissertation. University of Pretoria.
- Marzano, R. J. and Kendall, J. S. (2007). *The new taxonomy of educational objectives* (2nd ed.). Corwin Press, California.
- Mazawi, A. E. (2007). ‘Knowledge society’ or work as ‘spectacle’: Education for work and the prospects of social transformation in Arab societies. In L. Farrell and T. Fenwick (Eds.) *Educating the global workforce: knowledge, knowledge work and knowledge workers*. World Yearbook of Education 2007. Routledge, London. 251-267.
- McNiff, J. (2000). *Action research in organisations*. Routledge, London & NY.

- McNiff, J. and Whitehead, J. (2006). *All you need to know about action research*. Sage Publications, London.
- Mergel, B. (1998). *Instructional design and learning theory*.
<http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm>
- Mezirow, J. (2009). Transformative learning theory. In J. Mezirow, E. W. Taylor, and Associates. *Transformative learning in practice: Insights from community, workplace, and higher education*. John Wiley & Sons, San Francisco. 18-31.
- Mills, C. & Gale, T. (2010). *Schooling in disadvantaged communities: Playing the game from the back of the field*. Dordrecht, NY.
- Mohrman, K., Ma, W. and Baker, D. (2007). The emerging global model of the research university. In P. G. Altbach and P. M. Peterson (Eds.). *Higher education in the new century: global challenges and innovative ideas*. Global Perspectives on Higher Education Series. Sense Publishers, Rotterdam. 145-177.
- Mulders, M. (2010). *101 management models*. Groningen, Noordhoff.
- National University of Science and Technology. (2003). Yearbook 2003/2004, 2004/2005, Bulawayo.
- Newell, K. (2010). What is culturally responsive teaching? In S. G. Houff. *The Classroom facilitator: Special issue questions*. Rowan & Littlefield Education, Lanham. 15-26.
- Ngara, E. (1995). *The African university and its mission*. Institute of Southern African Studies, Lesotho.
- Onwuegbuzie, A. J. & Teddlie, C. (2003). A framework for analysing data in mixed methods research. In Tashakkori and C. Teddlie (Eds.). *Handbook of mixed methods in social and behavioural research*. Sage, California. 351-383.
- Organisation for Economic Co-operation and Development [OECD] (1984). *Industry and university: New forms of co-operation and communication*. OECD, Paris.
- O'Toole, K. (2007). Assessment in experiential learning: The case of a public policy internship. *Education Research and Perspectives*. 34(2), 51 – 62.
- Parra-Sandoval, M. C., Carmona, A. J. B. and Gonzalez, A. I. (2010) *University: The last call?* IDRC, Ottawa.
- Peddler, M., Burgoyne, J and Boydell, T. (1997). *The learning company: A strategy for sustainable development*. (2nd ed). MacGraw-Hill, London.
- Perkins, D. (2006). Constructivism and troublesome knowledge. Chapter 3). In J.H.F. Meyer & R. Land (Eds). *Overcoming barriers to student learning: threshold concepts and troublesome knowledge*. Routledge, London. 33-47.
- Perold, H. (1998). *Community service in higher education*. Final report of the Joint Education Trust. Johannesburg.
- Pompa, L. (2005). Service learning as crucible: Reflections on immersion, context, power, and transformation. In D. W. Butin (Ed.). *Service learning in higher education: Critical issues and directions*. Palgrave MacMillan, NY. 173-192.
- Punch, K. (2009). *Introduction to research methods in education*. Sage Publications, London.
- Ramaley, J. A. (2005). Scholarship for the public good. In A. J. Kezar, T. C. Chambers, and J. C. Burkhardt. (Eds.). *Higher education for the public Good: Emerging voices from a national movement*. Jossey-Bass, California. 166-181.
- Ramaphosa, C. (2011). *Igniting the fire of entrepreneurial spirit*. Pretoria News, Tuesday October 25, 2011. p. 11
- Republic of Zimbabwe (2004). *Science and Technology policy*. Harare.
- Rubin, H. J. and Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data*. 2nd ed. Sage Publications, Thousand Oaks.

- Ryan, A. (2006). New labour and higher education. In Geoffrey Walford (Ed.), *Education and the labour government: An evaluation of two terms*, Routledge, Oxford.
- Salminen-Karlsson, M. and Wallgren, L. (2008). The Interaction of academic and industrial supervisors in graduate education: an investigation of industrial research schools. *Higher Education*. 56. 77-93
- Southern African Regional Universities Association (SARUA) (2008). *SARUA commissioned research projects*.
<https://www.sarua.org:8180/web/guest/researchprojects>.
- Scholz, R. W. and Tietje, O. (2002). *Embedded case study methods: Integrating quantitative and qualitative knowledge*. Sage publications, London.
- Scott, M. M. (2006). *The efficacy of holistic learning strategies in the development of church leaders in Mozambique: An action research approach*. PhD Thesis. University of Pretoria.
- Shrader, E., Saunders, M. A., and Marullo, S. (2008). Institutionalising community-based learning and research: The case of external networks. *Michigan Journal of Community Service Learning*. 14(2), 27 – 40.
- Silverman, D. (2004). Who cares about ‘experience’?: Missing issues in qualitative research. In D. Silverman (Ed.), *Qualitative Methods: Theory, Method and Practice* (pp 1-8). Sage, London.
- Silverman, D. (2006). *Interpreting qualitative data*. 3rd ed. Sage publications, London.
- Sizer, J. (1990). Performance indicators and the management of universities in the United Kingdom: A summary of developments with commentary. In F.J.R.C. Dochy, M.S.R. Segers and W.H.F.W. Wijnen (Eds.). *management information and performance indicators in higher education: An international issue*. Van Gorcum, Netherlands. 5-45.
- Skilbeck, M. (1984). *Evaluating the curriculum in the eighties*. London, Hodder and Stoughton.
- Smith, D. J. (2006). *Concept analysis of critical cross-field outcomes in the context of private service providers within further education and training (FET)*. PhD Thesis. University of Pretoria.
- Sohnge, W. F. and van Niekerk, L.J. (2005). Curriculum as text: Some implications of Ricoeur’s hermeneutic theory for curriculum theory. *Education As Change*. 9(1). 168-184.
- Spady, W. G. and Schwahn, C. J. (2010). *Learning communities 2.0: Educating in the age of empowerment*. Rowman & Littlefield Education, Plymouth.
- Spurlock, S. H. (2004). Partnerships in education: Bridging the university and the community. In B. A. Behringer, B. C. Bach, H. C. Daudistel, J. W. Fraser, J. Kriesky and G. E. Lang. (Eds.). *Pursuing opportunities through partnerships: Higher education and communities*. West Virginia University Press. 161-174.
- Stefani, L. (2006). Towards a shared understanding of scholarship in the classroom. In P. Ashwin. (Ed) *changing higher education: The development of learning and teaching*. Routledge, London. pp. 113-125.
- Stein, J. (2005). The brain and learning. In P. Jarvis and S. Parker. *Human learning: A holistic approach*. Routledge, UK. pp 32 – 49.
- Stennett, A. and Ward, S. (1996). Smaller but beautiful: Bath college of higher education and Strode College, Street. In M. Abramson, J. Bird and A. Stennett (Eds.). *Further and higher education partnerships: The future for collaboration*. SRHE and OUP, UK. 123-137.

- Straka, G. A. (1997). *European views of self-directed learning: Historical, conceptional, empirical, practical, vocational*. Waxman, Germany.
- Sunday News (20 March 2011). *Vocational training institutions collapse – Ncube*, Bulawayo.
- Suwanwela, C. (2008). The political and social contribution of research. In Vessuri, H. (2008). The role of research in higher education: implications and challenges for an active contribution to human and social development. In Global University Network for Innovation (GUNI) Series on the Social Commitment of Universities 3. Section 1.6. *Higher Education in the World 3: Higher Education: New Challenges and Emerging Roles for Human and Social Development*. GUNI Palgrave MacMillan, UK & USA. 132-135.
- Taber, K. (2007). *Classroom-based research and evidence-based practice: a guide for teachers*. Sage, London.
- Taylor, E. W. (2009). Fostering transformative learning. In J. Mezirow, E. W. Taylor and Associates. *Transformative learning in practice: Insights from community, workplace, and higher education*. Jossey-Bass, San Francisco. 3-17.
- Teare, R. and Prestoungrange, G. (2004). *Revans University – The university of action learning: Accrediting managers at work in the 21st Century*. Prestoungrange University Press, Scotland.
- Teddlie, C. and Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences*. Sage Publications, California.
- Telford, A. (1995). Mixed method inquiry: The best of both worlds. In D. Thomas (Ed). *Flexible learning strategies in higher and further education*. Cassell, London. 164 – 175.
- Trani, E. P. and Holsworth, R. D. (2010). *The indispensable university: Higher education, economic development and the knowledge economy*. Rowman & Littlefield Publishers, Lanham.
- Urban, B. and Barreira, (2007). Insights into technopreneurship: Self-employment perceptions among engineering students. *South African Journal of Higher Education*. 21(5). 567-583.
- University World News. (2008). *Community engagement as a core HE function*. <http://www.universityworldnews.com/article.php?story=20080222100232277>. Accessed 29/2/08.
- Valo, M. (2000). Experiencing work as a communications professional: Students' reflections on their off-campus work practice. *Higher Education*.39(2). 151-179.
- Vega-Jurado, J. Fernandez-de-Lucio, I, and Huanca, R. (2009). University-industry relations in Bolivia: Implications for university transformations in Latin America. *Higher Education*. 56, 205 – 220.
- Venkatesh, M., Small, R. V. and Marsden, J. (2003). *Learning –in-community: Reflections on practice*. Kluwer, Dordrecht.
- Vessuri, H. (2008). The role of research in higher education: implications and challenges for an active contribution to human and social development. In Global University Network for Innovation (GUNI) Series on the Social Commitment of Universities 3. Section 1.6. *Higher Education in the World 3: Higher Education: New Challenges and Emerging Roles for Human and Social Development*. GUNI Palgrave MacMillan, UK & USA. 119-129.
- Viens, J. and Kallenbach, S. (2005). Multiple intelligence theory in adult literacy education. In P. Jarvis and S. Parker (Eds.). *Human Learning: A holistic approach*. Routledge, UK. 50 – 65.

