

Rebuilding Community Connections Through Experiential Professional Development

Chris N. McGrew
Indiana State University

Christle Miller
Indiana State University

John L. Conant
Indiana State University

Sandy Huber
LaPorte Community School Corporation

Abstract:

The authors argue that the narrowing of the K-12 curriculum in the past twenty years has changed the relationship between K-12 schoolteachers and the community. Using an ecological perspective as the theoretical lens, the article describes these changes as well as an effort by an economic development organization in Indiana to help rebuild those relationships through an experiential learning professional development activity. The article also includes sample teacher developed work plans for teaching economic concepts and skills through community based experiences.

Key words: ecological perspective, economic education, experiential learning, professional development

Introduction

In-service teachers from Indiana stared across Lake Michigan to the skyline of Chicago some 20 miles away, as they listen to a presentation about the development of the lakefront in northern Indiana and dodged the waves kicked up by the winds across the lake. This is a story about how social studies professional development has changed in Indiana in the past 15 years. In 2002/03, the ten university centers in the Indiana Council on Economic Education network trained over 3000 K-12 teachers to teach the economic concepts and skills embedded in the Indiana Academic Standards for the Social Studies. That number has dropped to around 475 for the 2017/18 program year (J. Sanson, personal communication, June 5, 2018). The authors led a professional development program for a group of Indiana in-service teachers that they hoped would

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

encourage the participants to teach more concepts in economics. The authors hoped that the approach might be one used in future programs offered by the Indiana Council on Economic Education to increase participation in experiential learning based professional development.

The scholarship described the narrowing of the curriculum across the nation and policy makers' focus on English-language arts, mathematics and science test score (Chapman, 2007; Heafner, & Fitchett, 2012) and how this focus impacts instructional minutes teachers devoted to the teaching of social studies in Indiana (VanFossen, 2005; VanFossen & McGrew, 2008). In addition, fewer teachers are entering the field in Indiana, (Indiana Business Journal, 2018), and the teaching of social studies concepts and skills was generally not a priority of teachers (Fitchett, Heafner, & VanFossen, 2014). The changing attitudes toward teaching social studies concepts and skills is evident in the decreasing participation in social studies professional development programs in Indiana. Many Indiana teachers have stopped attending workshops sponsored by Indiana social studies professional organizations. The Indiana Department of Education and Indiana legislature took professional development in social studies away as an option for K-12 teachers to use to renew their licenses (Indiana Department of Education, 1999, 2013, 2015). Teacher and school accountability are now only directly tied to how well students in Indiana do on the high stakes tests in mathematics, language arts, and science being administered in the state. Teachers' content knowledge or experience is no longer a factor in determining if an Indiana in-service K-12 teacher gets a pay increase.

Making Efficient Use of Scarce Classroom (and Professional Development) Time

Teachers' agency may have been influenced by these policy changes. Vongalis-Macrow (2007) found that decision makers from outside of the classroom influenced what teachers taught inside the classroom. Ketelaar, Beijaard, Boshuizen, and Den Brok (2012) argued that the environment in which a teacher operated influenced how much freedom and power they had over their own teaching. Priestley, Biesta, and Robinson (2015) argued that agency was a changing phenomenon that was influenced by forces outside the classroom. Was this a reason teachers stopped teaching social studies concepts and skills and therefore attending social studies professional development in Indiana? If this is the case, how can social studies professional development organizations design and provide experiences for teachers to help them reengage more effectively with social studies concepts that are critical to the development of critical thinking and citizenship?

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

This article focused on a strategy employed by an Indiana professional development organization to help teachers connect the concepts and skills they teach to the wider community. The authors described a professional development experience they designed to:

- reconnect Indiana teachers to their local community,
- strengthen a place-based approach,
- encourage them to teach more social studies concepts and skills, and
- encourage more multidisciplinary lessons, especially social studies content embedded in the teaching of concepts that are more directly “tested”, environmental science and biological concepts in this particular case.

