



Section 3.4

Informal Education-Training

Work and Lifelong Learning Resource Base (WALLRB) Materials for Teaching, Research and Policy Making

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1. Anderson, D., Lucas, K. B., & Ginns, I. S. (2003). Theoretical perspectives on learning in an informal setting. *Journal of Research in Science Teaching*, 40(2), 177-199.

Reports the findings of an interpretive case study of the knowledge transformations of three Year 7 students who had participated in a class visit to a science museum and associated post-visit activities. Discusses theoretical and practical implications of these findings for teachers and staff of museums and similar institutions.

KEY WORDS: Case Studies; Concept Mapping; Informal Education; Middle Schools; Museums; Science Education; Transformative Learning.

2. Antone, E. M. (2000). Empowering Aboriginal voice in Aboriginal education. *Canadian Journal of Native Education*, 24(2), 92-101.

Euro-Western schooling imposed on Canada Natives was meant to destroy their culture and caused great alienation. This qualitative study of Onyota'a:ka (Oneida) Indians indicates that bilingual, bicultural education is needed to restore a strong Native identity. Education must validate traditional knowledge, values, and skills for Onyota'a:ka people to survive as a unique nation.

KEY WORDS: Acculturation; American Indian Education; Canada Natives; Colonialism; Cultural Maintenance; Culturally Relevant Education; Educational Needs; Foreign Countries; Language Maintenance; Lifelong Learning; Nonformal Education; Personal Narratives; Role of Education; Self Concept; Canada; Oneida (Tribe).

3. Barton, K. C. (2001). "You'd be wanting to know about the past": Social contexts of children's historical understanding in Northern Ireland and the USA. *Comparative Education*, 37(1), 89-106.

Interviews with 154 elementary school students in Northern Ireland and the United States found that students in both countries were very interested in history and learned about history from family and the media, as well as school. However, the two groups of students had different views on the importance of history and reasons for studying it.

KEY WORDS: Children; Educational Attitudes; Elementary Education; Elementary School Students; Foreign Countries; History Instruction; Informal Education; Relevance (Education); Role of Education; Social Attitudes; Student Attitudes; Student Interests; National Identity; Northern Ireland; United States.

4. Bennetts, C. (2001). Lifelong learners: In their own words. *International Journal of Lifelong Education*, 20(4), 272-288.

Interviews with 24 people depicted the formation of meaningful learning relationships in their lives and an interpretation of mentoring as a learning alliance. Most mentoring took place outside formal settings and was characterized by equality and emotional ties. Mentoring should be considered as valuable as formal teaching for the promotion of reflection and sustainable learning.

KEY WORDS: Foreign Countries; Individual Development; Informal Education; Interpersonal Relationship; Learning Processes; Lifelong Learning; Mentors; England.

5. Boss, S. (2002). The barefoot hours: Out-of-school programs offer to make the most of kids' free time, turning potentially risky afternoons into golden hours of opportunity. *Northwest Education*, 7(4), 2-7.

Research suggests that after-school programs reduce juvenile crime and risky behavior; increase confidence, academic performance, and social skills; and build positive adult-child and home-school relationships. The need for supervised after-school activities, especially in poor neighborhoods; the characteristics of successful programs; and the need to balance academic activities and kids' time are discussed.

KEY WORDS: Adult Child Relationship; After School Programs; Delinquency Prevention; Disadvantaged Youth; Elementary/ Secondary Education; Emotional Development; Enrichment Activities; Extended School Day; Informal Education; Program Descriptions; School Recreational Programs; Social Development.

6. Brooke, H., & Solomon, J. (2001). Passive visitors or independent explorers: Responses of pupils with severe learning difficulties at an interactive science centre. *International Journal of Science Education*, 23(9), 941-953.

Reports on studies of students with severe learning difficulties and shows that they could, under appropriate conditions, display impressive concentration and curiosity, and often appeared to achieve valuable learning. Describes some of the dilemmas that may arise in developing these kinds of activities for special education.