- Vollgraaff, R. (2011). Gorham's small business mention 'not sufficient'. *Sunday Times*. October 30 2011, Pretoria.
- Waghid, Y. (2002). Rationality and the role of the university: a response to Philip Higgs, in *South African Journal of Higher Education*. 16(2):18-24.
- Wain, K. (2004). *The Learning society in a postmodern world: The education crisis*. Peter Lang, NY.
- Walberg, H. J. (2006). Improving educational productivity: An assessment of extant research. In R. F. Subotnik and H. J. Walberg (Eds.). *The Scientific basis of educational productivity*. IAP, Greenwich. 103-159.
- Wang, H. (2009). Pedagogical Reflection V: Self-understanding and engaging others: In H. Wang and N. Olson (Eds.). *A journey to unlearn and learn in multicultural education*. Peter Lang, NY. 173-177.
- Wessels, M. L. and, Jacobsz, J. M. (2010). *Views of industry and higher education on cooperative education in the Gauteng Province of South Africa*.
www.wacenic.org/conferencepapers.html
- Williams, P. R. C. (1989). *Report of the commission of inquiry into the establishment of the second university or campus*. Zimbabwe Government Printers, Harare.
- Wilkie, K. (2004). Becoming facilitative: Shifts in learners' approaches to facilitating problem-based learning. In M. Saving-Baden and K. Wilkie (Eds.). *Challenging research in problem-based learning*. SRHE and OUP. 81-92.
- Winch, C. (2000). *Education, work and social capital: towards a new conception of vocational training*. Routledge, London.
- Winne, P. H., Jamieson-Nod, D. and Muis, K. R. (2002). Methodological Issues and advances in researching tactics, strategies, and self-directed learning. In P. R. Pintrich and M. L. Maehr (Eds.). *New directions in measures and methods*. Advances in motivation and achievement, 12. Elsevier Science, UK. 121 – 155.
- Wolsterstorff, N. P. (2002). *Educating for life: reflections on Christian teaching and learning*. Baker Academic, Michigan.
- Wood, T. (2007). Lifelong learning, Academic development and the purposes of higher Education. *Journal of education*. 42: 83-105.
- Yecke, C. P. (2003). *The war against excellence: the rising tide of mediocrity in America's middle schools*. Lanham, Philadelphia.
- Yin, R. K. (2003). *Case Study Research: Design and Methods*. (3rd ed). Sage, California
- Zimbabwe (2008). National Report on the Status of Education. 48th Session of UNESCO International Conference on Education. Geneva. 25 – 28 November 2008.
- Zlotkowski, E., Jones, R. J., Lenk, M. M., Meeropol, J., Gelmon, S. B. and Norvell, K. H. (2005). *One with the community: Indicators of engagement at minority-serving institutions*. Campus Compact, Brown University, USA.

APPENDICES

APPENDIX I – Activity plan

TASK/ACTIVITY	Task No		Year 1 2008				Year 2 2009				Year 3 2010				Year 4 2011				Year 5 2012				Year 6 2013			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
LITERATURE SEARCH	1.0	P	█				█				█				█											
		A	█				█				█				█											
RESEARCH PROPOSAL	2.0	P	█																							
		A	█																							
Draft proposal	2.1	P	█																							
		A	█																							
Proposal development/Literature review	2.2	P		█	█																					
		A		█	█																					
Proposal defence	2.3	P			█																					
		A			█																					
ETHICAL CLEARANCE	3.0	P				█	█																			
		A				█	█																			
INSTRUMENT DEVELOPMENT	4.0	P				█	█	█																		
		A				█	█	█																		
DATA COLLECTION	5.0	P						█	█	█																
		A							█	█	█															
DATA ANALYSIS	6.0	P							█	█	█															
		A								█	█	█														
REPORT WRITING	7.0	P				█	█	█	█																	
		A				█	█	█	█																	
Preliminary chapters	7.1	P				█	█	█	█																	
		A				█	█	█	█																	
Methodology/Procedures chapter	7.2	P						█	█																	
		A							█	█																
Results and findings	7.3	P							█	█																
		A								█	█															
Produce 1 st thesis draft	7.4	P											█	█												
		A												█	█											
SUBMISSION & CORRECTIONS	8.0	P												█	█											
		A													█	█										
Language editing	8.1	P												█	█											
		A													█	█										
Write journal paper	8.2	P												█	█											
		A													█	█										
Final thesis submission (unbound)	8.3	P													█	█										
		A														█	█									
Corrections and amendments	8.4	P														█	█									
		A															█	█								
Submit final bound copies	8.5	P															█	█								
		A																█	█							

Key: P = Planned; A = Actual

APPENDIX II – Consent letter for lecturers



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

P O Box AC 939, Ascot, Bulawayo, Zimbabwe
Cnr. Gwanda Road/Cecil Avenue

Tel. 281086, 289438, 289265, 298456, 289435
Fax 286803, 285933

DEPARTMENT OF TECHNICAL TEACHER EDUCATION

Date:/...../.....

To:
.....

INVITATION TO PARTICIPATE IN A RESEARCH STUDY

Dear Colleague

I am a research candidate in the Faculty of Education at the University of Pretoria. I am in the process of carrying out a study on the effects of industry-based learning on academic practices under the tentative title: **Enhancing Quality Academic Practice through Inclusive Industry-based Learning.**

You have been identified as one who can provide useful information for the success of this study. This letter serves to request your participation in which recordings and transcriptions will be made. The specific details of your participation will be communicated to you verbally in due course. All information that you provide will be handled confidentially and used only for the purposes of the study and for the advancement of quality practices in university education. Original recordings and transcripts will be safely kept at the University of Pretoria as is the norm. In the final thesis publication, all specific names of persons and places will be converted to codes. Your participation in the study will be voluntary, and you may later withdraw if you so decide without being disadvantaged in any way.

If you should require more information regarding this request, please feel free to contact me using the contact details below. I appreciate your thoughtful consideration, and I look forward to working with you in the near future.

Thank you in anticipation.

Signature :
N. Phuthi : Research Coordinator

Signature :
Dr P H Du Toit : Research Promoter
(University of Pretoria)

My Contact Details:

Telephone: 289265 Ext 2336
Cellular phone: 011917503
Office No.: SD27 Commerce Bldg

APPENDIX III – Consent letter for organisations and institutions



NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

P O Box AC 939, Ascot, Bulawayo, Zimbabwe
Cnr. Gwanda Road/Cecil Avenue

Tel. 281086, 289438, 289265, 298456, 289435
Fax 286803, 285933

DEPARTMENT OF TECHNICAL TEACHER EDUCATION

Date:/...../.....

To:
.....
.....
.....

APPLICATION FOR PERMISSION TO COLLECT DATA FOR A RESEARCH STUDY

Dear

I am a research candidate in the Faculty of Education at the University of Pretoria. I am in the process of carrying out a study on the effects of industrial attachment (also called industry-based learning) on academic practices and student learning under the tentative title: **Enhancing Quality Academic Practice through Inclusive Industry-Based Learning**.

Your organisation has been identified as one that can provide useful information for the success of this study. This letter serves to request your participation in which recordings and transcriptions will be made. The specific details of your participation will be communicated to you verbally in due course. All information that you provide will be handled confidentially and used only for the purposes of the study and for the advancement of quality practices in university education. Original recordings and transcripts will be safely kept at the University of Pretoria as is the norm. In the final thesis publication, all specific names of persons and places will be converted to codes. Your participation in the study will be voluntary, and you may later withdraw if you so decide without being disadvantaged in any way.

If you should require more information regarding this request, please feel free to contact me using the contact details below. I appreciate your thoughtful consideration, and I look forward to working with you in the near future.

Thank you in anticipation.

Signature :
N. Phuthi : Research Coordinator

APPENDIX IV – Indemnity letter for institutions and organisations

Company Letterhead

Date:

To Whom It May Concern

Herewith my consent that all documentation that I compile, written and verbal feedback that I give, or any other means of generating ideas regarding the study: *Enhancing Quality Academic Practice through Inclusive Industry-Based Learning*, can be used by the researcher, Mr N. Phuthi, as data for the purpose of feedback and research of the industry-based learning programme with a view to improving university educational practice.

My understanding is that any data/feedback will be reported anonymously when made public.

Name:

Signature:



APPENDIX V – Student cover letter and questionnaire

LETTERHEAD

Date:/...../.....

Dear Participant

STUDENT QUESTIONNAIRE ON INDUSTRY-BASED LEARNING

The attached questionnaire is part of the process of obtaining data on experiences and opinions towards better understanding of industry-based learning, in our case referred to as Industrial Attachment (IA). Like many enterprising universities world-wide, our university is keen to realise the gains in systematically integrating classroom learning with the real world of work so as to prepare graduates for the challenges of the changing global environment.

You are requested to respond to all the items as explained in this questionnaire. The information you provide will be regarded as confidential and will be used for research purposes only.

Thank you for agreeing to be a participant in this research. Please return the completed questionnaire to the Research Coordinator by

.....

Mr N. Phuthi
Research Coordinator
Department of Technical Teacher Education
National University of Science and Technology

.....

Dr P H Du Toit
Supervisor
Faculty of Education
University of Pretoria



LETTERHEAD

DATE:/...../.....

QUESTIONNAIRE – STUDENT VERSION

FOR OFFICE USE

RESPONDENT NUMBER

v0

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SECTION A – Background information

Put an X in the numbered box corresponding to the response of your choice, as in this example.

Undergraduate	<input checked="" type="checkbox"/>
Postgraduate	2

1 Your Faculty

Applied Sciences	1
Built Environment	2
Commerce	3
Industrial Technology	4
Library & Information Science	5
Medicine	6

v1

2 Year of study

First year	1
Second year	2
Third year	3
Fourth year	4
Fifth year	5

v2

3 Gender

Male	1
Female	2

v3

4 Age

Below 20	1
20 – 24	2
25 – 29	3
30 and above	4

v4

5 Previous work experience (Were you ever employed, or attached to a workplace, prior to enrolling for your current degree programme?)

