### Iloilo City

# DEVELOPMENT OF A CONTEXTUALIZED RESEARCH INSTRUCTIONAL MATERIAL FOR SENIOR HIGH SCHOOL TECHNICAL VOCATIONAL LIVELIHOOD STUDENTS

A Dissertation Presented to the
Faculty of the Graduate School
College of Education
West Visayas State University
La Paz, Iloilo City

In Partial Fulfilment
of the Requirements for the Degree
Doctor of Philosophy in Education
(Curriculum Development)

by

Jossie M. Grana

April 2024

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APPROVAL SHEET

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April 2024

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Grana, Jossie M. "Development of a Contextualized Research Instructional Material for Senior High School Technical Vocational Livelihood Students."

Unpublished Dissertation, Doctor of Philosophy in Education (Curriculum Development), College of Education Graduate School, West Visayas State University, Iloilo City, April, 2024.

#### Abstract

The purpose of this study was to develop contextualized research instructional material for Senior High School Technical Vocational Livelihood students. The study utilized the Analysis, Design, Develop, Implementation, Evaluate (ADDIE) model. During the Analysis stage, the researcher administered the assessment in Practical Research 2 to the previous Technical Vocational Livelihood (TVL) students. Based on the results of the assessment, the top five (5) least-mastered competencies of Grade 12 TVL students were: draws conclusion from research findings; describes sampling procedure and sample; indicates scope and delimitation of study; describes background of research; and, uses statistical techniques to analyze data study of difference limited for bivariate analysis. These competencies were considered in the development of a module. In the Implementation stage, the developed module was tried-out to the forty-five (45) Grade 12 TVL Information Communication Technology (ICT) students and two (2) research teachers who utilized the module in their research instruction. Using the adopted evaluation and acceptability instruments, with minimal modification, the developed module was evaluated with a very high by the module experts in terms of content,

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instructional quality, technical quality, presentation and organization, accuracy and upto-datedness of information, and assessment. Student participants evaluated the material in terms of content as very high and format as high. Meanwhile, the acceptability level of the developed material in terms of content instructional quality, technical quality, presentation and organization, accuracy and up-to-datedness of information, and assessment was very high as assessed by the five (5) teachers handling Technical Vocational Livelihood students and two (2) research teachers. Students and teachers' experiences were analyzed qualitatively and it was found out that the developed instructional material enhanced their understanding and it was userfriendly. Students liked most the discussion and all parts of the module. Similarly, teachers found the developed instructional material easy to understand and it was user-friendly. The part of the material that discussed statistics was well-liked by teachers. It was suggested that the material be improved by adding more topics and enhancing the design and presentation. With these results, it was recommended that students may be actively involved in tracking and assessing their own learning process to ascertain what they already comprehended to tailor their learning to the job at hand. Moreover, the developed instructional material could be of big help in assisting research teachers and students in developing their research skills since teaching and learning can now be done and occur away from the four walls of the classroom.

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#### References

- Adalikwu, S. A., & Iorkpilgh, I. T. (2013). The influence of instructional materials on academic performance of senior secondary school students in chemistry in Cross River State. Global Journal of Educational Research, 12, 39-45. Retrieved from http://dy.doi.org/10.4314/giedr.vl2i1.6
- Akani, O. & Oketa, I. O. (2017). Effect of improvised and standard instructional materials on students' achievement in chemistry in secondary schools.

  International Research Journal of Natural and Applied Sciences.
- Almario, R. (2002). The validation of manual on selected topics in elementary mathematics v(Doctoral dissertation). Eulogio "Amang "Rodriguez Institute of Science and Technology, Manila.
- Amadioha, S. W. (2009). The importance of instructional materials in our schools: An overview. *New Era Research Journal of Human, Educational and Sustainable Development*, 2(2), 3-4 https://www.researchgate.net/publication/322368912
- APEC/DELOITTE. (2010). Facilitating student learning https://files.eric.ed.gov/fulltext/ED516783.pdf
- Arellano, L., Nepomuceno, T., & Morano, N. (2012). Assessing Undergraduate Research

  Competence: Readiness for research-oriented job. *Development Education*Journal of Multidisciplinary Research.
  - https://www.researchgate.net/publication/270453941\_Assessing\_Undergraduate Research\_Competence\_Readiness\_for\_Research-oriented\_Jobs

### **GRADUATE SCHOOL**

- 137
- Association for Talent Development. (2024). What is instructional design?

  https://www.td.org/what-is-instructional-design
- Behlol, G. (2009). Development and validation of module in English at secondary level in Pakistan. Department of Education, Faculty of Social Sciences, International Islamic University Islamabad. https://prr.hec.gov.pk/jspui/handle/123456789/174
- Bringas, H. A. (2014, July 30). Localization contextualization slideshare. www.slideshare.net/lenferndz/localization-contextualization
- Borg, W. R., & Gall, M. D. (1983). Educational research: An introduction (4th ed.).

