

Civic Systems

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Overview for teachers and mentors

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Why this course?

Civic Systems (CS), is an alternative approach to a traditional subject. It's designed for use with adolescents, but may be easily adapted for older learners. It focuses on developing understanding of systems—essential knowledge for survival in a complex world and for responsible citizenship.

The traditional civics textbook is a daunting hodgepodge of secondhand information. Successful students remember enough of it long enough to pass tests, but most of what's learned is quickly forgotten. *CS* is completely different, as you'll see.

Traditional schooling brings to the study of civics another crippling handicap—the so-called “core” curriculum. Civics (and much else that is essential knowledge) really is about *systems*—groupings of interrelated, interacting elements forming a whole greater than the sum of its parts. The core curriculum focuses learner attention on various parts of that whole but makes no formal provision for investigating their interrelationships and interactions. This problem has been recognized by major scholars,¹ but is generally ignored.

Much of *Civic Systems* is an adaptation of another course developed earlier, *Introduction to Systems*. However, *CS* excludes that course's investigations that focused on elements of reality unrelated to the broad field of civics, and adds investigations related to the systems associated with government, public decision-making and economics.

Every activity is a hands-on, active investigation, which leads to much deeper, more permanent learning experiences than traditional, passive instruction.

The course is designed as a stand-alone introduction to systems, using the “here and now” world of learners, including their local government, as vehicles to introduce conceptual elements of General Systems Theory.

If learners have previously used course materials from this website, various activities included here may duplicate previous experiences.



¹ See <https://www.marionbrady.com/documents/QuotesFragmentation.pdf>

Course Materials

Civic Systems, unlike most textbooks and courses, isn't loaded with "read and remember" narrative. The ideas put forward are few and important, are interrelated, and together provide a framework to sort out and organize the universe of information with which learners must deal.

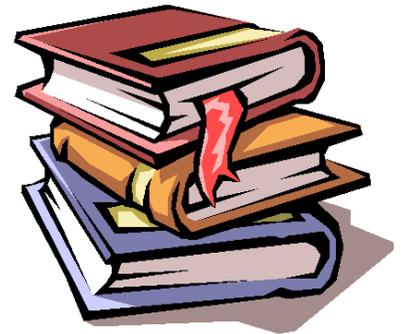
***Civic Systems* is different from typical course materials in three ways:**

- ▶ First, **active learning**¹ is used almost exclusively in the activities ("Investigations"). Learners are pushed to generate their own answers to questions, and to generate the questions themselves. For a quick summary of the major characteristics of active learning, check out Slideshow #3, "Passive or Active Learning?" <https://www.marionbrady.com/Slideshows.asp>.

The investigations in *CS* are designed to be directed primarily by learners themselves, with occasional guidance from teacher or mentor. Learners are encouraged to bring their own ideas and skills to each investigation, and to take whatever time is necessary to complete each investigation, free of pressure to "cover the material."

- ▶ The second difference relates to the first. The learning resources are either **reality** itself, or, when the reality being studied is distant in space or time and not directly accessible, what's provided is minimally-mediated evidence from reality—**primary sources**.

Most textbooks are compendiums of **conclusions**. The information has already been processed, leaving learners little to do but try to remember it. Complex, challenging thought processes aren't required. It's much like handing learners crossword puzzles with all the squares filled in. Conventional textbooks actually block higher-level cognitive processes.



The study of reality and its residue in the form of primary sources (rather than pre-digested information in textbooks) develops essential information-processing and problem-solving skills.

The most important systems that learners need to understand are those that affect their own lives. Investigations throughout *Civic Systems* take advantage of the resources directly available to learners in their immediate, directly accessible surroundings.