Yes	1
No	2

v5

6 Duration of previous work experience

(If YES in no. 5, how long, in total, were you engaged?)

Less than 6 months	1
6 months to one year	2
More than one year	3

v6

SECTION B - Experiences and opinions of Industrial Attachment (IA)

For items 7 - 25 put an X in the box corresponding with your preferred response. Any further explanations may be written at the end in item number 37.

Key to responses: 1 = not at all 2 = slightly 3 = moderately 4 = greatly

Indicate your views on your recent Industrial Attachment (IA) experience.

			FOR OFFICE USE
7	My earlier university courses and other learning experiences prepared me for IA.	1 2 3 4	V7 <input type="checkbox"/>
8	My IA experience consolidated the courses I had studied earlier.	1 2 3 4	V8 <input type="checkbox"/>
9	The IA experience has improved my study skills.	1 2 3 4	V9 <input type="checkbox"/>
10	The IA experience has improved my deeper understanding of subject content knowledge.	1 2 3 4	V10 <input type="checkbox"/>
11	The IA experience has improved my practical skills and workmanship.	1 2 3 4	V11 <input type="checkbox"/>
12	The IA experience has helped me to be more creative and innovative in terms of problem-solving.	1 2 3 4	V12 <input type="checkbox"/>
13	The IA experience has empowered me to develop control of my own learning.	1 2 3 4	V13 <input type="checkbox"/>
14	The IA experience has improved my capability to work in a team.	1 2 3 4	V14 <input type="checkbox"/>
15	The IA experience has enhanced my sensitivity and responsiveness to problems in my environment.	1 2 3 4	V15 <input type="checkbox"/>
16	My IA has improved my organisational and administrative skills.	1 2 3 4	V16 <input type="checkbox"/>
17	My IA has improved my social, emotional and people skills.	1 2 3 4	V17 <input type="checkbox"/>
18	My IA has improved my imaginative, conceptual and strategic thinking skills.	1 2 3 4	V18 <input type="checkbox"/>
19	My IA experience has prepared me for the realities of the world of work.	1 2 3 4	V19 <input type="checkbox"/>
20	My IA experience has encouraged me to respect and uphold the dignity of practical work whether skilled, semi-skilled or unskilled.	1 2 3 4	V20 <input type="checkbox"/>
21	My IA experience has improved my ability to work closely with different kinds of people.	1 2 3 4	V21 <input type="checkbox"/>
22	My IA experience has improved my time management and the systematic planning of my studies.	1 2 3 4	V22 <input type="checkbox"/>
23	I was satisfied with the supervision and assessment by the industry-based supervisor.	1 2 3 4	V23 <input type="checkbox"/>
24	I was satisfied with the supervision and assessment by the university-based supervisor.	1 2 3 4	V24 <input type="checkbox"/>
25	The overall process of assessment of my IA experience was adequate and appropriate for me.	1 2 3 4	V25 <input type="checkbox"/>

For numbers 26 – 31, put an X on your chosen option, either YES or NO.

- | | | | | | |
|----|---|-----|----|-----|--------------------------|
| 26 | My IA organisation provided me with opportunities for continuous learning and self-development. | YES | NO | V26 | <input type="checkbox"/> |
| 27 | I identified and contributed new ideas to improve the organisation. | YES | NO | V27 | <input type="checkbox"/> |
| 28 | Compared to my colleagues and classmates, I think my IA experience was excellent. | YES | NO | V28 | <input type="checkbox"/> |
| 29 | In class, my lecturers encourage the use of information and experiences gained from IA. | YES | NO | V29 | <input type="checkbox"/> |
| 30 | My IA experiences have contributed to progress regarding my final year project. | YES | NO | V30 | <input type="checkbox"/> |
| 31 | Industrial attachment is a vital learning component of my degree studies. | YES | NO | V31 | <input type="checkbox"/> |

FOR OFFICE USE

For the following items, put an X in the numbered box corresponding to your chosen response or fill in the spaces provided where applicable.

- 32 From the list below, select and rank the top **THREE** items that you benefited from your IA experience. (Rank 1 as the most important benefit).

		Rank
1	Remuneration	
2	Material benefits and other working conditions	
3	The organisation's reputation	
4	Intellectual challenges	
5	Application of prior knowledge	
6	Learning new knowledge and skills	
7	Prospects for future employment	
8	Offering a service	
	Other (Specify)	
	

V32.1

V32.2

V32.3

- 33 To which category of organisation were you attached?

Large-scale urban	1
Large-scale rural	2
SME urban	3
SME Peri-urban	4
SME Rural	5
Other (specify)	
.....	

V33

- 34 In your opinion, do small- and medium-scale enterprises (SMEs) need MORE support from your university for their sustainability and growth than large-scale enterprises (LSEs)?

Yes	1
No	2

V34

Substantiate your answer

.....

.....

.....



**FOR
 OFFICE
 USE**

35 In your opinion, should NUST include SMEs in the IA program at all?

Yes	1
No	2

V35

Substantiate your answer

.....

.....

.....

36 Does the current IA program need changes or improvements?

Yes	1
No	2

V36

If YES, suggest what changes/improvements you would like to see implemented.

.....

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37 In the space below, feel free to write any additions, concerns or explanations to some of your answers to the previous questions.

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V37

V38

V39

V40

V41

Thank you for completing this questionnaire. Your contribution is greatly appreciated.

APPENDIX VI – Lecturer cover letter and questionnaire

LETTERHEAD

Date:/...../.....

Dear Colleague

QUESTIONNAIRE ON INDUSTRY-BASED LEARNING – ACADEMIC STAFF

The attached questionnaire is part of the process of obtaining data on experiences and opinions towards promoting quality practices and processes in our university using industry-based learning (also referred to as Industrial Attachment). Like many enterprising universities world-wide, our university is keen to realise the gains in systematically integrating classroom learning with the real world of work so as to prepare graduates for the challenges of the changing global environment.

You are requested to respond to all the items as explained in this questionnaire. The information you provide will be regarded as confidential and will be used for research purposes only.

Thank you for agreeing to be a participant in this research. Please return the completed questionnaire to the Research Coordinator by

.....

Mr N. Phuthi
Research Coordinator
Department of Technical Teacher Education
National University of Science and Technology

.....

Dr P H Du Toit
Supervisor
Faculty of Education
University of Pretoria



LETTERHEAD

DATE:/...../.....

QUESTIONNAIRE – LECTURER VERSION

		FOR OFFICE USE											
RESPONDENT NUMBER		V0 <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>											
SECTION A – Background information													
<p><i>Put an X in the numbered box corresponding to the response of your choice, as in this example.</i></p> <table border="1" style="display: inline-table; margin-left: 200px;"> <tr><td>Undergraduate</td><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td>Postgraduate</td><td style="text-align: center;">2</td></tr> </table>		Undergraduate	<input checked="" type="checkbox"/>	Postgraduate	2								
Undergraduate	<input checked="" type="checkbox"/>												
Postgraduate	2												
<p>1 Your Faculty</p> <table border="1" style="width: 100%;"> <tr><td>Applied Sciences</td><td style="text-align: center;">1</td></tr> <tr><td>Built Environment</td><td style="text-align: center;">2</td></tr> <tr><td>Commerce</td><td style="text-align: center;">3</td></tr> <tr><td>Industrial Technology</td><td style="text-align: center;">4</td></tr> <tr><td>Library & Information Science</td><td style="text-align: center;">5</td></tr> <tr><td>Medicine</td><td style="text-align: center;">6</td></tr> </table>	Applied Sciences	1	Built Environment	2	Commerce	3	Industrial Technology	4	Library & Information Science	5	Medicine	6	V1 <input style="width: 30px; height: 20px;" type="checkbox"/>
Applied Sciences	1												
Built Environment	2												
Commerce	3												
Industrial Technology	4												
Library & Information Science	5												
Medicine	6												
<p>2 Levels of students you teach</p> <table border="1" style="width: 100%;"> <tr><td>First year</td><td style="text-align: center;">1</td></tr> <tr><td>Second year</td><td style="text-align: center;">2</td></tr> <tr><td>Third year</td><td style="text-align: center;">3</td></tr> <tr><td>Fourth year</td><td style="text-align: center;">4</td></tr> <tr><td>Fifth year</td><td style="text-align: center;">5</td></tr> </table>	First year	1	Second year	2	Third year	3	Fourth year	4	Fifth year	5	V2 <input style="width: 30px; height: 20px;" type="checkbox"/>		
First year	1												
Second year	2												
Third year	3												
Fourth year	4												
Fifth year	5												
<p>3 Your Gender</p> <table border="1" style="width: 100%;"> <tr><td>Male</td><td style="text-align: center;">1</td></tr> <tr><td>Female</td><td style="text-align: center;">2</td></tr> </table>	Male	1	Female	2	V3 <input style="width: 30px; height: 20px;" type="checkbox"/>								
Male	1												
Female	2												
<p>4 Your Age</p> <table border="1" style="width: 100%;"> <tr><td>Below 20</td><td style="text-align: center;">1</td></tr> <tr><td>20 – 24</td><td style="text-align: center;">2</td></tr> <tr><td>25 – 29</td><td style="text-align: center;">3</td></tr> <tr><td>30 and above</td><td style="text-align: center;">4</td></tr> </table>	Below 20	1	20 – 24	2	25 – 29	3	30 and above	4	V4 <input style="width: 30px; height: 20px;" type="checkbox"/>				
Below 20	1												
20 – 24	2												
25 – 29	3												
30 and above	4												
<p>5 Previous non-educational working experience (Have you worked anywhere other than in educational institutions before?)</p> <table border="1" style="display: inline-table; margin-left: 200px;"> <tr><td>Yes</td><td style="text-align: center;">1</td></tr> <tr><td>No</td><td style="text-align: center;">2</td></tr> </table>	Yes	1	No	2	V5 <input style="width: 30px; height: 20px;" type="checkbox"/>								
Yes	1												
No	2												
<p>6 Duration of previous working experience (If YES in no. 5, how long, in total, were you engaged?)</p> <table border="1" style="width: 100%;"> <tr><td>0 - under 3 years</td><td style="text-align: center;">1</td></tr> <tr><td>3 – under 6 years</td><td style="text-align: center;">2</td></tr> <tr><td>6 – under 9 years</td><td style="text-align: center;">3</td></tr> <tr><td>9 years and above</td><td style="text-align: center;">4</td></tr> </table>	0 - under 3 years	1	3 – under 6 years	2	6 – under 9 years	3	9 years and above	4	V6 <input style="width: 30px; height: 20px;" type="checkbox"/>				
0 - under 3 years	1												
3 – under 6 years	2												
6 – under 9 years	3												
9 years and above	4												

SECTION B - Experiences and opinions of Industrial Attachment (IA)

For items 7 - 25, put an X in the box corresponding with your preferred response. Any further explanations can be written at the end in item number 37.