  Longman.
- Celis, V. (2006). Development and use of instructional modules on selected topics in study and thinking skills in English (Doctoral dissertation, West Visayas State University).
- Corpuz, B. B., Salandanan, G. G., & Rigor, D. V. (2006). Principles of teaching.

  Lorimar Publishing Inc.
- Cristobal, A.P. & Cristobal, M.C. D. (2017). Practical research 1 for senior high school.

  C & E Publishing Inc.
- David, F. P. (2002). Understanding and Doing Research: A Handbook for Beginners (Trial Edition/Iloilo City)
- Department of Education (DepEd). (2019). K to 12 Curriculum Guide: Technical Vocational-Livelihood (TVL) Track. https://www.deped.gov.ph

### **GRADUATE SCHOOL**

Iloilo City

- Department of Education. (2016). DepEd Memo No. 39, s. 2016: Guidelines on the Conduct of Research in Basic Education [Memorandum].

  https://www.deped.gov.ph/wp-content/uploads/2016/06/DO\_s2016\_039.pdf
- Esu, A.E.O., Enukoha, O.I.T., & Umorem, G. U. (2004). Curriculum development in Nigeria for colleges and universities. Owerri: Whyte and Whyte Publishers. https://searchworks.stanford.edu/view/11947023
- Farombi, J. G. (1998). Resource concentration, utilization and management as correlates of students' learning outcomes: A study in school quality in Oyo State [Unpublished doctoral dissertation, University of Ibadan, Nigeria].
- Gagarin, C. (2003). Module in physics I: Development and evaluation (Master's thesis).

  Eulogio "Amang Rodriguez Institute of Science and Technology, Manila.
- Garin, R. M., et al. (2017). Contextualized and localized teaching as a technique in teaching basic statistics. Asia Pacific Journal of Education, Arts and Sciences, 4(1), 62-67.https://www.apjeas.apjmr.com
- Gustafson, K. L., & Branch, R. M. (2002). Survey of instructional development models (4th ed.). ERIC Clearinghouse on Information & Technology. https://files.eric.ed.gov/fulltext/ED477517.pdf
- Hills, P.C., 1982. A dictionary of education. London: Routledge and Kegan Paul.
- Igwe, I. D. (2003). Principles of science and science teaching in Nigeria (An introduction). International Journal of Social Science & Interdisciplinary Research, 1(9), 1-6.
  - https://indianresearchjournals.com/pdf/IJSSIR/2012/September/1.pdf

### **GRADUATE SCHOOL**

- 139
- Inyang, . N. E. U., (1997). Local materials in science technology and methods of teaching, identification and utilization. Proceedings of the 38th Annual Conference of STAN: 64-67. https://www.afrithings.net/product/local-materialsin-science technology-and-mathematics-teaching-identification-and-utilization-bydr-n-e-u inyang/
- Jamwal, G. (2012). Effective use of interactive learning modules in classroom study for computer science education. Retrieved from https://digitalcommons.usu.edu/gradreports/225
- Jekayinfa, A.A. (2012). Fundamentals of instructional methods. Ilorin, Kwara State,
  Olives Production Ltd
- Kozma, R. B. (1991). Learning with media. Review of Educational Research, 61, 179
  212
- Kurt, S. (2015). Instructional design models and theories. Educational Technology. https://educationaltechnology.net/instructional design-models-andtheories/
- Lim, E. J. A. (2016). Effectiveness of modular instruction in word problem solving of BEED students. IOSR Journal of Mathematics, 12(5, Ver. VII), 59-65. https://www.iosrjournals.org
- Macaya, A.M. (2020). Learners' learning progression and science teachers' formative assessment practices: bases for the development of a module in physics.

  (Unpublished Dissertation). West Visayas State University, Iloilo City, Philippines.

#### **GRADUATE SCHOOL**

Iloilo City

- Marasigan, N. V. (2019). Development and validation of a self-instructional material on selected topics in analytic geometry integrating electronic concepts. International Journal of Recent Innovations in Academic Research, 3(5), 129-141.
- McGriff, S. J. (2000). Instructional System Design (ISD): Using the ADDIE Model.

  Instructional Systems, College of Education, Penn State University.

  https://www.instructionaldesign.org/models/addie/
- Official Gazette of the Republic of the Philippines. (2013, May 15). Republic Act No. 10533: An act enhancing the Philippine basic education system by strengthening its curriculum and increasing the number of years for basic education, appropriating funds therefor and for other purposes.

  https://www.officialgazette.gov.ph/2013/05/15/republic-act-no-10533
- Omabe, C. C. (2006). Instructional materials for social studies education in Nigeria.