KEY WORDS: Elementary Education; Informal Education; Learning Disabilities; Learning Problems; Science Activities; Science Instruction; Special Education.

7. Bye, J. (2000). *Making pathways: Young people and their informal vocational learning*. Australia; New South Wales: Australian National Training Authority, Melbourne.

Current research into youth transitions in Australia documents an increasingly individualized process in which significant numbers of youths are deemed at risk of not making a successful transition from school to work. Many theorists are questioning the applicability of the linear model of transition to current conditions. Other theorists are questioning whether the model was ever applicable to all students (especially "nonmainstream" students). The literature also documents the perceived failure of policy in ensuring successful transitions through recognized "pathways" of vocational learning and experience. It may be argued that, by broadening their focus to include the informal vocational experiences young people initiate and the type of learning that occurs in such instances, educational researchers may provide useful insights into how young people experience the transition process and how they seek to position themselves in the youth labor market. Research on this area is being conducted as part of the Research Centre for Vocational Education and Training's national key center program supported by the Australian National Training Authority. It is hoped that this research will shed new light on the increasingly complex transition process experienced by noncollege-bound young people and help policymakers devise more effective policies to assist this transition.

KEY WORDS: Education Work Relationship; Educational Opportunities; Educational Policy; Educational Research; Foreign Countries; High Risk Students; Informal Education; Labor Market; Learning Processes; Learning Theories; Literature Reviews; Models; National Programs; Noncollege Bound Students; Outcomes of Education; Postsecondary Education; Research Methodology; Research Needs; Research

Utilization; Secondary Education; Theory Practice Relationship; Vocational Education; Youth Employment; Australia; Career Paths.

8. Cohen, E. H. (2004). Components and symbols of ethnic identity; A case study in informal education and identity formation in diaspora. *Applied Psychology: An International Review*, 53(1), 87-112.

The ethnic identity of members of ethnic groups who live in a number of different countries is influenced by the surrounding cultures. This paper develops a tool which can help researchers understand the ways in which individuals perceive their own ethnic identity. The components and symbols that determine ethnic identification are analysed. By applying multidimensional analysis techniques to a set of empirical data, we were able to uncover a structure of identity along two axes: the cognitive/affective and the specific/universal. This structure enables us to make comparisons between national sub-populations in terms of their various emphases and perceptions of ethnic identity. We examine here the case of staff members in Jewish informal educational settings: 2,119 staff members from seven countries were surveyed on the self-definitions and symbols that express their relationship with their ethnic and religious heritage. This basic typology could be used in studies of other ethnic groups whose members have emigrated to a number of host countries.

KEY WORDS: Perception of Ethnic Identity; Components; Symbols; Cognitive-Affective; Specific-Universal; Typology; Diaspora; Staff Members; Argentina; Brazil; Canada; France; South Africa; UK; Uruguay.

9. Cox-Petersen, A. M., Marsh, D. D., Kisiel, J., & Melber, L. M. (2003). Investigation of guided school tours, student learning, and science reform recommendations at a museum of natural history. *Journal of Research in Science Teaching*, 40(2), 200-218.

Investigates how natural history content is conveyed to students and what students gain from this model of touring a museum. Discusses how the content and pedagogy within the guided tour complemented recommendations from formal science standards documents and informal learning literature.

KEY WORDS: Educational Change; Elementary/ Secondary Education; Historic Sites; Informal Education; Museums; Outdoor Activities; Science Instruction; Standards.