Key to responses: 1 = not at all 2 = slightly 3 = moderately 4 = greatly

Indicate your current views on Industrial Attachment (IA) experience.

			FOR OFFICE USE
7	I present my pre-IA courses and other learning experiences with a view to preparing students for IA.	1 2 3 4	V7 <input type="checkbox"/>
8	Students' IA experiences have consolidated the pre-IA courses.	1 2 3 4	V8 <input type="checkbox"/>
9	The IA experience improves students' study skills.	1 2 3 4	V9 <input type="checkbox"/>
10	The IA experience improves students' deeper understanding of subject content knowledge.	1 2 3 4	V10 <input type="checkbox"/>
11	The IA experience improves students' practical skills and workmanship.	1 2 3 4	V11 <input type="checkbox"/>
12	The IA experience encourages students to be more creative and innovative in problem-solving.	1 2 3 4	V12 <input type="checkbox"/>
13	The IA experience empowers students to develop control of their own learning.	1 2 3 4	V13 <input type="checkbox"/>
14	The IA experience improves students' capability to work in a team.	1 2 3 4	V14 <input type="checkbox"/>
15	The IA experience enhances students' sensitivity and responsiveness to problems in their environment.	1 2 3 4	V15 <input type="checkbox"/>
16	The IA improves students' organisational and administrative skills.	1 2 3 4	V16 <input type="checkbox"/>
17	The IA improves students' social, emotional and people skills.	1 2 3 4	V17 <input type="checkbox"/>
18	The IA improves students' imaginative, conceptual and strategic thinking skills.	1 2 3 4	V18 <input type="checkbox"/>
19	The IA experience prepares students for the realities of the world of work.	1 2 3 4	V19 <input type="checkbox"/>
20	The IA experience promotes in students the respect for and dignity of all categories of work, be it skilled, semi-skilled or unskilled.	1 2 3 4	V20 <input type="checkbox"/>
21	The IA experience improves students' ability to work closely with different kinds of people.	1 2 3 4	V21 <input type="checkbox"/>
22	The IA experience improves students' time management and systematic planning of their studies.	1 2 3 4	V22 <input type="checkbox"/>
23	The supervision and assessment of students by the industry-based supervisor has been professional and effective.	1 2 3 4	V23 <input type="checkbox"/>
24	The supervision and assessment of students by the university-based supervisor has been professional and effective.	1 2 3 4	V24 <input type="checkbox"/>
25	In my view, the overall process of assessment of students' IA experience was adequate and appropriate.	1 2 3 4	V25 <input type="checkbox"/>

For items 26 – 31, put an X on your chosen option, either YES or NO.

- | | | | | | | |
|-----|---|---|-----|----|-----|--------------------------|
| 26 | Most IA organisations provide opportunities for students’ continuous learning and self-development. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V26 | <input type="checkbox"/> |
| YES | NO | | | | | |
| 27 | Students often identified and contributed new ideas to improve the organisation. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V27 | <input type="checkbox"/> |
| YES | NO | | | | | |
| 28 | The majority of IA organisations provide desirable experiences for our students. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V28 | <input type="checkbox"/> |
| YES | NO | | | | | |
| 29 | In class, I encourage the use of information and experiences gained by students from IA. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V29 | <input type="checkbox"/> |
| YES | NO | | | | | |
| 30 | Students’ IA experiences contribute to progress on their final year project. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V30 | <input type="checkbox"/> |
| YES | NO | | | | | |
| 31 | Industrial attachment is a vital learning component of our degree programme. | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">YES</td> <td style="padding: 2px 10px;">NO</td> </tr> </table> | YES | NO | V31 | <input type="checkbox"/> |
| YES | NO | | | | | |

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For the following items, put an X in the numbered box corresponding to your chosen response or fill in the spaces provided where applicable.

- 32 From the list below, select and rank the top **THREE** items that you desire your students to benefit from their IA experience. (Rank 1 as the most important).

		Rank
1	Remuneration	
2	Material benefits and other working conditions	
3	Sharing in the organisation’s reputation	
4	Intellectual challenges	
5	Application of prior knowledge	
6	Learning new knowledge and skills	
7	Prospects for future employment	
8	Offering a service	
	Other (Specify)	
	

- 33 Indicate the percentage of your students attached in different categories of organisations.

Category of Organisation	% attached	
Large-scale urban		
Large-scale rural		
SME urban		
SME Peri-urban		
SME Rural		
Other (specify)		
.....		

V32.1

V32.2

V32.3

V33.1

V33.2

V33.3

V33.4

V33.5

V33.6

V33.7

V33.8



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OFFICE
USE**

34 In your view, do small- and medium-scale enterprises (SMEs) need MORE support from the university for their sustainability and growth than large-scale enterprises (LSEs)?

Yes	1
No	2

Substantiate your answer

V34

35 In your opinion, should NUST include SMEs in the IA program at all?

Yes	1
No	2

Substantiate your answer

V35

36 Does the current IA programme need changes or improvements?

Yes	1
No	2

If YES, suggest what changes/improvements you would like to see implemented.

.....

V36

37 In the space below, feel free to write any additions, concerns or explanations to some of your answers to the previous questions.

.....

V37

V38

V39

V40

V41

Thank you for completing this questionnaire. Your contribution is greatly appreciated

APPENDIX VII – Industry cover letter and questionnaire

LETTERHEAD

Date:/...../.....

Dear Participant

QUESTIONNAIRE ON INDUSTRY-BASED LEARNING – INDUSTRY PERSONNEL

The attached questionnaire is part of the process of obtaining data on experiences and opinions towards better understanding of industry-based learning (also referred to as Industrial Attachment). Like many enterprising universities world-wide, our university is keen to realise the gains in systematically integrating classroom learning with the real world of work to prepare graduates for the challenges of the changing global environment.

You are requested to respond to all the items as explained in this questionnaire. The information you provide will be regarded as confidential and will be used for research purposes only.

Thank you for agreeing to be a participant in this research. Please return the completed questionnaire to the Research Coordinator by

.....

Mr N. Phuthi
Research Coordinator
Department of Technical Teacher Education
National University of Science and Technology

.....

Dr P H Du Toit
Supervisor
Faculty of Education
University of Pretoria



LETTERHEAD

DATE:/...../.....

QUESTIONNAIRE – INDUSTRY VERSION

FOR OFFICE USE

RESPONDENT NUMBER

V0

SECTION A – Background information

Put an X in the numbered box corresponding to the response of your choice, as in this example.

Undergraduate	<input checked="" type="checkbox"/>
Postgraduate	2

1 Location

Harare	1
Bulawayo	2
Gweru	3
Mutare	4
Kwekwe	5
Other (specify)	

V1

2 Sector

Private	1
Public	2

V2

3 Organisation Size

LSE	1
SME	2
Other (specify)	
.....	

V3

4 Type of business

Manufacturing	1
Mining	2
Retail	3
Service	4
Parastatal	5
Other (specify)	
.....	

V4

5 Source of student industrial attachees

Universities only	1
Universities and colleges	2

V5

6 Preferred duration of attachments

Less than 6 months	1
6 months to under one year	2
One year	3
More than one year	4

V6

SECTION B - Experiences and opinions of Industrial Attachment (IA)

For items 7 - 25, put an X in the box corresponding to your preferred response. Any further explanations can be written at the end in item number 37.

Key to responses: 1 = not at all 2 = slightly 3 = moderately 4 = greatly

Indicate your views on recent Industrial Attachment (IA) experiences for NUST students.

			FOR OFFICE USE
7	Students have generally come well-prepared for IA.	1 2 3 4	V7 <input type="checkbox"/>
8	The IA experience aims to consolidate the courses already studied by the students at university.	1 2 3 4	V8 <input type="checkbox"/>
9	The IA experience aims to improve students' personal study skills.	1 2 3 4	V9 <input type="checkbox"/>
10	The IA experience aims to improve students' deeper understanding of subject content knowledge.	1 2 3 4	V10 <input type="checkbox"/>
11	The IA experience improves students' practical skills and workmanship.	1 2 3 4	V11 <input type="checkbox"/>
12	The IA experience encourages students to be more creative and innovative in problem-solving.	1 2 3 4	V12 <input type="checkbox"/>
13	The IA experience aims to empower students to develop control of their own learning.	1 2 3 4	V13 <input type="checkbox"/>
14	The IA experience improves students' capability to work in a team.	1 2 3 4	V14 <input type="checkbox"/>
15	The IA experience enhances students' sensitivity and responsiveness to problems in their environment.	1 2 3 4	V15 <input type="checkbox"/>
16	The IA has improved students' organisational and administrative skills.	1 2 3 4	V16 <input type="checkbox"/>
17	The IA has improved the students' social, emotional and people skills.	1 2 3 4	V17 <input type="checkbox"/>
18	The IA has improved the students' imaginative, conceptual and strategic thinking skills.	1 2 3 4	V18 <input type="checkbox"/>
19	The IA experience prepares students for the realities of the world of work.	1 2 3 4	V19 <input type="checkbox"/>
20	The IA experience promotes in students the respect for, and dignity of, all categories of work, be it skilled, semi-skilled or unskilled.	1 2 3 4	V20 <input type="checkbox"/>
21	The IA experience has improved students' ability to work closely with different kinds of people.	1 2 3 4	V21 <input type="checkbox"/>
22	The IA experience aims to improve students' time management and systematic planning skills.	1 2 3 4	V22 <input type="checkbox"/>
23	The supervision and assessment of students by the industry-based supervisor was professional and effective.	1 2 3 4	V23 <input type="checkbox"/>
24	The supervision and assessment of students by the university-based supervisor was professional and effective.	1 2 3 4	V24 <input type="checkbox"/>
25	The overall process of student assessment of IA experience was adequate and appropriate.	1 2 3 4	V25 <input type="checkbox"/>

For no. 26 – 31 put an X on your chosen option, either YES or NO.

