

## **Bibliography of Articles on the William and Mary Center for Gifted Education Studies**

VanTassel-Baska, J., & Feng, A. (2002). Evaluation of the Idaho state gifted program: Lessons on the impact of training. *Research Briefs*. Washington, DC: National Association for Gifted Children.

The purpose of this evaluation study was to respond to three major research questions of interest to the Idaho Department of Education regarding the degree of implementation of Idaho Code, Section 33-2003. In addition to documenting the current status and critical issues of gifted programs in the state, recommendations for further improvement of gifted services across the state and directions for program development to the next level of excellence were provided. Suggestions for improvement focused on curriculum development and articulation, more teacher training for regular classroom teachers, and a state funding formula that allocated monies directly to districts for trained personnel.

VanTassel-Baska, J., Johnson, D., & Avery, L. D. (2002). Using performance tasks in the identification of economically disadvantaged and minority gifted learners: Findings from project STAR. *Gifted Child Quarterly*, 46, 110-123.

This paper discusses the rationale for developing performance assessment tasks to augment the identification of more economically disadvantaged and minority students for gifted programs in one state; provides a blueprint for the development protocol, including preteaching, rubrics, and exemplars; and shows major findings for use of the protocol with intended students. The performance assessment tasks were developed and revised based on try-out, pilot, and field test data collected across multiple districts with more than 4,000 students at primary and intermediate grades. Appropriate technical adequacy data were used for decision making on task and rubric revisions. Criterion levels of performance within domains were developed to ensure inclusion of populations of interest without compromising the integrity of the task protocols. The performance assessment tasks of Project STAR resulted in finding an additional group of students who were 12% African American and 14% low-income children during the field test of the instrument. These students represent those who would not have qualified for gifted programs using traditional measures. In that sense, the assessment approach yields a “value-added” component to the state identification system. Thus, Project STAR provides an effective and innovative approach to finding more low-SES and minority gifted students for programs.

VanTassel-Baska, J., Zuo, L., Avery, L. D., & Little, C. A. (2002). A curriculum study of gifted student learning in the language arts. *Gifted Child Quarterly*, 46, 30-44.

This curriculum study of gifted-student learning in the language arts explores questions of curriculum efficacy related to the nature of the learner, the type of grouping model employed, and the strength of a curriculum treatment emphasizing literary analysis and interpretation and persuasive writing. The study further explores the use of curriculum effectiveness data to improve instruction the next time a unit of study is taught. Findings suggest that the curriculum treatment produces both significant and important learning outcomes for gifted students across 18 school district entities. Implications for further research and practice are highlighted.

Avery, L. D., & VanTassel-Baska, J. (2001). Investigating the impact of gifted education evaluation at state and local levels: Problems with traction. *Journal for the Education of the Gifted*, 25, 153-176.

This article highlights results from 2 gifted program evaluations and a follow-up case study investigating how evaluation data were used. Although program evaluation and evaluation utilization are critical issues in driving gifted program development, literature that shares the results of programs with external evaluations is scant. Common findings across the 2 studies were the absence of data on students learning, the fragmentation of service models across the K-12 expanse, the lack of systemic staff-development strategies, and the lack of meaningful parent involvement. Utilization of evaluation results were mixed. Although respondents cited evaluation as a consciousness-raising experience and an important process in effecting change, they were essentially stymied in their efforts to use the evaluation data to catalyze program improvement, particularly in the short run. Barriers to effective use of data are grounded in the insufficient resource base available to sustain high-quality programs and in the complex leadership demands that require movement on multiple fronts simultaneously.

VanTassel-Baska, J., & Brown, E. (2000). An analysis of gifted education models. In F. Karnes and S. Bean (Eds.). *Methods and materials for teaching the gifted*. (pp.93-131). Waco, TX: Prufrock Press.

This chapter reviews existing program/curriculum models in the field to determine the evidence for their use and their effectiveness with gifted populations. The authors present a brief history of curriculum development for the gifted and criteria used to assess a model's effectiveness. Models discussed include the Stanley Model of Talent Identification and Development, the Renzulli Schoolwide Enrichment Triad Model (SEM), the Betts Autonomous Learner Model, Gardner's Multiple Intelligences, Sternberg's Triarchic Componential Model, and the VanTassel-Baska Integrated Curriculum Model (ICM). Finally, the authors suggest several implications for schools and educators.

VanTassel-Baska, J., Avery, L. D., Hughes, C. E., & Little, C. A. (2000). An evaluation of the implementation of curriculum innovation: The impact of William and Mary units on schools. *Journal for the Education of the Gifted*, 23, 244-272.