10. Dugas, E. (2002). Physical education and informal education at school. *Education et Societes*, 2(10), 21-34.

The author carried out a research program in the domain of physical education to test the role played by the teacher during his interventions in a varied number of physical recreational situations (traditional games, sports, & obstacle courses), & he questioned whether pupils can obtain any significant learning without the teacher actively intervening with his teaching skills. In other words, can pupils manage to achieve progress in a physical activity in an informal learning setting based on an experimental approach? This study tested & analyzed two different kinds of teaching: recreational (informal learning) & comprehensive (formal learning). The results revealed that when there was no particular educational approach by the teacher, the children, nevertheless, progressed. Of course, formal learning favors learning too, & does so to a greater effect. However, the facts support an interpretation that indicates that the precise & structured intervention of a teacher putting his educational skills to work is very useful for his pupils, but not indispensable to their progress in recreational physical activities.

KEY WORDS: Physical Education; Teaching Methods; Learning; Students.

11. Dunst, C. J., Bruder, M. B., Trivette, C. M., Hamby, D., Raab, M., & McLean, M. (2001). Characteristics and consequences of everyday natural learning opportunities. *Topics in Early Childhood Special Education, 21*(2), 68-92.

Relationships among different person and environment characteristics of everyday natural learning opportunities and changes in child learning, behavior and performance were examined in a study with 63 parents and their infants, toddlers, and preschoolers with disabilities or delays. Findings showed that learning opportunities that were interesting, engaging, competence producing, and mastery-oriented were associated with optimal child behavioral change.

KEY WORDS: Disabilities; Educational Environment; Experiential Learning; Family Environment; Infants; Informal Education; Learning Activities; Parent-Child Relationship; Parents as Teachers; Preschool Children; Toddlers; Natural Learning.

12. Glauert, E. (2005). Making sense of science in the reception class. *International Journal of Early Years Education, 13*(3), 215-233.

In the context of growing awareness of young children's capabilities, and debates about the nature of their reasoning in science, this study set out to explore the ways in which reception children make sense of classroom experiences in science. A particular challenge of the study was to develop appropriate and productive approaches to investigating young children's developing thinking. The first phase of research, reported in this paper, concentrated on the topic of electricity. A series of case studies was undertaken to examine children's learning in a classroom context. Classroom sessions were video recorded and transcribed to examine the development of children's practical competence in circuit making, and interviews were carried out to elicit children's views about electric circuits. Analysis of the classroom sessions revealed children's growing competence in circuit making through their self-directed efforts. The interviews prompted predictions and explanations that were not offered spontaneously. Responses indicated a range of models of the circuit and forms of explanation for what was happening in the circuit. The relationship between children's practical competence, predictions and explanations was not straightforward. Analysis revealed marked differences in models of the circuit and forms of explanation in children with the same levels of practical competence. This has important implications for the ways in which children's views are assessed.

KEY WORDS: Preschool Children; Science Education; Case Studies; Interviews; Data Collection; Nursery Schools.

13. Gonzalez, N., Moll, L. C., & Amanti, C. (Eds.). (2005). *Funds of knowledge: Theorizing practices in households and classrooms*. Portland: Lawrence Erlbaum.

The concept of "funds of knowledge" is based on a simple premise: people are competent and have knowledge, and their life experiences have given them that knowledge. The claim in this volume is that first-hand research experiences with families allow one to document this competence and knowledge, and that such engagement provides many possibilities for positive pedagogical actions. Drawing from both Vygotskian and neo-sociocultural perspectives in designing a methodology that views the everyday practices of language and action as constructing knowledge, the funds of

knowledge approach facilitates a systematic and powerful way to represent communities in terms of the resources they possess and how to harness them for classroom teaching. This volume accomplishes three objectives: It gives readers the basic methodology and techniques followed in the contributors' funds of knowledge research; it extends the boundaries of what these researchers have done; and it explores the applications to classroom practice that can result from teachers knowing the communities in which they work. In a time when national educational discourses focus on system reform and wholesale replicability across school sites, this book offers a counter-perspective stating that instruction must be linked to students' lives, and that details of effective pedagogy should be linked to local histories and community contexts. This approach should not be confused with parent participation programs, although that is often a fortuitous consequence of the work described. It is also not an attempt to teach parents "how to do school" although that could certainly be an outcome if the parents so desired. Instead, the funds of knowledge approach attempts to accomplish something that may be even more challenging: to alter the perceptions of working-class or poor communities by viewing their households primarily in terms of their strengths and resources, their defining pedagogical characteristics.