- 26 My organisation provides students opportunities for continuous learning and self-development. YES NO
- 27 Students are free to identify and contribute new ideas to improve the organisation. YES NO
- 28 Compared to other organisations, I think my organisation provides excellent IA experience. YES NO
- 29 In class lecturers should encourage the students' use of information and experiences gained from IA. YES NO
- 30 IA experiences should contribute to progress on students' final year projects. YES NO
- 31 Industrial attachment is a vital learning component of students' degree studies. YES NO

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- V26
- V27
- V28
- V29
- V30
- V31

For the following items, put an X in the numbered box corresponding to your chosen response and fill in the spaces provided where applicable.

- 32 From the list below, select and rank the top **THREE** benefits you desire to offer students during their IA experience in your organisation. (Rank 1 as the most important).

- V32.1
- V32.2
- V32.3

		Rank
1	Remuneration	
2	Material benefits and other working conditions	
3	Sharing in the organisation's reputation	
4	Intellectual challenges	
5	Application of prior knowledge	
6	Learning new knowledge and skills	
7	Prospects for future employment	
8	Offering a service	
	Other (Specify)	
	

- 33 Which category of organisation do you do most business with?

Large-scale urban	1
Large-scale rural	2
SME urban	3
SME Peri-urban	4
SME Rural	5
Other (specify)	
.....	

- V33

- 34 In your view, do small- and medium-scale enterprises (SMEs) need MORE support from the university for their sustainability and growth than large-scale enterprises (LSEs)?

- V34

Yes	1
No	2

Substantiate your answer

.....

APPENDIX VIII Interview schedule for university administrators

INTERVIEW REPORT

Interviewee		
Place		
Date		
Time		
Interviewer		

**ENHANCING QUALITY ACADEMIC PRACTICE THROUGH INCLUSIVE
INDUSTRY- BASED LEARNING**

Interview Schedule
NUST ADMINISTRATORS

1. What have been the most notable trends and challenges on the NUST industrial attachment exercise over the past few years? (For making comparisons with local and international partners and competitors).
2. What are the benefits (short-term, medium-term or long-term) of the IA to the university, to the lecturing staff and to the students? (To include effects on student learning, creativity and innovativeness)
3. What are the benefits to industry?
4. What are the short-term, medium-term or long-term benefits to wider society and the country?
5. Are the graduates coming from a programme with IA suitable for a developing country such as Zimbabwe?
6. What are your views on IA in small- and medium-scale enterprises (SMEs) and large scale enterprises (LSEs) in new companies and well-established ones?
7. Comment on the proposed three-tier model provided.
8. Any other points.

APPENDIX IX – Interview schedule for NUST lecturers

INTERVIEW REPORT

Interviewee		
Place		
Date		
Time		
Interviewer		

**ENHANCING QUALITY ACADEMIC PRACTICE THROUGH INCLUSIVE
INDUSTRY- BASED LEARNING**

Interview Schedule
NUST LECTURERS

1. How is the quality of teaching and learning influenced by industrial attachment (IA)?
2. How is student learning improved?
3. How does IA improve student creativity and innovativeness?
4. How has IA contributed to student constructivist and self-regulated learning?
5. What learning styles are promoted by IA?
6. How is local industry benefiting from IA?
7. How is the type of graduate suited for a developing country's challenges?
8. What are your views on IA in small- and medium-scale enterprises (SMEs) and large scale enterprises (LSEs) in new companies and well-established ones?
9. Study the model supplied and comment on the level for NUST engagement.
10. Any other points.

APPENDIX X – Interview schedule for industry

INTERVIEW REPORT

Interviewee		
Place		
Date		
Time		
Interviewer		

ENHANCING QUALITY ACADEMIC PRACTICE THROUGH INCLUSIVE INDUSTRY- BASED LEARNING

INDUSTRY SUPERVISORS Interview guide

1. Impressions on student quality versus company expectations.
2. Comparisons to national/international/global partners and competitors
3. What areas can the students improve in?
4. How do the university, staff, student, industry and society benefit?
5. Views on learning opportunities from IA in SMEs and LSEs, new companies and well-established ones.
6. Current and future challenges.
7. Any other points.

APPENDIX XI – Interview schedule for other universities

INTERVIEW REPORT

Interviewee		
Place		
Date		
Time		
Interviewer		

**ENHANCING QUALITY ACADEMIC PRACTICE THROUGH INCLUSIVE
INDUSTRY- BASED LEARNING**

OTHER UNIVERSITIES

Interview guide

1. The guiding rationale for industry-based learning.
2. The format of industry-based learning or service learning in your university.
3. Benefits of the partnership for the university and for industry to teaching, learning, research and community service.
4. The value addition.
5. What are major challenges for producing loyal and locally-relevant graduates?
6. Any other points.

APPENDIX XII – The model

Levels of University-Industry Collaboration

<p>LEVEL 3 University-Industry Research and Academic Development</p> <ul style="list-style-type: none"> • Lecturer and student attachment in both SME and LSE. • Research/development areas negotiated between university and industry. • Students gain work experience plus specified project. • Focus on academic, industry and student development. • Student assessment includes research outcomes. • The problem-based learning (PBL) model.
<p>LEVEL 2 Improved industrial experience and research</p> <ul style="list-style-type: none"> • Lecturer and student attachment (sabbatical) in both SME and LSE. • Student gain work experience plus prescribed project. • Some learning sessions offered in industry settings. • Groups of students work on one industry (or group of industries). • Staff multi-disciplinary/multi-departmental/multi-faculty research.
<p>LEVEL 1 Basic Student industrial experience</p> <ul style="list-style-type: none"> • Student attachment on specified duties in industry. • Students gain individualised work experience. • Students assessed through observed performance, periodic interviews, oral and written reports. • Students expected to initiate their final year projects.

APPENDIX XIII – Permission letters



National University of Science and Technology

P.O. Box AC 939 Ascot . Bulawayo, Zimbabwe

Telephone: 263-9-282842/288413/39/58

Cnr. Gwanda Road/Cecil Avenue

Fax 263-9-286803

REGISTRAR

FM/sm

2 June 2009

Dr Pieter H. Du Toit
The Promotor/Supervisor
Department of Humanities Education
Faculty of Education
University of Pretoria
SOUTH AFRICA

Dear Dr Du Toit

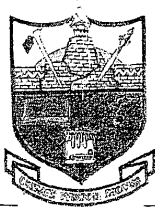
RE: RESEARCH FOR THE DOCTOR OF PHILOSOPHY: PERMISSION LETTER FOR MR NDUDUZO PHUTI

Mr Phuti who is registered as a Doctor of Philosophy student with the University of Pretoria has approached this University, requesting for permission to carry out his research at the National University of Science & Technology, for his PhD studies.

I am pleased to confirm that Mr Phuti has the permission to conduct research at this University on the topic: “Enhancing Quality Academic Practice Through Inclusive Industry-Based Learning”. We wish him well in his Research.

Yours sincerely


F. M. HLANGA (MR)



Registrar
Mrs. M. Bidi
P O Box 1235
MASVINGO
Tel: 039-252100
Fax: 039-252100

Off Old Great Zimbabwe Road
MASVINGO
E mail mbidi@gzu.ac.zw

GREAT ZIMBABWE UNIVERSITY

4 May, 2011

Mr N. Phuthi
National University of Science and Technology
P.O. Box AC939
Ascot,
BULAWAYO

Dear M. Phuthi

RE: APPLICATION TO CARRY OUT RESEARCH AT GREAT ZIMBABWE UNIVERSITY

Please be advised that your application in respect of the above has been approved by the Vice-Chancellor. You may now go ahead to contact the members of staff you intended to interview.

Yours sincerely

M. Bidi, Mrs
REGISTRAR

cc- Vice-Chancellor
- File



P O Box MP 167
Mount Pleasant
Harare, Zimbabwe

Telegram: UNIVERSITY
Telephone: 303211 Ext 11105
303284
Fax (263) 308941
Telex: 26580 UNIVZ W
E-mail: officeoftheregistrar@admin.uz.ac.zw

From the Registrar
Sergeant Chevo



UNIVERSITY OF ZIMBABWE

30 March 2011

Mr N. Phuthi
National University of Science and Technology
Department of Technical Teacher Education
P. O. Box AC 939
Ascot
BULAWAYO

Dear Mr Phuthi

RE: REQUEST FOR PERMISSION TO COLLECT DATA FOR A RESEARCH STUDY

Reference is made to your letter dated 30 March 2011.

I regret to inform you that your request to collect data for research purposes at the University of Zimbabwe has been turned down.

Please be advised accordingly.