This evaluation study of a curriculum innovation provides a close-up view of two school sites after 3 years of implementing the William and Mary curriculum units. Case study methodology was employed by using multiple data sources, including interview, focus group, document content analysis, and classroom observation to assess contextual perceptions of impact and institutionalization of the innovation. Findings suggested that the innovation was viewed positively by relevant groups, has been integrated into district policies, and that within-system diffusion efforts were underway. However, full implementation of the innovation was hampered by lack of use of the performance-based assessment tasks for improving instruction and for reporting student-learning gains. The study concluded that 3 years of implementation may be insufficient for an innovation to impact the total school culture.

VanTassel-Baska, J., Leonhard, P., Glenn, C., Poland, D., Brown, E., & Johnson, D. (1999). Curriculum review as a catalyst for gifted education reform at the secondary level. *The Journal of Secondary Gifted Education, 10*, 173-183.

This paper explores a curriculum review process employed to assess how a specialized secondary school for the gifted might improve its programs and services to gifted students. The review process used document review, interviews, focus groups, and classroom observation techniques to arrive at a set of recommendations and a plan of action. Implications for the utility of such a process are discussed.

Johnson, D. T., Poland, D. L., & Brown, E. F. (1998). *Middle school students moving forward with the new basics: Implementing the Chesapeake Bay unit*. Williamsburg, VA: Center for Gifted Education.

This article provides insights into the alignment of the Center for Gifted Education's science unit, *Chesapeake Bay*, to the "new basics," from both education and business perspectives. Such topics as preparation for life-long learning, supporting national standards, documenting student growth, and engagement with learning comprise the foundation of the article. Illustrations from Ms. Wrightson's class provide more specific details regarding the *Chesapeake Bay* unit's student and teacher activities and its alignment with the "new basics."

VanTassel-Baska, J. (1998). A study of problem-based learning in teaching educational administration courses. In R. Muth, & M. Martin (Eds.), *Toward the year 2000: Leadership for quality schools* (pp. 279-288). Lancaster, England: Technomic.

This study employed the strategy of problem-based learning (PBL) as an embedded technique in a semester course on administration and policy in gifted education for 26 graduate students. In this study, PBL refers to a student-centered learning approach in which students are expected to assume responsibility for their own learning as they develop skills in higher-order thinking and self-directed learning under the guidance of a teacher in the role of facilitative tutor or coach. Student portfolios and questionnaires were used to assess the effectiveness of the PBL module over a 3-year period. Results yielded comparable positive findings from the various data sources included in the portfolios. The use of PBL provides an important framework for integrating classroom and work experiences for would-be school administrators.

VanTassel-Baska, J., Bass, G. M., Ries, R. R., Poland, D. L., & Avery, L. D. (1998). A national pilot study of science curriculum effectiveness for high ability students. *Gifted Child Quarterly, 42*, 200-211.

This study assessed student growth on integrated science process skills after being taught a 20-36 hour science unit developed according to the new science recommendations and implemented in 15 school districts across 7 states. Although seven science units for high ability learners were developed, the student impact results from Acid, Acid Everywhere, the prototypical and most widely replicated unit, are reported on. All units were based on the Integrated Curriculum Model (ICM) developed specifically for use with gifted learners which stresses an advanced content dimension, a high level process and product dimension, and a concept dimension. Results

indicate small but significant gains for students using the unit on the dimension of integrated science process skills when compared to equally able students not using the units. Implementation data reflected high satisfaction of teachers with the units, especially as teachers reflected on student interest and motivation. The effectiveness of this curriculum, designed to align with new science standards and to be appropriate for gifted students, lends credibility to the argument for using the new content standards as a basis for curriculum development efforts with the gifted.

Avery, L. D., VanTassel-Baska, J., & O'Neill, B. (1997). Making evaluation work: One school district's experience. *Gifted Child Quarterly*, 41, 124-132.

Given the paucity of evaluation studies of gifted programs in the literature, this article shares the experiences of the Greenwich Public Schools in sponsoring an external evaluation of the K - 8 program for gifted and talented youngsters. The article explains the methodology used in the evaluation, discusses findings and recommendations, and describes how the results were translated into program improvement efforts. Also addressed are the evaluators' observations about lessons learned in the process of the evaluation; these lessons reflect on the utility of information gathered.

Boyce, L. N., VanTassel-Baska, J., Burruss, J. D., Sher, B. T., & Johnson, D. T. (1997). A problem-based curriculum: Parallel learning opportunities for students and teachers. *Journal for the Education of the Gifted*, 20, 363-379.