KEY WORDS: Housework; Classroom Environment; Teaching; Knowledge.

14. Haines, S. (2003). Informal life science: Incorporating service learning components into biology education. *Journal of College Science Teaching*, 32(7), 440-442.

Describes a college course enhanced by hands-on science applications and a service-learning project. Requires registered students to participate in volunteer training at a nature center and offers certification in several environmental education curricula. Reports successful outcomes with regard to conceptual development and teaching experiences.

KEY WORDS: Biological Sciences; Biology; Course Descriptions; Elementary Education; Environmental Education; Hands on Science; Higher Education; Informal Education; Service Learning; Teacher Education Programs; Teaching Methods.

15. Harrison, L. (2000). The informal teachers' contribution to lifelong learning. *Australian Journal of Adult Learning*, 40(1), 101-106.

Informal adult educators in an Australian rural community (n=31) viewed their characteristics and commitment to teaching as varying according to purpose and context. The study suggested that differences in informal teaching are influenced by the lack of externally imposed criteria and other institutional constraints.

KEY WORDS: Adult Education; Community Education; Foreign Countries; Informal Education; Lifelong Learning; Teacher Characteristics; Teaching Methods; Australia (Tasmania).

16. Harrison, L. (2003). A case for the underestimated, informal side of lifelong learning. *Australian Journal of Adult Learning*, 43(1), 23-42.

Residents of a rural Australian community identified people considered informal teachers. Informal learning was characterized as arising through natural social interactions and involving interpersonal relationships and information exchange. Informal teachers were discovered through heterophilous contacts and had experience and expertise.

KEY WORDS: Adult Learning; Foreign Countries; Informal Education; Interpersonal Relationship; Lifelong Learning; Rural Areas; Teacher Student Relationship; Australia (Tasmania); Expertise.

17. Inderbitzin, M. (2006). Lessons from a juvenile training school: Survival and growth. *Journal of Adolescent Research, 21*(1), 7-26.

This article examines the lessons learned by youths confined to a maximum-security juvenile correctional facility. Using data from an ethnographic study of a cottage of violent offenders in one state's end-of-the-line training school, the author describes the lessons the institution and its staff members hoped to teach the young people in their care and the informal but vital lessons the inmates indicated they had learned during their incarceration. The continued viability of training schools as a response to serious and violent juvenile offenders is analyzed and discussed.

KEY WORDS: Ethnography; Delinquency; Correctional Institutions; Correctional Education; Youth.

18. Jannings, W., & Armitage, S. (2001). Informal education: A hidden element of clinical nurse consultant practice. *Journal of Continuing Education in Nursing, 32*(2), 54-59.

A survey of 16 Australian clinical nurse consultants showed they spent substantial time in informal teaching, but only 3% of it is recorded as limited educational activity for accountability purposes. However, a survey of 58 nurses taught by the consultants demonstrates the gains derived from informal education.

KEY WORDS: Consultants; Foreign Countries; Informal Education; Nurses; Professional Continuing Education; Public Health; Teaching Methods; Australia.

19. Matherly, C. (2000). Exploring nature from the inside out: Homeschooling opportunities at informal-learning facilities. *Legacy, 11*(4), 14-20.

Highlights educational opportunities for homeschooling. Suggests visiting learning facilities such as museums, aquaria, zoos, and parks which provide access to natural areas, live animals, and self-directed, hands-on exhibits. Describes learning opportunities at the Tennessee Aquarium.

KEY WORDS: Aquariums; Elementary/ Secondary Education; Home Schooling; Nature Centers; Science Activities; Science Instruction; Tennessee.