Yours sincerely

N. TAKAWIRA
Acting Registrar
/mm

APPENDIX XIV – Anonymity and coding

ANONYMITY AND CODING FOR INTERVIEW RESPONDENTS

#	CODE	CATEGORY	LOCATION	IDENTITY	POSITION
1	NM01	University Management	NUST	Dr E. Mthethwa	Director, Technopark
2	NM02	University Management	NUST	Dr Z. B. Dlodlo	Dean, Industrial Technology
3	NM03	University Management	NUST	Professor Y. Naik	Director, Research & Innovation
4	NL04	Lecturer & Chairman	NUST	Dr A. B. Nyoni	Chairman, Textile Technology
5	NL05	Lecturer & Chairman	NUST	Mr P. Kamwemba	Chairman, Civil & Water Engineering
6	NL06	Lecturer & Chairman	NUST	Mr S. Mhlanga	Chairman, Industrial & Manufacturing Engineering
7	NL07	Lecturer & Chairman	NUST	Mr Z. Nyathi	C/M, Electronic Engineering
8	NL08	Lecturer	NUST	Mrs S. Bebova	Lecturer, Electronic Engineering
9	NL09	Lecturer & Chairperson	NUST	Mrs F. Shumba	Chairperson, Accounting
10	NL10	Lecturer & Chairman	NUST	Mr M. J. Ndlovu	Chairman, Business Management
11	NL11	Lecturer & Chairman	NUST	Mr N. Ncube	Chairman, Forest Resources & Wildlife Management
12	NL12	Lecturer	NUST	Professor P. Mundy	Lecturer, Forest Resources & Wildlife Management
13	IND01	Industry Supervisor	PPC (Bulawayo)	Ms Ncube	Supervisor
14	IND02	Industry Supervisor	DatLabs (Bulawayo)	Ms X. Ndebele	Supervisor
15	OUMA01	University Management	MSU	Mr S. D. Gumbo	Director, Work-related Learning
16	OUMB02	University Management	CUT	Mr Kaseke/ and Mr Chisimbo	Deputy Registrar/ and Assistant Registrar
17	OUMC03	University Management	HIT	Mr Muredzi	Dean, Industrial Sciences & Technology
18	OULC04	Lecturer	HIT	Mr L. Mukumba	Industrial Coordinator, Industrial Sciences & Techn
19	OULD05	Lecturer & Head of Dept	LSU	Ms Dlamini	Head, Languages
20	OULE06	Lecturer & Head of Dept	Solusi	Mrs Kunyenyiwa	Head, Agribusiness
21	OULE07	Lecturer	Solusi	Mr Mahaso	Lecturer, Finance
22	OULE08	Lecturer & Head of Dept	Solusi	Mr Makamure	Head, Clothing & Family Studies
23	OULE09	Lecturer & Head of Dept	Solusi	Mrs Makamure	Head, Environmental & Biological Sciences
24	OULE10	Lecturer & Head of Dept	Solusi	Mrs Ndlovu	Head, Accounting

APPENDIX XV - Analysis grid for interview content analysis

INTERVIEW RESPONDENTS		THEMATIC CONTENT CATEGORIES														
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1	NM01															
2	NM02															
3	NM03															
4	NL04															
5	NL05															
6	NL06															
7	NL07															
8	NL08															
9	NL09															
10	NL10															
11	NL11															
12	NL12															
13	IND01															
14	IND02															
15	OUMA01															
16	OUMB02															
17	OUMC03															
18	OULC04															
19	OULD05															
20	OULE06															
21	OULE07															
22	OULE08															
23	OULE09															
24	OULE10															

KEY TO THEMATIC CONTENT CATEGORIES

1. Quality issues in academic practices
2. Research and learning
3. Teaching and learning improvement, value-addition, curriculum integration
4. Holistic engagement SMEs
5. Relevance of programme & graduates
6. Comparison of IA format and competition
7. Assessment and supervision
8. Mutual Conception of IA and communication
9. The Model
10. Benefits
11. Challenges
12. Transformation and transformative learning, life enrichment
13. Student preparation and placement
14. Innovation, creativity and entrepreneurship
15. Other (Miscellaneous)

APPENDIX XVI – Questionnaire data summaries

A. Student respondents by faculty and gender

Faculty		Gender			Total
		Male	Female	N/R	
FAS	Freq	24.00	27.00	2.00	53.00
	% Freq	6.61	7.44	0.55	14.60
	Row %	45.28	50.94	3.77	
	Col %	11.76	17.31	66.67	
FOC	Freq	110.00	81.00	0.00	191.00
	% Freq	30.30	22.32	0.00	52.62
	Row %	57.59	42.41	0.00	
	Col %	53.92	51.92	0.00	
FIT	Freq	66.00	23.00	1.00	90.00
	% Freq	18.18	6.34	0.28	24.79
	Row %	73.33	25.56	1.11	
	Col %	32.35	14.74	33.33	
FCIS	Freq	4.00	25.00	0.00	29.00
	% Freq	1.10	6.89	0.00	7.99
	Row %	13.79	86.21	0.00	
	Col %	1.96	16.03	0.00	
Totals	Freq	204.00	156.00	3.00	363.00
	% Freq	56.19	42.99	0.83	100.00

B. Student respondents according to age and previous work experience (PWE)

AGE		DURATION OF PREVIOUS WORK EXPERIENCE (PWE)					Total
		Nil	<6 mths	6 - 12 mths	>12 mths	Nil Response	
Below 20	Freq	0	0	0	1	1	2
	% Freq	0	0	0	0.28	0.28	0.55
	Row %	0	0	0	50.00	50.00	
	Col %	0	0	0	4.35	33.33	
20 - 24	Freq	129	63	116	14	2	324
	% Freq	35.54	17.36	31.96	3.86	0.55	89.26
	Row %	39.81	19.44	35.80	4.32	0.62	
	Col %	92.14	92.65	89.92	60.87	66.67	
25 - 29	Freq	9	3	12	6	0	30
	% Freq	2.48	0.83	3.31	1.65	0	8.26
	Row %	30.00	10.00	40.00	20.00	0	
	Col %	6.43	4.41	9.30	26.09	0	
30 and above	Freq	0	0	0	2	0	2
	% Freq	0	0	0	0.55	0	0.55
	Row %	0	0	0	100.00	0	
	Col %	0	0	0	8.70	0	
N/R	Freq	2	2	1	0	0	5
	% Freq	0.55	0.55	0.28	0	0	1.38
	Row %	40.00	40.00	20.00	0	0	
	Col %	1.43	2.94	0.67	0	0	
Total	Freq	140	68	129	23	3	363
	% Freq	38.57	18.73	35.54	6.34	0.83	100

C. Lecturer respondents according to faculty and gender

Faculty		Male	Female	Total
FAS (9)	Freq	7.0	2.0	9.0
	% Freq	17.5	5.0	22.5
	Row %	77.78	22.22	
	Col %	25.93	15.38	
FOC (11)	Freq	7.0	4.0	11.0
	% Freq	17.5	10.0	27.5
	Row %	63.64	36.36	
	Col %	25.93	30.77	
FIT (17)	Freq	11.0	6.0	17.0
	% Freq	27.5	15.0	42.5
	Row %	64.71	35.29	
	Col %	40.74	46.15	
FCIS (3)	Freq	2.0	1.0	3.0
	% Freq	5.0	2.5	7.5
	Row %	66.67	33.33	
	Col %	7.41	7.69	
Totals	Freq	27.0	13.0	40.0
	% Freq	67.5	32.5	100.0

D. Lecturer respondents according to faculty and highest class taught

Faculty		Year level					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
FAS (9)	Freq	0	1	0	8		9
	% Freq	0	2.5	0	20		22.5
	Row %	0	11.11	0	88.89		
	Col %	0	25	0	47.06		
FOC (11)	Freq	4	2	1	4		11
	% Freq	10	5	2.2	10		27.5
	Row %	36.36	18.18	9.09	36.36		
	Col %	100	50	12.5	23.53		
FIT (17)	Freq	0	1	7	2	7	17
	% Freq	0	2.5	17.5	5	17.5	42.5
	Row %	0	5.88	41.18	11.76	41.18	
	Col %	0	25	87.5	11.76	100	
FCIS (3)	Freq	0	0	0	3		3
	% Freq	0	0	0	7.5		7.5
	Row %	0	0	0	100		
	Col %	0	0	0	17.65		
Totals	Freq	4	4	8	17	7	40
	% Freq	10	10	20	42.5	17.5	100

E. Lecturer respondents according to age and duration of previous work experience (PWE)

		Duration of Previous Work Experience (PWE)					
Age		0 yrs	≤ 3 yrs	3≥6 yrs	6≥9 yrs	≥ 9 yrs	Total
25-29	Freq	1	4				5
	% Freq	2.5	10				12.5
	Row %	20	80				
	Col %	11.11	36.36				
>30	Freq	8	7	5	0	15	35
	% Freq	20	17.5	12.5	0	37.5	87.5
	Row %	22.86	20	14.29	0	42.86	
	Col %	88.89	63.64	100	0	100	
Totals	Freq	9	11	5	0	15	40
	% Freq	22.5	27.5	12.5	0	37.5	100

F. Industry respondents according to location and company size

		Size of Company			
Town		LSE	SME	N/R	Total
Harare	Freq	1	0	0	1
	% Freq	2.94	0	0	2.94
	Row %	100	0	0	
	Col %	5.26	0	0	
Bulawayo	Freq	12	2	6	20
	% Freq	35.29	5.88	17.65	58.82
	Row %	60.00	10.00	30.00	
	Col %	63.16	100.00	46.15	
Kwekwe	Freq	5	0	6	11
	% Freq	14.71	0	17.65	32.35
	Row %	45.45	0	54.55	
	Col %	26.32	0	46.15	
Colleen Bawn	Freq	0	0	1	1
	% Freq	0	0	2.94	2.94
	Row %	0	0	100.00	
	Col %	0	0	7.69	
No Response	Freq	1	0	0	1
	% Freq	2.94	0	0	2.94
	Row %	100	0	0	
	Col %	5.26	0	0	
Totals	Freq	19	2	13	34
	% Freq	55.88	5.88	38.24	100.00