Active learning—using critical thinking skills such as comparing, contrasting, analyzing, hypothesizing, generalizing, and so on—requires unprocessed data, either directly from reality or from primary sources. **The mode of learning and the information sources are interdependent.**

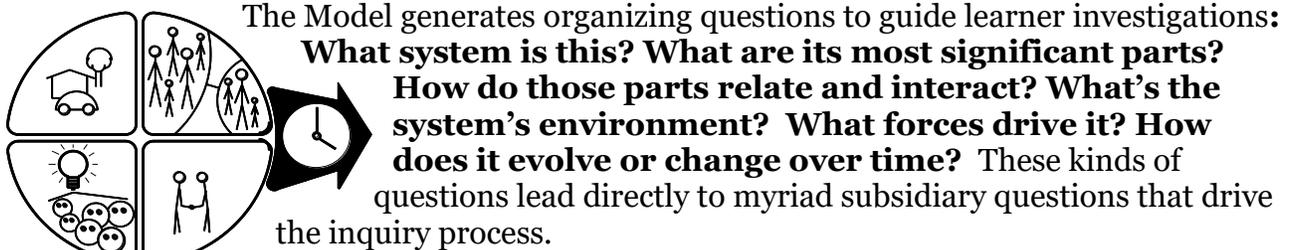
¹ Active learning was termed "discovery" or "inquiry" learning in the past. The present technical term is "constructivism." It is also the basis for project-based learning.

See support for this approach by a noted scholar from a century ago:
http://playpen.icomtek.csir.co.za/~acdc/education/Dr_Anvind_Gupa/Learners_Library_7_March_2007/Resources/books/readings/24.pdf

(Note that the date shown on this document is incorrect—Whitehead delivered the lecture in 1916 to the Mathematical Association of England)

- ▶ One thing further is required—a way of generating questions that guide and focus investigation. This brings us to the third difference between CS and conventional textbooks:

Learners learn to process information using a simple analytical tool we call the “Model,” to find important systemic relationships. This model is based on General Systems Theory. Everything studied becomes part of a single, logically integrated conceptual framework of knowledge.¹ The Model is introduced in Part 2, “Analyzing Systems.”



For more on this system-based Model, see the slideshow “Taming the Fire Hose,” at <https://www.marionbrady.com/SlideShows.asp>, and the free professional book *What’s Worth Learning?*, <https://www.marionbrady.com/Books.asp>

Using Civic Systems

Civic Systems (CS) is designed to organize approximately one year of academic work, linking and relating fields of study that the traditional core curriculum treats as stand-alone courses.

As Albert Einstein pointed out, problems can’t be solved using the same kind of thinking that created them, from which it follows that the activities may seem unorthodox. What’s required is primarily teacher willingness to back away from the usual role of “expert.” CS is genuinely learner centered, so learners must be allowed to lead and be given time to do so without thought processes being short-circuited by teacher-supplied answers. Dialogue is essential. Learners must be encouraged to talk, argue, defend positions, struggle with issues that often have no good or right answers. Reality as it presents itself “raw” is the richest possible learning resource or “textbook.” The most productive role the teacher can play is that of “co-learner.”

¹ A survey of the most popular math, science, language arts, and social studies textbooks used by 8th graders yields nearly 1,500 main ideas “covered” in a single year. This, of course, is ridiculous.

Procedures (A Summary)

1. Small group dialogue is most productive, not least because it allows participants to “think out loud” in a minimally threatening environment. It should be used routinely. (See later discussion.)
2. In the student materials, occasional primary sources are the major focus of attention—phenomena to be analyzed and interpreted. They’re enclosed or framed, e.g.:

Age	Male	Female	Age	Male	Female
Under 5	10,319	9,882	45 to 49	11,209	11,500
5 to 9	10,390	9,959	50 to 54	10,933	11,364
10 to 14	10,579	10,097	55 to 59	9,524	10,141
15 to 19	10,304	10,737	60 to 64	8,078	8,740
20 to 24	11,014	10,572	65 to 69	5,053	6,583
25 to 29	10,636	10,466	70 to 74	4,244	5,034
30 to 34	9,997	9,966	75 to 79	3,182	4,135
35 to 39	10,042	10,138	80 to 84	2,294	3,449
40 to 44	10,394	10,497	85 and over	1,790	3,704

3. ***“Do this” instructions for learners are in bold-face italics.***
4. Learners should keep journals or portfolios on computers, in loose-leaf notebooks, or combinations of the two, with entries corresponding to the activities. (More on this on p. 7)
5. Teachers and mentors play a non-traditional role—not delivering information or serving as expert sources but as askers of occasional questions that prompt deeper learning about the task at hand.