20. Melber, L. M. (2000). Tap into Informal science learning. *Science Scope, 23*(6), 28-31.

Discusses learning environments for informal science learning and points out the importance of an environment on student learning. Suggests several tips for field trip organization and accessing learning materials.

KEY WORDS: Aquariums; Elementary/ Secondary Education; Experiential Learning; Field Trips; Museums; Nonformal Education; Science Education; Teacher Improvement; Zoos.

21. Miles, S. P. A., Stauber, B., Walther, A., Banha, R. M. B., & Gomes, M. D. C. (2002). *Communities of youth: Cultural practice and informal learning*. Burlington: Ashgate.

The roles of cultural practice and informal learning in young people's transitions to work and adulthood were explored in case studies of performing arts programs in Mannheim, Germany; Liverpool, England; and Lisbon, Portugal. Expert interviews, participant observation, and documentary analysis were conducted to explore how the pedagogical model adopted by each program actually worked and what made each program attractive to participants and effective in easing young people's transition from school to work. All three programs offered an educational setting where learning is likely to be closely related to several aspects of identity work. First, the courses provided young people with a secure biographical space where they could develop self-confidence and self-consciousness. Second, the projects managed to bridge the gap between social and symbolic aspects of youth lifestyles and the perception of youth prevailing in education and training institutions. Third, the projects featured a set of properties that are essential to successfully stipulate informal learning. Those properties included reciprocal relationships between trainers and participants, openness to experiential activities, and a combination of activities performed for their own sake with activities aiming at future goals. The case studies documented the enormous potential of informal learning in helping youth develop the generic skills needed for their adult lives and work.

KEY WORDS: Art Education; Case Studies; Community Support; Cross Cultural Studies; Developed Nations; Education Work Relationship; Educational Environment; Educational Practices; Employment Potential; Empowerment; Experiential Learning; Foreign Countries; Individual Development; Informal Education; Outcomes of Education; Relevance (Education); Skill Development; Transitional Programs; Youth Problems; Youth Programs Contextualized Instruction; England (Liverpool); Europe; Identity Formation; Portugal (Lisbon); Youth Culture.

22. Nazli, S. (2001). Literacy without formal education: The case of Pakistan. *Journal of International Development*, 13(5), 535-548.

This article examines the role that informal educational institutions play in Pakistan's policy on literacy. An overview of various definitions of literacy is presented, illustrating how contemporary research has confused the distinction between literate & illiterate & how the definition of literacy in Pakistani society has changed. An additional overview of the Pakistani government's implementation of various literacy policies during the late 20th century is provided, emphasizing those that have established informal means of increasing literacy levels. It is argued that informal education would increase people's literacy in areas of Pakistan that have low education density levels. Data from the 1981 Population Census are used to support the hypothesis.

KEY WORDS: Pakistan; Literacy; Educational Policy.

23. Neufeld, S., Wright, S. M., & Gaut, J. (2002). Not raising a "bubble kid": Farm parents' attitudes and practices regarding the employment, training and supervision of their children. *Journal of Rural Health*, 18(1), 57-66.

A survey of 24 farm families in eastern Washington with at least one child aged 4-18 examined parents' attitudes toward children's farm work, children's experiential learning about farm work from an early age, safety instruction and practices with children, and supervision of children performing farm work.

KEY WORDS: Agricultural Safety; Child Development; Child Labor; Child Rearing; Child Safety; Experiential Learning; Life Style; Nonformal Education; Parent Attitudes; Rural Family; Rural Farm Residents; Work Attitudes; Family Farms; Washington.

24. Ng, R. (2002). *Training for whom? For what? Reflection on the lack of training opportunities for immigrant garment workers*. NALL Working Paper No. 66. Toronto: Centre for the Study of Education and Work, OISE/UT. Available at: <http://www.nall.ca/>.