One of the curriculum development efforts of the Center for Gifted Education at the College of William and Mary has resulted in a problem-based learning science curriculum for high ability learners in grades kindergarten through grade eight. Professional development programs accompany the curriculum, which are designed to facilitate unit implementation and to enable educators to develop their own units. The purpose of this discussion is to analyze the use of problem-based learning as a catalyst for developing and implementing a curriculum that is both challenging and constructivist in its orientation. The authors compare problem-based learning with creative problem-solving and inquiry; explain how metacognition is linked to the approach of problem-based learning; and describe the PBL based inservice programs developed for teachers and administrators. Implications for implementing problem-based learning in classrooms for gifted learners conclude the discussion.

Burruss, J. D. (1997, April). *Walking the talk: Implementation decisions made by teachers*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

This study explores the relationship between the teacher and the implementation of the Problem-based Learning science units from the College of William and Mary's Center for Gifted Education. Three sources of information on teacher implementation were utilized: Summer Institute group sessions on 'barriers to and facilitators of implementation,' a district case study focusing on teachers' actual implementation of the units, and teachers' unit evaluation responses. In all instances the variability of response to implementation supports the context specific nature of the challenge for curriculum developers. Even in the case study where the decision to

implement was imposed on teachers, the materials and assessments were provided, and connection to district standards and curriculum was affirmed, variance from teacher to teacher was considerable. Matching the curricular change to personal teaching style appears to be the common element in successful implementation of these units.

Ries, R. R., & Bass, G. M. (1997, April). *Teachers' use and perceptions of embedded assessments*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

A pilot survey study on the use of diagnostic assessment by teachers of gifted students provided a framework for examining how teachers use assessment information before and during their instruction. A questionnaire was given to a convenience sample of twenty-two teachers of gifted students and five program coordinators. Respondents indicated that about half of their school districts had a specific policy concerning a teacher's use of standardized test scores for classroom instructional decisions about individual students identified as gifted. About 75% indicated that teachers of gifted students typically use some type of diagnostic student assessment information in their teaching of specific content areas. The five most frequently identified assessment instruments were 1) content-based teacher made pretest; 2) portfolio assessment (writing, math, etc.); 3) standardized achievement test/subtest scores; 4) content-based textbook pretest; and 5) performance assessment (reading, speech, etc.). Findings suggest that diagnostic assessment is used by the majority of gifted programs sampled.

VanTassel-Baska, J., & Avery, L. D. (1997). Perspectives on evaluation: Local considerations. *Research Briefs, 11*, 118-128. Washington, DC: National Association of Gifted Children.

This paper presents the findings of a K-8 gifted program evaluation conducted for Greenwich Public Schools by the Center for Gifted Education at the College of William and Mary and to share how the district utilized the results of the process to enhance program development. The project involved the use of focus groups that were able to both generate data and digest findings which led to program adjustments on an ongoing basis and culminated in a program development plan. The juxtaposition of the evaluation process which highlighted program strengths and weaknesses with a plan of action that showcased the district's commitment to improving services facilitated the timely utilization of the results.

VanTassel-Baska, J., Hughes, C. E., Johnson, D.T., Boyce, L. N., & Hall, D. R. (1997, April). *Language arts curriculum effectiveness study: Results of a curriculum developed for high ability students*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

The purpose of this study was to determine the cognitive effects of the implementation of the William and Mary language arts 40-hour curriculum units and to identify factors involved in the successful implementation of the units. The study employed pre- and post-test performance-based measures in the areas of literary analysis and interpretation, persuasive writing, and pre-post content-based objective assessment of grammatical understanding. Students exposed to the curriculum in grades 2-8 were administered the first two measures; only students in grades 4 and above were given the grammar content test. Participating school districts were selected during

the 1994-95 and 1995-96 school years based on pre-specified guidelines for participation. Comparison groups were provided at the school district level and analyses of co-variance (ANCOVAs) were computed. Results showed statistically significant differences ( $p < .05$ ) between the experimental and comparison groups for three of the units at primary, intermediate, and middle school grade levels in the areas of literary analysis and interpretation, persuasive writing, and grammar. This study provides some evidence that focused, high-powered, and integrated curriculum intervention can bring about significant student learning gains in core areas of the language arts.

VanTassel-Baska, J., Hall, K. H., & Bailey, J. M. (1996). Case studies of promising change schools. *Research in Middle Level Education Quarterly*, 19, 89-116.