The Indiana Council for Economic Education (ICEE) is an affiliate of the National Council on Economic Education and has been training Indiana K-12 teachers how to include the economics concepts embedded in the state curriculum for over 75 years. The ICEE has long advocated the development of multidisciplinary lesson plans, embedding economic concepts into other disciplinary lessons in order to “create” time for economic lessons that address both the academic standards in economics and other social sciences, and standards in language arts, mathematics and the natural sciences. The professional development experience described here takes this approach further by integrating place-based fieldwork (a specific type of experiential learning) still new in economics and other social and behavioral sciences. The approach also infuses community engagement into the multidisciplinary approach to the study of the tensions between environmental and economic development sustainability within the heavy manufacturing intense and environmentally sensitive Michigan Lake region of the Indiana Dunes.

Literature Supporting this Approach

A focus of place-based learning scholarship has been on establishing a sense of place by recognizing the cultural, economic, and social elements of a location (Resor, 2010). Yilmax (2018) found that teacher education students learned geography concepts better in spatial context to local places, instead of in a classroom setting. Ecological perspectives to human development gives insight into why this might be the case. Bronfenbrenner (1979) described an ecological perspective to human development as concentric circles moving out from a person and the systematic relationships that person has either directly or indirectly providing a context for learning. The *microsystems* are the direct relationships influencing a person’s behavior. Sallis, Cervero, Ascher, Henderson, Kraft, & Kerr (2006) described a body of research linking

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

environmental factors such as those coming from the work place, the home, school and other social contexts that will influence a person's ability to learn. Sallis et al. (2006) found that prescriptive attitudes by economic and legal institutions could change a person's learning behavior regarding active lifestyles in a community. Could the same thing be happening in social studies education? Bronfenbrenner (1979) described the outer bands of relationships that may influence the cognitive development of a person. These outer concentric circles while not directly involved in the classroom interaction that supports learning influence the effective instruction that takes place in a classroom between a learner and a teacher. The *exosystems* and *microsystems* include the legal, social, and economic frameworks that often regulate the relationships important to the learning that takes place. These structures, such as school funding, academic standards and large-scale high stakes testing, change the relationship that teacher and students have within and outside the classroom.

These relationships are complex and include many interrelated sub-systems. Bar-Yam (2011) indicated that systemic behaviors at one level would have an impact with other levels of systems. The authors are arguing that philosophical changes taking place in the exosystemic or macrosystemic level change the relationships that take place with the learner in the microsystem level.

The Indiana Council for Economic Education has developed a place based professional development program to help secondary social studies teachers build the connections they need to institutions within the community that may have been severed during the recent focus on school accountability. The essential list of characteristics for place-based education in an economic setting as an "area of studies as a curriculum explores local industry and sustainability..." (Woodhouse & Knapp, 2000, p. 4). Beginning in 2007, the ICEE co-sponsored with Indiana State University a series of graduate experiences for in-service science and social studies teachers and undergraduate experiences for science and social studies education majors at Yellowstone National Park. The experience explored the complex relationship between stakeholders and the United States government in managing the scarce public resources at the Park (Conant & McGrew, 2010). The level of complexity that Yellowstone National Park provided gave participants an opportunity to look at messy public policy decision making concerning a number of controversial policies of park management as part of the systematic relationship between a variety of stakeholders (Conant & McGrew, 2018). Given the impact of these experiences, the authors believed that an example with a local focus could help teachers develop relationships with similar stakeholders and advocates within their local community.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

A Summer Experience on Lake Michigan

In 2017, the Indiana Council for Economic Education and Indiana State University collaborated again to develop a local example that teachers could use to develop the relationships within the community that they need to bring high quality social studies education back into their classroom. The result was a class offered to a network of Indiana K-12 teachers.