Unlike many recent immigrants who entered Canada as highly trained professionals in their countries of origin, most of Canada's immigrant garment workers are working-class women with little education. The Apparel Textile Action Committee (ATAC) and Homeworker's Association (HWA) are among the bodies that were established to assist immigrant garment workers in Canada who lost their jobs to industrial restructuring and became home workers. The experiences of both bodies has made it clear that the training available to these women does not meet their needs as immigrants with a limited command of English. A study of the informal learning outcomes of HWA's members yielded the following findings: (1) most immigrant garment workers have little expectation that taking classes will lead to better jobs and higher pay; (2) although most immigrant garment workers do not expect that English-as-a-second language (ESL) classes will make them fluent in English, their ESL classes serve important social and educational purposes by giving participants a place to develop a sense of sociability with other workers and learn strategies for negotiating their lives as non-English speaking immigrants and their rights as workers; and (3) although classes are obvious places to look for informal learning, the HWA's executive meetings provide environments for explicit "political learning."

KEY WORDS: Dislocated Workers; Education Work Relationship; Educational Attitudes; Educational Needs; English (Second Language); Foreign Countries; Immigrants; Industrial Training; Informal Education; Labor Education; Labor Market; Needle Trades; Needs Assessment; Non English Speaking; Outcomes of Education; Political Socialization; Semiskilled Occupations; Student Attitudes; Teleworking; Women's Education.

25. Pressick-Kilborn, K. (2000). Supporting primary students' learning beyond the classroom. *Investigating*, 16(4), 14-19.

Shares experiences as a teacher in the School-Museum Informal Learning Experiences in Science Project (SMILES). Highlights factors that contribute to excursions that successfully support students' learning of science.

KEY WORDS: Informal Education; Museums; Primary Education; Science Education; Teacher Education.

26. Romi, S. (2000). Distance learning and non-formal education: Existing trends and new possibilities of distance learning experiences. *Educational Media International*, 37(1), 39-44.

Reviews the characteristics of non-formal education as expressed in various academic-theoretical definitions, presents the links in this field to distance learning, and recommends future directions for exploring distance learning in non-formal education. Discusses the use of information and communication technology and considers problems with non-formal education and distance learning.

KEY WORDS: Distance Education; Educational Technology; Futures of Society; Information Technology; Nonformal Education; Problems; Technology Utilization; Theoretical Analysis.

27. Shulman, D., & Silver, I. (2003). The business of becoming a professional sociologist: Unpacking the informal training of graduate school. *American Sociologist*, 34(3), 56-72.

This essay reports on a sociology graduate seminar ("Workplace Studies") which allows the instructor and students to combine learning with professional development by making the work of the class writing a collectively written "review of the literature" paper. Workplace studies are a genre of sociology that uses eclectic methods to examine the process of doing work, particularly the relationship of technology and the doing of the work. Rather than teaching a traditional graduate seminar in Workplace Studies, in which students would read and discuss journal articles and book chapters, and then write a library research paper at the end of the course, the authors decided to make the goal of the course collectively writing a review of the literature paper. The authors assembled, read and summarized a wide range of articles in workplace studies, debated the strengths, weaknesses, gaps, needs and applications of the field, and came up with a focus for a review of the literature article.

KEY WORDS: Sociology; Higher Education; Universities.

28. Silberman-Keller, D. (2003, April 21-25). *Toward the characterization of non-formal pedagogy*. Paper presented at the American Educational Research Association, Chicago.

This study examined characteristic attributes of non-formal education and the non-formal pedagogy directing its teaching and learning processes. Data were collected on organizational and pedagogical characteristics in several out-of-school organizations (youth movements, youth organizations, community centers, bypass educational systems, local government agencies offering cultural and other activities geared to youth, and museums of art, science, and history with educational departments or branches). Interviews with key players focused on what was being taught, who the teachers were, how teaching was accomplished, and how the organizations understood their role in facilitating teaching and learning. Texts pertaining to the educational organizations were also reviewed. Results highlighted consistently recurring activities, values, and behaviors. Four major genres were revealed: the generative element genre, the administrative-organizational genre, the genre of informal learning, and the genre of the social function of non-formal education. Characteristic practices in non-formal pedagogy included practices that: initiated and fostered images of time and place; engendered phenomenological processes of teaching and learning through which knowledge was singularly negotiated; applied dialogue and conversation in teaching and learning processes; and used play to shape the bond between reality and probability by expanding the notion of what was considered within the bounds of plausible reality.