APPENDIX XVII – Determination of factors

DESCRIPTIVE STATISTICS OF DATA

VARIABLE NO.	TOTAL FREQ.	MEAN	STANDARD DEV.	ST.ERR OF MEAN	COEFF OF VAR	S M A L L E S T VALUE	Z-SCR	CASE	L A R G E S T VALUE	Z-SCR	CASE	RANGE
1 V7	345	3.1623	.71306	.03839	.22549	1.0000	-3.03	276	4.0000	1.17	2	3.0000
2 V8	345	3.1739	.75784	.04080	.23877	1.0000	-2.87	91	4.0000	1.09	2	3.0000
3 V9	345	3.3130	.82861	.04461	.25011	1.0000	-2.79	31	4.0000	0.83	4	3.0000
4 V10	345	3.4290	.70404	.03790	.20532	1.0000	-3.45	82	4.0000	0.81	2	3.0000
5 V11	345	3.7101	.54189	.02917	.14606	1.0000	-5.00	226	4.0000	0.53	2	3.0000
6 V12	345	3.5362	.63291	.03407	.17898	1.0000	-4.01	226	4.0000	0.73	2	3.0000
7 V13	345	3.3246	.73064	.03934	.21977	1.0000	-3.18	82	4.0000	0.92	7	3.0000
8 V14	345	3.6899	.58522	.03151	.15860	1.0000	-4.60	45	4.0000	0.53	2	3.0000
9 V15	345	3.3739	.72088	.03881	.21366	1.0000	-3.29	120	4.0000	0.87	2	3.0000
10 V16	345	3.3217	.74570	.04015	.22449	1.0000	-3.11	41	4.0000	0.91	2	3.0000
11 V17	345	3.5507	.65005	.03500	.18308	1.0000	-3.92	16	4.0000	0.69	4	3.0000
12 V18	345	3.3826	.68940	.03712	.20381	1.0000	-3.46	57	4.0000	0.90	2	3.0000
13 V19	345	3.6870	.60085	.03235	.16297	1.0000	-4.47	235	4.0000	0.52	2	3.0000
14 V20	345	3.6232	.62183	.03348	.17162	1.0000	-4.22	226	4.0000	0.61	2	3.0000
15 V21	345	3.7188	.52198	.02810	.14036	1.0000	-5.21	276	4.0000	0.54	2	3.0000
16 V22	345	3.2290	.83685	.04505	.25917	1.0000	-2.66	16	4.0000	0.92	6	3.0000
17 V23	345	3.1333	.91478	.04925	.29195	1.0000	-2.33	46	4.0000	0.95	4	3.0000
18 V24	345	3.1217	.90040	.04848	.28843	1.0000	-2.36	14	4.0000	0.98	4	3.0000
19 V25	345	2.9594	.89805	.04835	.30345	1.0000	-2.18	14	4.0000	1.16	2	3.0000

NUMBER OF VARIABLES TO BE USED. 19
 INITIAL COMMUNALITIES ARE SQUARED MULTIPLE CORRELATIONS OR COVARIANCES.
 ITERATED PRINCIPAL FACTOR ANALYSIS IS PERFORMED.
 NUMBER OF ITERATIONS FOR INITIAL FACTOR EXTRACTION 25
 MAXIMUM NUMBER OF FACTORS 3
 NUMBER OF FACTORS IS LIMITED TO THE NUMBER OF EIGENVALUES GREATER THAN . . 0.100
 TOLERANCE LIMIT FOR MATRIX INVERSION. 0.00010
 DIRECT OBLIMIN ROTATION IS PERFORMED.
 GAMMA 0.0000
 MAXIMUM NUMBER OF ITERATIONS FOR ROTATION 50
 CONVERGENCE CRITERION FOR ROTATION 0.0000100
 KAISERS NORMALISATION YES

SQUARED MULTIPLE CORRELATIONS (SMC) OF EACH VARIABLE WITH ALL OTHER VARIABLES, AND CRONBACH'S ALPHA, WITH THAT VARIABLE REMOVED

	SMC	ALPHA
1 V7	0.19105	0.8678
2 V8	0.29623	0.8673
3 V9	0.35771	0.8622
4 V10	0.39216	0.8640
5 V11	0.26955	0.8628
6 V12	0.42414	0.8589
7 V13	0.35205	0.8598
8 V14	0.32474	0.8611
9 V15	0.34758	0.8598
10 V16	0.27282	0.8626
11 V17	0.30954	0.8640
12 V18	0.46654	0.8564
13 V19	0.38115	0.8599
14 V20	0.32211	0.8604
15 V21	0.38682	0.8582
16 V22	0.33618	0.8603
17 V23	0.34675	0.8645
18 V24	0.47181	0.8635
19 V25	0.50447	0.8628

ALPHA FOR ALL VARIABLES = 0.8683
THIS IS CRONBACH'S STANDARDISED ALPHA, COMPUTED FROM CORRELATIONS.
COMMUNALITY ESTIMATES ARE SQUARED MULTIPLE CORRELATIONS (COVARIANCES).

HISTOGRAM OF INITIAL EIGENVALUES

EIGENVALUE	HISTOGRAM
1 5.11526	*****
2 1.05133	*****
3 0.862660	*****
4 0.342419	*****
5 0.267050	*****
6 0.196922	****
7 0.137965	***
8 0.956283E-01	**
9 0.701923E-01	*

REMAINING EIGENVALUES ARE TOO SMALL TO APPEAR. THEY ARE--
0.117063E-01-0.190134E-02-0.602368E-01-0.107816 -0.118423 -0.152955
-0.188825 -0.220602 -0.258349 -0.288627



UNROTATED FACTOR LOADINGS (PATTERN)

		FACTOR1	FACTOR2	FACTOR3
		1	2	3
V7	1	0.325	0.057	0.215
V8	2	0.348	0.026	0.469
V9	3	0.500	-0.009	0.370
V10	4	0.466	-0.016	0.603
V11	5	0.482	-0.070	0.029
V12	6	0.605	-0.141	-0.109
V13	7	0.569	-0.107	-0.034
V14	8	0.530	-0.168	-0.031
V15	9	0.577	-0.187	-0.078
V16	10	0.495	-0.122	-0.146
V17	11	0.465	-0.110	-0.280
V18	12	0.675	-0.227	-0.083
V19	13	0.564	-0.029	-0.056
V20	14	0.551	-0.069	-0.086
V21	15	0.614	-0.128	-0.085
V22	16	0.552	-0.075	-0.098
V23	17	0.442	0.447	-0.084
V24	18	0.483	0.582	-0.118
V25	19	0.506	0.633	-0.056
	VP	5.136	1.148	0.945

THE VP IS THE VARIANCE EXPLAINED BY THE FACTOR.
IT IS COMPUTED AS THE SUM OF SQUARES FOR THE
ELEMENTS OF THE FACTOR'S COLUMN IN THE FACTOR
LOADING MATRIX.

APPENDIX XVIII - Analysis of factors

Relationship between anticipated and statistically confirmed factors

<i>Items/ variables</i>	Factors anticipated	Factors confirmed statistically	Factor numbering
7,8, 9, [10]	Curriculum Coherence (CC)	Curriculum coherence	1
11,12	Active Learning (AL)	Learning	2
13,22	Self-Directed Learning (SDL)		
14,21	Cooperative Learning (CL)		
16,17,18	Learning Styles (LS)		
19,20	Learning Processes (LP).		
23,24,25	Assessment Processes (AP)	Assessment Processes	3

Mean scores for the 19 variables and 3 factors for Students, Lecturers and Industry Supervisors

Variable and Factors	Student N=363	Lecturer N=40	Industry N=34
V7	3.1598	3.4872	3.0303**
V8	3.1740	3.3000	3.2353
V9	3.3139	3.4250	3.3636
V10	3.4222	3.5500	3.5882
V11	3.6970	3.7250	3.9118*
V12	3.5374	3.4250	3.3529
V13	3.3287	3.1250	3.2941
V14	3.6953	3.6500	3.5882
V15	3.3788	3.5250	3.3529
V16	3.3251	3.3000	3.2941
V17	3.5510	3.4359	3.3824
V18	3.3712	3.3590	3.1471
V19	3.6878	3.8250*	3.7941
V20	3.6171	3.3500	3.4706
V21	3.7245*	3.6000	3.9118*
V22	3.2320	3.1000	3.5000
V23	3.1409	2.9250**	3.5455
V24	3.1129	3.2500	3.0606
V25	2.9669**	3.0000	3.3030
Factor 1 (V7 – V10)	3.2667585 (2)	3.4416667 (2)	3.3112745 (2)
Factor 2 (V11 – V22)	3.5124134 (1)	3.4530303 (1)	3.5000000 (1)
Factor 3 (V23 – V25)	3.0734619 (3)	3.0583333 (3)	3.3030303 (3)

Key: * highest scores; ** lowest scores

Lowest and highest item ratings by students, lecturers and industry supervisors

Item	Student	Lecturer	Industry
7. My earlier university courses and other learning experiences prepared me for IA.			Lowest 3.030303
11. The IA experience has improved my practical skills and workmanship.			Highest (1) 3.9117647
19. My IA experience has prepared me for the realities of the world of work.		Highest 3.825	
21. IA experience has improved students' ability to work closely with different kinds of people.	Highest 3.7245179		Highest (2) 3.9117647
23. I was satisfied with the supervision and assessment by the industry-based supervisor.		Lowest 2.925	
25. The overall process of assessment of my IA experience was adequate and appropriate for me.	Lowest 2.9669421		

Student factor mean scores by faculty

Factor	FAS N=53	FOC N=191	FIT N=90	FCIS N=28
1	3.245283 (2)	3.2565445 (2)	3.3194444 (1)	3.2053571 (2)
2	3.5849057 (1)	3.5132794 (1)	3.3194444 (1)	3.5238095 (1)
3	3.2327044 (3)	3.1465969 (3)	2.8444444 (3)	3.0357143 (3)

Key: FAS – Faculty of Applied Sciences; FOC – Faculty of Commerce; FIT – Faculty of Industrial Technology; FCIS – Faculty of Communication and Information Science

Student factor mean scores according to gender

Factor	Male N=205	Female N=155
1	3.298374 (2)	3.2301075 (2)
2	3.5044272 (1)	3.5216031 (1)
3	3.0861789 (3)	3.0602151 (3)

Student factor mean scores according to Age Group

Factor	Below 20 N=2*	20 – 24 N=324	25 – 29 n=30	30 & Above N=2*
1	3.6250 (1)	3.2530864 (2)	3.319444 (2)	3.87500 (1)
2	3.5000 (2)	3.5150299 (1)	3.485101 (1)	3.12500 (2)
3	2.83333 (3)	3.0936214 (3)	2.911111 (3)	2.83333 (3)