The class focused on the interrelationships between the two basic systems in operation in the Indiana Dunes area of northwest Indiana; the fragile natural ecosystem of the lakeshore area and intense development of the economic systems that have grown in that same area over the past century. This region is the most intensely developed economic area in Indiana, with a significant emphasis on heavy manufacturing. The idea of sustainable development is not a new one, but it is increasingly recognized as more important to the viability of an area; the state of its economy and its natural ecosystem. The designers of this professional development experience believed it is important for teachers to experience these two complex systems and how the existence of each affects the quality of the other. The authors argued that both complex systems are quite fragile and sensitive to events in the other. It may be easier to see how the structure and practices of the economic system of the area affects the natural system, but it is just as clear that the natural system partially determines the comparative advantages of the economic system, and hence its economic viability. Both systems are sensitive to events in the other. If the ecosystem requires modifications to the economic system that are too expensive, the economy of the area will not be sustainable. If the industrial environment of the area is allowed to generate negative externalities that are too expensive to avoid or ameliorate, the area's ecosystem will not be viable. Only by experiencing the two systems firsthand and observing the interactions between the systems can the teachers gain an understanding deep enough to be able to teach their own students about the need for sustainability and how the two systems interact. Understanding how the two systems interact is necessary for society to be able to design the man-made system (the economy of the area) in such a way as to ensure the continued sustainability of both the man-made and the natural systems. The authors expected that an emphasis on sustainability in this area would provide an interesting professional development experience for these teachers to see how the disciplines of the natural and social sciences come together. They hoped to answer two questions. Would the examination of local environmental and economic policy in a way that enhanced critical thinking skills bring teachers into direct contact with stakeholders and decision-makers in their local communities? Would doing this in a professional development setting give those teachers the agency to bring more social studies concepts into their teaching?

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

The participants in the 3-day professional development experience were able to visit a technologically advanced steel mill (a heavy industry production site), the Port of Indiana (the major distribution site of the industrial activity – both importing raw materials and exporting finished products), and the local, state and national protected lands of the Indiana Dunes along the lakefront. The participants also met with experts and advocates for economic development, heavy industrial production and distribution, and ecologists and public land use managers, as well as academics with expertise in each area. The instructors provided the background on the economic issues involved and help with constructing the lesson plans the participants were required to construct and take back to their own classrooms. (Please see Appendix A for the workshop product guidelines and Appendix B for teacher-developed strategies.)

The participants heard about the policy making process from the experts and advocates involved. Although unable to witness the public meetings involved in the ongoing management of the area over a three-day workshop, the discussions held with the experts whom were active participants in the policy making process was the most effective pedagogy to enhance understanding of the public decision making process available. Having the ability to speak with each of the participants in the process personally and then to experience the environment and the resources that were the subject of the resource use debates and policies was the best alternative available over the short time frame of the workshop.

Standing along the lakeshore at a swimming beach that is part of a public park and being able to see a part of a steel mill to the west and the Chicago skyline to the northeast, knowing that large ships are bringing materials in to the industries and taking finished products out, just up the lakeshore proved to be a far more effective laboratory for learning about the sensitivity of the economic and natural systems interacting in that small area of northwest Indiana. This classroom made the discussions of high-value added manufacturing within a fragile ecosystem far more effective than sitting in a classroom on campus. Photographs, videos, and descriptions could help, but seeing the first-hand both the natural and economic landscapes adds to the power and effectiveness of the lesson.

The thriving of a community requires sustainability in environmental, economic, political, and social realms. This three-day professional development experience attempted to combine social and natural science theories and systems in the most interesting and important ways to advance the understanding of complex real-world systems. The National Science Foundation (NSF) had been working for the past twenty-five years to bring ecological researchers together with social scientists (National Science Foundation, 2002). NSF's Long-Term Ecological Research Network has

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

been working on a model to show how social and ecological systems work together to inform more effective environmental public policy (Redman, Grove, and Kuby, 2004). The project described here integrated expertise in biophysical and social science processes, and modeled that integration, as recommended by the NSF project, for secondary teachers. Hearing first hand from stakeholders, advocates, and experts enhanced the critical thinking skills necessary for a thorough understanding of the processes involved in creating effective sustainability policies in these local communities.