KEY WORDS: Community Centers; Elementary Education; Experiential Learning; Informal Education; Local Government; Museums; Play; Socialization; Teaching Methods; Youth Agencies.

29. Sormunen, C., & Adams, M. E. (1999). The role of administrative office support personnel in office technology training. *Business Education Forum*, 53(4), 14-20.

Responses from 46 of 262 administrative office support workers showed that a majority was involved in providing office technology training to subordinates, peers, and superiors, although it was in only one-third of the job descriptions. More than 95% was informal training/question answering.

KEY WORDS: Clerical Workers; Computer Literacy; Employee Responsibility; Informal Education; Office Automation; Training; Administrative Assistants; User Training.

30. Sperl, C. T. (2003). Museums as informal learning environments for families that include children with or without learning disabilities: Exploring children's knowledge and interest and family interaction styles. *Dissertation Abstracts International Section A: Humanities & Social Sciences*, 64(1-A), 69.

The purpose of this study is to explore how family visits to a participatory exhibition affected the knowledge and interest of children with and without learning disabilities. Additionally, this study examines the learning behaviors of parents and children. Further, this investigation identifies the parent-child interaction styles demonstrated by families and considers how these patterns are related to children's knowledge and interest. More specifically, the questions that are addressed in this study include the following: (a) Does a hands-on learning experience in a museum's discovery room affect the topic knowledge and interest of children with and without learning disabilities? (b) How do the behaviors of children with and without learning disabilities differ in a museum discovery room? (c) Do parents of children with learning disabilities interact differently with their children in a discovery room context than parents of children who are normally achieving? and (d) Are the family interaction styles differentially related to demonstrated changes in knowledge and interest for children with and without learning disabilities?

KEY WORDS: Museums; Informal Learning; Learning Disabilities; Family Interaction; Children's Knowledge; Children's Interest; Parent-Child Interaction.

31. Taylor, D. (2002). Gender differences in informal education environments: A review of the literature on gender and learning in science museums. *Informal Learning*(52), 6-7.

Reviews research related to gender and learning in science museums. Examines 10 studies including studies of stereotypic behavior patterns, parent talk and family interactions, and gender-biased exhibits. Describes the need for a better understanding of gender differences in informal learning environments and more exhibits specifically designed to interest girls.

KEY WORDS: Exhibits; Instructional Effectiveness; Museums; Science Education; Science Teaching Centers; Sex Bias; Sex Differences.

32. Thomas, J. (2000). Learning about genes and evolution through formal and informal education. *Studies in Science Education*, 35, 59-92.

Focuses on the way learning about genetics and evolution raises ideas that pupils and adults should relate to themselves whether what is learned helps reveal what science can and cannot say about human nature. Reviews the impact of informal learning after exploring the role and influence of informal learning channels.

KEY WORDS: Elementary/ Secondary Education; Evolution; Genetics; Higher Education; Informal Education; Science Education.

33. White, R. (2002). The importance of cultural competence to informal learning attractions. *Informal Learning*(52), 18-19.

Discusses the importance of matching informal learning projects to the cultural contexts of participants. One way to analyze and understand a culture is to examine how it distinguishes itself from others in terms of relationships with people, time, and nature. Presents relevant factors to consider within each of these dimensions. Introduces "Prime Directive of Location-Based Attractions".

KEY WORDS: Cultural Context; Elementary/ Secondary Education; Informal Education; Nontraditional Education.



The Research Network on Work and Lifelong Learning
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