  Abakaliki: Willy Rose and Appleseed Publisher.
- Palispis, E. S. (2008). Towards institutional research capability building among colleges and universities. http://www.tua.edu.ph
- Papanastasiou, E. C. (2005). Factor structure of the "attitudes towards research" scale.

  Statistics Education Research Journal, 4(1), 16-26. DOI:10.1037/t64085-000
- Paurillo, P. M. (2019). Research writing ability of senior high school students as perceived by teachers of sampled schools in Quezon City. PEOPLE: International Journal of Social Sciences, 4(3), 1788–1800. http://grdspublishing.org/

### **GRADUATE SCHOOL**

Iloilo City

- Pramodini, D. V., & Sophia, K. A. (2012). Evaluation of Importance of Research

  Education. International Journal of Social Science & Interdisciplinary Research,

  1(9), 16.http://indianresearchjournals.com/pdf/IJSSIR/2012/September/1.pdf
- Perin, D. (2011). Facilitating student learning through contextualization. Community

  College Research Center Teachers College, Columbia University.

  https://ccrc.tc.columbia.edu/media/k2/attachments/facilitating learningcontextualization-working-paper.pdf
- Random House. (1993). Random House Webster's school and office dictionary (Rev. ed.). Random House.
- Random House Webster's College Dictionary. (2010). In K. Dictionaries Ltd (Ed.),
  Random House Webster's College Dictionary (10th ed.).

  http://www.thefreedictionary.com/population
- Rivet, A. E., & Krajcik, J. S. (2007). Contextualizing instruction: Leveraging students' prior knowledge and experiences to foster understanding of middle school science. Journal of Research in Science Teaching, *45*(1), 79-100. https://doi.org/10.1002/tea.20203
- Romiszowski, A. J. (1988). The selection and use of instructional media. London: Kogan. https://books.google.com.ph/books/about/The\_Selection\_and\_Use\_of\_Instructinal\_M.html?id=hwkmAQAAIAAJ&redir\_esc=y
- Sejpal, K. (2013). Modular Method of Teaching. Online International, Reviewed & Indexed Monthly Journal, RET Academy for International Journals of Multidisciplinary Research (RAIJMR), 2(2). www.raijmr.com

### **GRADUATE SCHOOL**

Iloilo City

- Smith, J. (2017). Designing effective instructional materials. Publisher Smith, P. L., & Ragan, T. J. (2005). Instructional Design. John Wiley & Sons.
- Tesane, T. (2014). Development and validation of modules in advanced engineering mathematics (Master's thesis, Saint Louis College of Tuguegarao City, Cagayan). 2 (12).
- Torrefranca, E. (2017). Development and validation of instructional modules on rational expressions and variations. The Normal Lights, *11*(1), 43-73. Retrieved from http://www.scielo.org.za/scielo.php?script=sci\_arttext&pid=S2223
- Vygotsky, L. S. (1978). Mind in society. In M. Cole, V. John Steiner, S. Scribner, &E.
  Souberman (Eds), *The development of higher psychological processes*.
  Cambridge: Harvard University Press.
  https://www.scribd.com/document/358971710/Lev-S-Vygotsky-Mind-in-Society
  the-Development-of-Higher-Psychological-Processes-Harvard-University-Press
  1978-1
- Walkin, L. (1982). Instructional techniques and practice. England: Stanley Thornes
  Publishers Ltd.
- Wambui, S. E. (2013). Effect of use of instructional materials on learner participation in science classroom in preschool in Kiine Zone, Kirinyaga County, Kenya.
  (Unpublished master's thesis). University of Nairobi.
  https://cees.uonbi.ac.ke/sites/default/files/cees/final%20project%20August%2
  2034\_0.pdf

### **GRADUATE SCHOOL**

Iloilo City

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Weimer, M. (2013). Learner-centered teaching: Five key changes to practice. John Wiley & Sons. https://www.wiley.com/en-us/Learner

Centered+Teaching%3A+Five+Key+Changes+to+Practice%2C+2nd+Edition-p
9781118119280

- Winarso, Widodo. (2016). Assessing the Readiness of Student Learning Activity and Learning Outcome. Jurnal Pendidikan (Indonesian Journal of Education), *10*(2). https://doi.org/10.13170/jp.10.2.5246
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving.

  Journal of Child Psychology and Psychiatry, 17(2), 89-100.

  https://acamh.onlinelibrary.wiley.com/doi/10.1111/j.1469-7610.1976.tb00381.x

  Wordnik. (2021). Contextualization. https://www.wordnik.com/words/contextualization