Advantages of this Approach to Experiential Learning

There are a number of advantages to a multidisciplinary, complex systems approach to teaching social studies concepts and to connecting social studies instruction to the community and to real world experiences.

From an administrative perspective. The multidisciplinary emphasis on combining social and natural science content should result in increased support from principals for the necessary fieldwork and time spent engaging students in the social sciences. Standardized testing incentivizes principals. Due to the significant environmental science component of deep lessons in sustainable local economic development, time spent on the social science aspects complement the teaching of the natural science concepts, making the natural science concepts easier for students to relate to and understand. The issues and ideas central to the lessons on the environmental and economic sustainability of local economic development within a community are all integrated into and illustrated by the complex social and natural systems that lie at the heart of these lessons. The nature of complex systems is such that student time spent grasping with the specific workings of a particular social system help them to grasp the nuances of the natural systems inherent in the lessons on sustainable economic development and vice versa.

From a student perspective. When a faculty member advises a potential student unsure about a possible course of study, active demonstrations, displays and videos of fieldwork used by the natural sciences are often useful tools to grab student attention and interest. However, this often creates the unrealistic view for the student that the natural sciences get to "go out" to the field or the lab to "do" science, but that the work of the social scientist is accomplished in the library or at some desk behind a computer screen. Perhaps the best way to show students the interesting realities of careers in the social sciences is to expose them to the kinds of work that social scientists do in collaboration with natural scientists "in the fields" of the local community. The interesting and important way to do this is to expose them to the collaborations

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

that social and natural scientists do in the important realm of enhancing the environmental and economic sustainability in their local communities. The intent of this professional development experience was to illustrate for the participating social studies and science teachers how practitioners work together in the multiple institutions of the local community to make their communities better places to live and work, both economically and environmentally. The authors believe that these aspects of life are ever more important to today's students.

Real world connections. Connections with resources in the local community are vital in supplementing the scarce learning resources available to social science teachers today. Again, the issue of environmentally and economically sustainable local economic development brings together in a collaborative way, local institutions from a variety of sub-sectors, including business, industry, economic development, government, environmental, and public land management. Within a short field experience in the lakeshore region of northwest Indiana, teachers were able to tour facilities and speak with experts on these topics from industry (a steel mill), and transportation (the Indiana Port). The educators also visited national and state public land management agencies and environmental advocacy groups. During these visits, participants heard from local university experts on the sustainability issues/difficulties inherent in the local economic development programs/efforts in a region that are both environmentally and economically important but also fragile. The production methods necessary to the area's main industries can place significant pressures on the sustainability of the fragile but critical ecological resources. The global competitiveness of the region's main heavy manufacturing industries (those to which the region has a comparative advantage due to locational and transportation factors) places significant pressures on the local economy as well as it is threatened by exogenous factors in its global market place.

For these reasons, the authors believe that the concerns of environmental sustainability and economic vitality are central to the interests (and of interest to) this generation of learners and that understanding these complex environmental management issues provides teachers with an experience that they are able to bring into their classrooms and share with their students.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

References:

- Bar-Yam, Y. (2011). *Dynamics of complex systems*. Cambridge, MA: New England Complex Systems Institute. Retrieved March 24, 2017 from <http://www.necsi.edu/publications/dcs/index.html#fulltext>.
- Bronfenbrenner, Urie. (1979). *The ecology of human development*. Harvard University Press.
- Chapman, L. H. (2007). An update on No Child Left Behind and national trends in education. *Arts Education Policy Review, 109*(1), 25-40.
- Conant, J. L., & McGrew, C. (2010). Somewhere out there . . . : An experiential learning model for teachers. *National Social Science Journal, 34*, 34–40.
- Conant, J. L., & McGrew, C. (2018). Complex systems at work in America’s first national park. *National Social Science Journal, 50*, 11-18.
- Fitchett, P. G., Heafner, T. L., & VanFossen, P. (2014). An Analysis of Time Prioritization for Social Studies in Elementary School Classrooms. *Journal of Curriculum & Instruction, 8*(2), 7-35.
- Heafner, T. L., & Fitchett, P. G. (2012). National trends in elementary instruction: Exploring the role of social studies curricula. *The Social Studies, 103*(2), 67-72.
- Indiana Department of Education (1999). Indiana Public Law 221-1999.
- Indiana Department of Education (2013, 2015). Indiana Public Law 286-2013. Amended 2015 (511 IAC 6.2-10)
- Johnson, C., & McGrew, C. (2011). No child left in the museum. *Social Studies Research and Practice, 6*, 1-20.
- Ketelaar, E., Beijaard, D., Boshuizen, H., & Den Brok, P. (2012). Teachers’ positioning towards an educational innovation in the light of ownership, sense-making and agency. *Teaching and Teacher Education, 28*, 273-82.
- National Science Foundation, (2002). *Long-term ecological research program: Twenty-year review*. Retrieved January 18, 2017 from http://intranet2.lternet.edu/sites/intranet2.lternet.edu/files/documents/LTER_History/Review_Documents_and_Reports/20_yr_review.pdf.
- Priestley, M., Biesta, G., & Robinson, S. (2015). *Teacher agency: An ecological approach*. Bloomsbury Publishing.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

- Redman, C., Grove, J., & Kuby, L. (2004). Integrating social science into the long-term ecological research (LTER) network: social dimensions of ecological change and ecological dimensions of social change. *Ecosystems*, 7 (2), 161-171.
- Resor, C. (2010). Place-based education: What is its place in the social studies classroom? *The Social Studies*, 101, 185-188.
- Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K., & Kerr, J. (2006). An ecological approach to creating active living communities. *Annual Review of Public Health*, 27, 297-322.
- VanFossen, P. J. (2005). "Reading and math take so much of the time...": An Overview of Social Studies Instruction in Elementary Classrooms in Indiana. *Theory & Research in Social Education*, 33(3), 376-403.
- VanFossen, P. J., & McGrew, C. (2008). Is the sky really falling?: An update on the status of social studies in the K–5 curriculum in Indiana. *International Journal of Social Education*, 23, 139–179.
- Vongalis-Macrow, A. (2007). Re-territorialization of teachers' multi-faceted agency in globalized education. *British Journal of Sociology of Education*, 28, 425-39.
- Woodhouse, J. L., & Knapp, C. E. (2000). *Place-based curriculum and instruction: Outdoor and environmental education approaches*. ERIC Digest.
- Yilmaz, N. (2018). Examining the effects of geography lessons taught with place based teaching to science process skills for classroom teacher candidates. *Journal of Education and Training Studies*, 7, 36-45.

Appendix A

Work Plan Guidelines

NW Indiana: A Fabric of Culture, Economics, and Environmental Sustainability

A teacher professional development workshop

IU Northwest/Fairfield Inn, Merrillville, IN

June 19-22, 2017 (all times are CDT)

The Indiana Council for Economic Education (ICEE) is paying the hotel, transportation, staff, and food costs for this professional development workshop. The organizations and individuals who donate to the ICEE would like to know what kinds of activities related to this workshop you plan to bring into your teaching. Please complete this outline indicating how you plan to use the knowledge, skills and dispositions you gain during the workshop with your students in the upcoming school year. The \$100 deposit will be returned to you upon completion of a Work Plan. Please let us know if you have any questions.

Work Plan guidelines

Please describe the students with whom you expect to deliver the instruction. Include the following:

Grade level

Content area

The approximate number of students reached

Approximate dates of instruction (if you know them)

Please describe the concepts and academic standards you expect to cover in the instruction.

Please provide a summary / outline of your instructional plan. It should include a brief annotated bibliography of the resources you plan to use. You must include some examples of lessons or resources in which students learn economic concepts and/or skills.

