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ABSTRACT

This study investigated the science teaching efficacy of 101 biology student-teachers of selected institutions in Bicol and the Visayas that offer Bachelor of Secondary Education Major in Biology. It also identified the internal and external factors that affect such efficacy and established the patterns of relationships between science teaching efficacy and classroom performance.

Instruments developed to gather data were the following: (1) survey questionnaire, (2) interest and attitude scale, (3) science teaching efficacy scale, (4) achievement test in biology, (5) process skills assessment test, and (6) standards of classroom performance.

Student-teachers filled up the respondent's datasheet, the interest and attitude scale, the survey questionnaire and the science teaching efficacy scale. Then they took the achievement test in biology and the process skills assessment. Then dean or the principal, the critic teacher and the researcher evaluated the student-teacher scheduled to teach during the day using the standards for classroom performance. The actual teaching was recorded on videotape.

Multivariate Analysis of Variance (MANOVA) was used to analyze data and establish relationships. Qualitative analysis was used to find patterns in science teaching efficacy and classroom performance. For this, data was taken from eight cases. Three cases were presented/studied as samples.

Results show that biology student-teachers of Bicol and the Visayas have a high science teaching efficacy (STE) at 3.85 in a scale of 1 to 5. The relationship between science teaching efficacy and internal and external factors are found to be highly significant. This means that internal factors – interest and attitude, content knowledge and process skills – are significantly related to science teaching efficacy with content knowledge having the highest relationship. Likewise, external factors – family involvement, community support/participation and school environment – are significantly related to science teaching efficacy with the school having the highest relationship.

This study becomes one of the very few researches in science teaching efficacy of student-teachers in the Philippines. Content knowledge is identified as a very important factor that is significantly related to science teaching efficacy refuting the works of Carroll and Mueller, 1991, Bell, *et al.,* 1997 and Werner, 1993. The role of the school in the development of a self-system is underscored as it turns out to be the strongest external factor that is significantly related to science teaching efficacy, agreeing with Bandura's findings in 1986. The teacher has been identified as the personal model of student-teachers in the Philippines, particularly in Bicol and the Visayas, reiterating once more the influence of teachers on their students. The findings

that student-teachers are already prepared in motivation and communication negates the finding of Carranza in 1996. The need for curriculum enrichment, emphasis on hands-on experiences and training in instructional technology are identified for immediate concern.