*Numbers too small for statistical purposes

Student factor mean scores according to Previous Work Experience (PWE)

Factor	Yes N=220	No N=142
1	3.2299242 (2)	3.3309859 (2)
2	3.4816736 (1)	3.5595391 (1)
3	3.0500000 (3)	3.1056338 (3)

Lecturer factor mean scores according to faculty

Factor	FAS N=9	FOC N=11	FIT N=17	FCIS N=3*
1	3.4907407 (1)	3.4545455 (2)	3.529412 (1)	3.75000 (1)
2	3.462963 (2)	3.6969697 (1)	3.3137255 (2)	3.3181818 (2)
3	3.037037 (3)	3.1818182 (3)	3.0784314 (3)	2.5555556 (3)

Key: FAS – Faculty of Applied Sciences; FOC – Faculty of Commerce; FIT – Faculty of Industrial Technology; FCIS – Faculty of Communication and Information Science

*Numbers too small for statistical purposes

Lecturer factor mean scores according to Classes taught

Factor	Year 1 only N=4	Year 2 & below N=4	Year 3 & below N=8	Year 4 & below N=15	Year 5 & below N=9
1	3.5000 (2)	3.5000 (1)	3.46875 (1)	3.49444 (2)	3.27778 (2)
2	3.6667 (1)	3.3333 (2)	3.41667 (2)	3.52778 (1)	3.31902 (1)
3	3.2500 (3)	3.0000 (3)	3.00000 (3)	3.13333 (3)	2.92593 (3)

Lecturer factor mean scores according to gender

Factor	Male N=31	Female N=9
1	3.4691358 (2)	3.3846154 (2)
2	3.4736251 (1)	3.4102564 (1)
3	2.9506173 (3)	3.2820513 (3)

Industry factor mean scores according to location

Factor	Harare N=1*	Bulawayo N=20	Kwekwe N=11	Colleen Bawn N=1*
1	3.25000 (1)	3.3625 (2)	3.1893939 (3)	3.500000 (2)
2	3.00000 (2)	3.5750 (1)	3.3863636 (1)	3.916667 (1)
3	3.00000 (2)	3.3500 (3)	3.2333333 (2)	2.666667 (3)

*Numbers too small for statistical purposes

Industry factor mean scores according to organisation size

Factor	LSE N=19	SME N=2*
1	3.2894737 (2)	3.375000 (3)
2	3.4078947 (1)	3.750000 (1)
3	3.1754386 (3)	3.500000 (2)

Key: LSE – Large-scale enterprise; SME – Small and medium-scale enterprise

*Numbers too small for statistical purposes

Industry factor mean scores according to organisation type

Factor	Manufacturing N=18	Mining N=2*	Service N=3*	Parastatal N=7
1	3.3796296 (3)	3.25000 (2)	3.250000 (2)	3.250000 (3)
2	3.5231481 (1)	3.66667 (1)	3.638889 (1)	3.452381 (1)
3	3.4509805 (2)	2.66667 (3)	3.111111 (3)	3.333333 (2)

*Numbers too small for statistical purposes

APPENDIX XIX - Analysis of IA benefits to students

Student benefits combined 1st, 2nd and 3rd rankings (Question 32)

#	Benefit	1 st	2 nd	3 rd	Tot	%	Overall Rank
1	Remuneration	20	31	42	93	9.17	5
2	Material benefits and other working conditions	8	17	28	53	5.22	7
3	The organisation's reputation	17	20	22	59	5.82	6
4	Intellectual challenges	36	64	51	151	14.89	3
5	Application of prior knowledge	40	71	54	165	16.27	2
6	Learning new knowledge and skills	167	76	46	289	28.50	1
7	Prospects for future employment	36	43	68	147	14.50	4
8	Offering a service	13	16	23	52	5.13	8
9	I was offered assistance to complete my studies	1			1	0.10	11
10	I gained work experience and exposure			1	1	0.10	11
11	Building a personal character			2	2	0.20	9
12	Managing difficult situations			1	1	0.10	11
Total frequencies		338	338	338	1014	100	

Lecturer benefits combined 1st, 2nd and 3rd rankings (Question 32)

#	Benefit	1 st	2 nd	3 rd	Tot	%	Overall Rank
1	Remuneration						
2	Material benefits and other working conditions			1	1	0.90	6
3	The organisation's reputation			5	5	4.50	5
4	Intellectual challenges	6	9	12	27	24.32	3
5	Application of prior knowledge	17	13	1	31	27.93	2
6	Learning new knowledge and skills	14	14	4	32	28.83	1
7	Prospects for future employment		1	14	15	13.51	4
8	Offering a service						
9	I was offered assistance to complete my studies						
10	I gained work experience and exposure						
11	Building a personal character						
12	Managing difficult situations						
Total frequencies		37	37	37	111	100	

Industry benefits combined 1st, 2nd and 3rd rankings (Question 32)

#	Benefit	1 st	2 nd	3 rd	Tot	%	Overall Rank
1	Remuneration			2	2	2.38	7.5
2	Material benefits and other working conditions	2	2	1	5	5.95	5.5
3	The organisation's reputation		4	1	5	5.95	5.5
4	Intellectual challenges	1	4	6	11	13.10	3.5
5	Application of prior knowledge	8	6	8	22	26.19	2
6	Learning new knowledge and skills	15	7	4	26	30.95	1
7	Prospects for future employment	1	5	5	11	13.10	3.5
8	Offering a service	1		1	2	2.38	7.5
9	I was offered assistance to complete my studies						
10	I gained work experience and exposure						
11	Building a personal character						
12	Managing difficult situations						
Total frequencies		28	28	28	84	100	

Combined groups benefits by combined 1st, 2nd and 3rd rankings (Question 32)

#	Benefit	A	B	C	Tot	%	Overall Rank
1	Remuneration	93	0	2	95	7.86	5
2	Material benefits and other working conditions	53	1	5	59	4.88	7
3	The organisation's reputation	59	5	5	69	5.71	6
4	Intellectual challenges	151	27	11	189	15.63	3
5	Application of prior knowledge	165	31	22	218	18.03	2
6	Learning new knowledge and skills	289	32	26	347	28.79	1
7	Prospects for future employment	147	15	11	173	14.31	4
8	Offering a service	52	0	2	54	4.47	8
9	Offered assistance to complete my studies	1			1	0.08	11
10	Gained work experience and exposure	1			1	0.08	11
11	Building a personal character	2			2	0.17	9
12	Managing difficult situations	1			1	0.08	11
Total frequencies		1014	111	84	1209	100	

Key: A – Student

B – Lecturer

C – Industry

APPENDIX XX – Analysis of additions, comments, concerns, explanations

Student responses according to number of categories

Number of Categories	Freq	Cum Freq
Exactly 1 category	105	105
Exactly 2 categories	43	148
Exactly 3 categories	7	155
Exactly 4 categories	1	156
Total	156	

Thematic Content Analysis of Additions to Data on Student Questionnaire (Item 37)

Thematic Category (Key Below)	1 st Addition (V37)	2 nd Addition (V38)	3 rd Addition (V39)	4 th Addition (V40)	Total Additions	% of all additions	Rank
1	8	1	1		10	4.63	6
2	13	8	3		24	11.11	5
3	37	10			47	21.76	2
4	30	3	2		35	16.20	3
5	48	20		1	69	31.94	1
6	15	9	2		26	12.04	4
7	5				5	2.31	7
Total	156	51	8	1	216	100	

- Key to thematic categories:**
1. SMEs
 2. Supervision and assessment
 3. Learning, involvement and IA relevance
 4. Preparation and placement
 5. Student welfare
 6. University-industry communication
 7. Conditions

Consolidated Student, Lecturer and Industry Additions

Thematic Category	Student	Lecturer	Industry	Total Additions	% of all additions	Rank
1	10 4.63	5 23.81	2 11.76	17	6.69	6
2	24 11.11	3 14.29	5 29.41	32	12.60	4
3	47 21.76	5 23.81	2 11.76	54	21.26	2
4	35 16.2	2 9.52	5 29.41	42	16.54	3
5	69 31.94	3 14.29	2 11.76	74	29.13	1
6	26 12.04	1 4.76	0 0	27	10.63	5
7	5 2.31	2 9.52	1 5.88	8	3.15	7
	216	21	17	254	100	

APPENDIX XXI - Course Outline

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF INDUSTRIAL TECHNOLOGY
DEPARTMENT OF TECHNICAL TEACHER EDUCATION
Post-Graduate Diploma in Higher Education (PGDHE)**

Course Outline

Course Code and Title: TDE4220 Workplace-based Learning Credits: 3

Lecturer	Office	Contact details

Course Synopsis:

The theory, philosophy and rationale for workplace-based learning in tertiary and higher education; terminologies, formats and models of workplace-based learning; preparation of students, lecturers and industry participants; student placement; communication and liaison during the student attachment period; student supervision and assessment; report writing; follow-up and evaluation; curriculum innovation, harnessing student innovativeness and creativity.

Course Objectives:

1. The participants will share knowledge and experiences workplace-based learning linking published theory with their own practices.
2. Participants will carry out a small qualitative or quantitative investigation to assist them conceive and write a paper suitable for publication.

Learning Activities

1. Class lectures and online sessions (24 hours)
2. Seminar type student presentations (6 hours)
3. Fieldwork and data organisation (18 hours)

Course Assessment:

1. Oral presentations on experiences and literature (20%)
2. Online quizzes, tests and one assignment (40%)
3. A written paper suitable for publication on any of the topics in the synopsis. (40%)

Study Materials and Reading list

1. Berman, S. (2006). *Service Learning: A guide to planning, implementing and assessing student projects*. Corwin Press, California.
2. Butin, D. W. (Ed) (2005). *Service learning in Higher Education: Critical Issues and Directions*. Palgrave MacMillan, NY.
3. Mezirow, J., E. W. Taylor & Associates (2009). *Transformative Learning in Practice: Insights from Community, Workplace, and Higher Education*. Jossey-Bass, San Francisco.
4. NUST yearbook and other documents
5. Selected journal articles