Please describe the assessment you plan to use.

If you expect to work in a team, please let us know with whom you plan to work.

Within your organization, school or district

Other local, regional or statewide organizations outside of your school, district or organization

Please list any assistance that you might require from your local Center for Economic Education.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Please share any other details you would like others to know about your Work Plan.

A draft Work Plan is due before you leave on Thursday, June 22.

Appendix B

Sample lessons

NW Indiana: A Fabric of Culture, Economics, and Environmental Sustainability
Teacher professional development workshop
June 19-22, 2017

Student Population: 8th grade middle school special education students. Possible collaboration with general education teachers in History, Science, Math, Language Arts and Technology. Dates of instruction are flexible with the expectation to use as a daily warm up discussion with ongoing critical thinking/research.

Concepts and Standards: The Effects of Invasive Species on Your Local Environment

8.4.2 Identify and explain the four types of economic systems (traditional, command, market, and mixed); evaluate how the characteristics of a market economy have affected the economic and labor development of the United States.

- traditional economy: an economy in which resources are allocated based on custom and tradition
- command economy: an economy in which resources are allocated by the government or other central authority
- market economy: an economy in which resources are allocated by decisions of individuals and businesses
- mixed economy: an economic system combining private and public enterprise

8.4.3 Explain how federal, state, and local governments are involved in the economy of the United States.

E.1.4 Explain that voluntary exchange occurs when households, businesses, and governments expect to gain.

E.2.4 Identify factors that cause changes in market supply and demand and how these changes affect price and quantity in a competitive market.

6-8.LH.2.2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

6-8.LH.6.2: Use technology to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Summary of Instructional Plan:

1. Prior knowledge and lessons in economics concepts to introduce the vocabulary (p. 29-51) from Energy, Economics, and the Environment: Case Studies and Teaching Activities for Elementary School by Indiana Department of Education Center for School Improvement and Performance 2006.
2. Introduce the idea of invasive species as an “undesirable pest” based on lesson plans from the Lake Champlain Maritime Museum. Have students make a list of undesirable pests around their home that they would like to get rid of. Then determine the most effective way to rid the pest with the least amount of risk and cost. Worksheets/templates are included in the Icmm website.
3. Show video “Above and Below the Waterline” which shows several aquatic invasive species and the harm they are causing to environments.
4. Discuss the definition of an invasive species based on the information from the National Ocean Service.
 - Invasive species damage native species, change native community structure and create serious economic problems.
 - Invasive species threaten nearly half of the species currently protected under the Endangered Species Act.
 - The cost of environmental damage, economic losses and control measures for invasive species average \$138 billion per year, more than all other natural disasters combined.
 - Natural resources increases labor resources which in turn create capital resources which are reinvested back in our community (case studies p. 8)
5. Show video on Wisconsin Invasive Species and begin discussion about Eurasian Milfoil in our local lakes. Have students describe three problems associated with invasive species and what can be done about it. Thought/discussion points:
 - Are lakes and fresh water a scarce resource? (p. 8)
 - Economic growth versus preserving the environment in its current state
 - Impact on fish and the local food chain?
 - Impact on the tourism and economy? (Opportunity costs and trade offs p. 8)
 - Impact on property values?

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

- Impact on local jobs?
 - Impact on the local fresh water system?
 - Can it be “carried” from one body of water to the next? By people, animals, water flow?
 - More weeds create more mosquitoes and foul smell
 - Chemical treatments versus natural treatment options
 - Who should pay for treatment -- private, local government, federal government (Cost/Benefit Analysis of treatment options)
 - Is it a problem for lakefront homeowners for the community as a whole? (property valuations and pricing, spillover p. 10)
 - How should funds be raised? (incentives p. 12)
6. Higher level thinking options: Have students use the primary source - Economic Impact Study from Houghton, Michigan to complete an in depth analysis of their findings of milfoil on their local economy.