A series of three case studies were conducted over the course of one year in schools deemed promising in respect to education reform initiatives. The schools were studied to ascertain the nature and extent of change that had occurred and how successfully various constituency groups were handling the change. Areas probed in case study interviews, classroom observations, and document review included the planned change process itself, quality of schooling indicators, family support, assessment, curriculum, instruction, and staff development. Findings indicate that positive change was occurring along anticipated dimensions of quality schooling indicators while curriculum and instructional reform lagged behind. The researchers concluded that structural change in these schools has not yet catalyzed systemic reform at the level of the classroom where student learning would be most affected in spite of powerful leadership by principals and a staff committed to reform principles. While all three of these schools exhibited many exemplary practices and promising directions, evidence of depth in reform practices as measured by enhanced student learning was lacking.

VanTassel-Baska, J., Johnson, D. T., Hughes, C. E., & Boyce, L. N. (1996). A study of the language arts curriculum effectiveness with gifted learners. *Journal for the Education of the Gifted*, 19, 461-480.

This study of language arts curriculum effectiveness presents data that lend support to the utilization of the Integrated Curriculum Model (ICM) with high-ability learners in various grouping contexts. Significant growth gains were demonstrated in literary analysis, persuasive writing, and linguistic competency for seven experimental classes using a unit of study modeled on ICM. Implications for heterogeneous classroom use include concerns for lack of differentiation of reading selections for students not classified as advanced readers and the degree of abstraction contained in specific performance tasks.

Gallagher, S. A., Stepien, W. J., Sher, B. T., & Workman, D. (1995). Implementing problem-based learning in science classrooms. *School Science and Mathematics*, 95, 136-146.

Many new curricular and instructional models must be developed or adapted as the nation moves towards educational reform in science classrooms. This article describes how problem-based learning, an innovative curricular and instructional model developed in medical graduate school programs, has been adapted for use in elementary and high school settings. Included in the integration of problem-based learning and science are components of all problem-based episodes

including initiating learning with an ill-structured problem, using the problem to structure the learning agenda, and teacher as metacognitive coach, with important goals of a reformed science curriculum such as learning based on concepts of significance, student-designed experiments, and development of scientific reasoning skills.

Johnson, D.T., Boyce, L. N., & VanTassel-Baska, J. (1995). Science curriculum review: Evaluating materials for high-ability learners. *Gifted Child Quarterly*, 39, 36-43.

This article describes the findings of a review of existing K-8 science curriculum materials that was carried out under the National Science Curriculum Project for High Ability Learners. Twenty-seven sets of materials were reviewed using criteria developed and refined by project staff. The purpose of the review was to ascertain whether currently available materials met the new standards in the teaching of science and the needs of gifted learners. The review findings suggest that existing basal textbooks fail to meet new science curriculum standards for all students, but particularly for high ability learners. Modular programs and supplementary materials were found to be superior to basal textbooks on most dimensions.

VanTassel-Baska, J. (1994). Development and assessment of integrated curriculum: A worthy challenge. *Quest*, 5 (2), 1-6.

This article describes the Integrated Curriculum Model (ICM) and the National Curriculum Projects for High Ability Learners based on the ICM in language arts and science. The author reviews studies of effectiveness on other curriculum materials and then presents the preliminary data for the pilot studies for the language arts units. Implications for new research and development on curriculum effectiveness include alignment of curriculum development in general and gifted education, continued differentiation of content-based curriculum for the gifted, maintaining the three strands of the ICM during implementation, student response to the new materials, administrative awareness and understanding of the instructional effectiveness of new curricular materials, and more effective teacher training and reflection on new materials.

VanTassel-Baska, J., Gallagher, S. A., Bailey, J. M., & Sher, B. T. (1993). Scientific experimentation. *Gifted Child Today*, 16 (5), 42-46.

This article describes in greater detail the products produced for the curriculum development effort in science referenced above. These products include a guide for evaluating curriculum materials in science for high ability learners, a set of science concept papers, a K-8 Scope and Sequence for science curriculum, and several exemplary units in science. The article concludes with observations drawn from the experience and emphasizes the high priority that must be accorded teacher training efforts if change in this area is to be effectuated.

## **Text based on the William and Mary Units**

VanTassel-Baska, J. & Little, C. A. (Eds.). (2003). *Content-based curriculum for high-ability learners*. Austin, TX: Prufrock Press.

This book provides a clear approach to the development of curricula for gifted and high-ability learners that is consistent with the high academic standards for the core disciplines that are being implemented at a national level. The authors strive to demonstrate how to develop complex curricula that integrates content, process, product, and concept as equal partners in learning. Topics include acceleration, higher order process skills, creative production, concept development, adapting curriculum in each core content area, instructional and resource choices, and assessment. Examples drawn from existing curricula are provided to illustrate key ideas.