Resources:

<http://www.lcmm.org/education/resource/on-water-ecology/invasive-species.html> (76 page Ecology Educator Resource with lesson plans and worksheets from the Lake Champlain Maritime Museum)

<https://www.youtube.com/watch?v=7iDdwSJWku> (Wisconsin Aquatic Invasive Species video)

http://oceanservice.noaa.gov/education/classroom/lessons/06_coastal_alien.pdf (National Ocean Service Lesson Plans)

<https://www.youtube.com/watch?v=MS2fr00QWHI> (Aquatic Invasive Species Above and Below the Waterline)

http://www.sepro.com/documents/Houg_Eco_Impact.pdf (Economic Impact Study from Houghton Lake, Michigan)

Energy, Economics, and the Environment: Case Studies and Teaching Activities for Elementary School by Indiana Department of Education Center for School Improvement and Performance 2006.

Guest Speaker Options:

Local chemist from city wastewater department to discuss lake monitoring.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Local DNR officer to discuss impact of milfoil on local lakes and wildlife.

Local Chamber of Commerce Director to discuss impact on tourism and economy

Assessment Plan: Assessment will be based on knowledge acquisition through daily group discussions. The end result will be to produce a final project of student choice (paper/slides/poster/brochure) or public service announcement (video) on research based findings of the negative impact of invasive species on your community and reasons to support your choice of action (no action or treatment/eradication of the species). Project will be presented orally to rest of class.

Grading rubrics for PSA:

http://rubistar.4teachers.org/index.php?screen=ShowRubric&rubric_id=1125164&

<http://teacherweb.com/TN/McClainChristianAcademy/AmberCummings/Public-Service-Announcement-Rubric.pdf>

Grading rubric for project:

http://www.readwritethink.org/files/resources/lesson_images/lesson961/Rubric.pdf

Grading rubric for presentation:

http://www.readwritethink.org/files/resources/printouts/30700_rubric.pdf

Extra Activities:

Tox Town web games based on environmental health concerns and toxic chemicals in your local environments https://toxtown.nlm.nih.gov/text_version/educators.php

Grade level: 12th grade
Content area: Economics

Standards

E.1.1 Define and identify each of the productive resources (natural, human, capital) and explain why each is necessary for the production of goods and services.

E.1.5 Define scarcity and explain how choices incur opportunity costs and tradeoffs.

E.1.6 Use a production possibilities curve to explain the concepts of choice, scarcity, opportunity cost, tradeoffs, unemployment, productivity, and growth.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Summary of Plan

This plan is designed to be utilized during a unit on scarcity and economic reasoning. This plan is a small portion of the overall unit. Students will come to class having read the corresponding chapter.

Students will be introduced to the concept of productive resources (natural, human, capital) through the Crash Course Economics video (#6) on Productivity and Growth

https://www.youtube.com/watch?v=UHiUYj5EA0w&index=6&list=PL8dPuuaLjXtPNZwz5_o_5uirJ8gQXnhEO

Once this is complete we will discuss the resources needed for local establishments as well as more controversial (ex: Steel Mill). We will use worksheet that requires students to listen the establishments and the natural resources, human resources, and capital resources that are used. In order to complete this activity students will need to research the various establishments and gather information relevant to each resource This will be followed by discussion on why each particular resource is needed in regards to the production of goods and services made/produced by each establishment.

From here we will move onto discussing scarcity, choices, tradeoffs, and opportunity costs.

Scarcity activity

Students will be introduced to scarcity through the Playful Economics lesson on scarcity (Hands on <http://www.econedlink.org/tool/398/Scarcity-Playful-Economics-Lesson-Demo>). This demonstration sufficiently illustrates the concept of scarcity in a way that all students can understand.

Choices and tradeoffs and opportunity costs

Since there are scarce resources we must make choices about how we use said resources. When we make a choice there is an opportunity costs and often times tradeoffs.

We will go back to examples provided during the discussion on production resources and determine the tradeoffs and opportunity costs associated with each of the resources.

Students will break up into small groups and complete various activities focused on opportunity cost, tradeoff, and choices.

Students will take a virtual tour of Jersey Shore Steel (<http://www.jssteel.com/take-virtual-tour-jersey-shore-steel/>)

Identify the concepts of scarcity, opportunity cost, and tradeoff

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Students will take a virtual tour of various National Parks (<https://artsandculture.withgoogle.com/en-us/national-parks-service/parks>)

Students will have the opportunity to explore 4 different parks located across the U.S.

Identify the concepts of scarcity, opportunity cost, and tradeoff

Once students have completed both activities we will come together and discuss opportunity cost, choice, and tradeoffs associated with Jersey Shore Steel and the park that they chose.

To further illustrate the concepts of choice, scarcity, opportunity costs and tradeoffs, we will use production possibilities curves/PPF

We will watch ACDC video on production possibilities curve (https://www.youtube.com/watch?v=O6XL_2CDPU) and discuss how companies that Jersey Shore Steel can exist within the same space as a national park.

To end the lesson we will review the information discussed and students will have to complete two questions.

1. Why do people damage what they love? In parts of Montana, British Columbia, and West Virginia we find some of the most beautiful mountains in North America. But we also find open-pit mines damaging the environment that most of the mine workers and mine owners love and use for their own recreation. Why? (EcoDetectives, Lesson 4)

2. You are assistant to a mayor in a large metropolitan city. The Northside of the city is forested and used recreationally by the individuals living in the city. A company is looking to expand but would need land in order to meet their needs. They have requested that you consider selling the Northside land to them. The company manufactures plastics and would add 1,000 jobs. How do you decide what to do? What recommendation do you make to the mayor?

Bibliography

ACDC Economics. (2014). Production Possibilities Curve. Retrieved from https://www.youtube.com/watch?v=O6XL_2CDPU This video explains the concept of production possibility curves in an easy to understand manner. This video is helpful when discussing opportunity costs and tradeoffs.

Council for Economic Education. (2015). Scarcity-Playful Economics, Lesson Demo. Retrieved from <http://www.econedlink.org/tool/398/Scarcity-Playful-Economics-Lesson-Demo> This video shows the implementation of the Playful Economics activity on scarcity. This activity can be modified to use Legos or other building materials.

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585

Crash Course Economics. (2015). Productivity and Growth. Retrieved from https://www.youtube.com/watch?v=UHiUYj5EA0w&index=6&list=PL8dPuuaLjXtPNZwz5_o_5uirJ8gQXnhEO This video the factors of production by focusing on productivity and the wealth of nations.

Google Arts and Education. The Hidden World of the National Parks. Retrieved from <https://artsandculture.withgoogle.com/en-us/national-parks-service/parks> This site allows students to explore a selection of national Parks on a 3D tour. Students can use VR headsets, iPads, or laptops to explore (headphones are required to tour).

Jersey Shore Steel. (2017). Virtual Tour of Jersey Shore Steel. Retrieved from <http://www.jssteel.com/take-virtual-tour-jersey-shore-steel> This video shows how steel is produced at Jersey Shore Steel. And introduces students to the process.

National Council of Economic Education. (2005). Economics and the Environment: EcoDetectives.

Lesson 4, Visual 4.1 presents a question that requires students to think critically about why we allow companies to potential damage the spaces that we value.

About the Authors:

Chris McGrew, Ph.D. - Director of the Center for Global Engagement, Indiana State University, Social Science Education Instructor

John Conant, Ph.D. - Director of Center for Economic Education, Chair of the Department of Economics, Indiana State University

Christle Miller - Indiana State University

Sandy Huber - LaPorte Community School Corporation, Indiana

Corresponding author: Chris.McGrew@indstate.edu

©2012/2023 National Council for Social Studies International Assembly

<http://www.iajiss.org> ISSN: 2327-3585