We favor heterogeneous classes with learners in the range of grades 7-10. However, experience and feedback from users tell us the materials can work with learners outside this range.

We believe in team teaching—two or more teachers with differing academic backgrounds, willing to discuss (model) their differences in productive ways in the presence of learners. CS erases the arbitrary boundaries between fields of study, demonstrates their mutually supportive nature, and gives team members a shared conceptual foundation and “language of allusion.”

In this era of rapid social change, mobility, and social instability, we think there’s merit in multi-year assignments of teaching teams to fixed groups of learners.

We recognize that some requirements of the conventional school world—seat time, detailed lesson plans, core curriculum standards, and the like—are at odds

with student-centered learning. Active learning necessarily conflicts with conventional views of education proceeding linearly in quiet classrooms with students sitting, facing front, and listening carefully as teachers “deliver” information. Administrative understanding and support for teachers using CS is therefore essential.

In our experience, so-called “direct” instruction and “scripted” presentations are a waste of time, even counterproductive. When no two learners are identical, no two learners learn in the same way, no two learners have the same past experiences, no two learners are in exactly the same situation, and no teacher or administrator knows what lies ahead for themselves, much less others, the drive to super-standardize instruction makes no sense except for the manufacturers of standardized tests.

Getting Started

Learners unfamiliar with active learning may have difficulty moving from traditional passive learning to the kinds of active learning required by our courses, including CS. At the request of an educator piloting an earlier version of our materials, we developed beginning investigations that are part of the *Introduction to Systems* course, <https://www.marionbrady.com/IntroSystems/1Intro.pdf>. We recommend using those activities if learners are likely to be uncomfortable with active learning.

When teachers used earlier course materials that required kids to develop their own conclusions based on “unprocessed” data, some resisted. Those with good short-term memories, comfortable playing the “remember this” game, sometimes said, “Just tell me what you want me to know.” On the other hand, learners turned off by traditional schooling often made the transition to activities like those in CS happily. For example, see <https://www.marionbrady.com/IntroSystems/DrWilliamWebb-Testimonial.pdf>

To illustrate active learning, we show learners photographs of two suburban U.S. houses built in different decades and ask them to identify differences, speculate about the probable effects of those differences on neighboring, then consider the thought processes involved in making sense of real-world experience.

Small groups

Learners learn most thoroughly by way of extended, small-group dialogue. Careful guidance will, of course, sometimes be necessary. See <https://www.teachervision.com/pro-dev/cooperative-learning/48531.html>. Domination of a group by one or two members should be discouraged, and occasionally a suggestion may help a group past some kind of conceptual or operational roadblock.

Teachers or mentors must, of course, occasionally intervene to ensure that learners stay focused on the investigation in progress. Although active learning is stimulating and therefore ordinarily enjoyable, CS classes mustn't be allowed to devolve into unstructured “do your own thing” sessions.

Investigative Procedures

To work with investigations, encourage each group to develop a systematic approach to problem solving, such as:

1. Define the task by identifying the main and subsidiary questions to be answered. As the work proceeds, the questions may change, and new questions may arise. Note that the Model, once developed, becomes the main source of general questions, although each investigation will require its own, more specific questions growing out of the Model.
2. Explore ways to find answers—direct observation, experiments, surveys, direct or written questions to authorities, and the like. Information from the library or Internet should be secondary.
3. Interpret the data and develop conclusions.
4. Prepare and present reports, tables, photos, diagrams, written statements of the problem, procedures and conclusions.

Note the applicability of computer skills to each step of the process, particularly Step 4. (Properly used, computers are helpful, but not essential.)

As learners become more skilled at project planning, the management process should be refined, especially for larger tasks, to include steps such as creating a schedule for each investigation, and conducting public (i.e. full classroom) project reviews, particularly at the end of investigations.

Journals (Portfolios)

Each learner maintains a personal journal to document investigation activities and conclusions. Using a standardized investigation procedure such as that described above will help. The journal may either be entirely hard copy, entirely electronic, or some combination of the two. Some information recorded in journals will, of course, be created by work groups, and some by each individual. Make sure enough individual work is done to build and evaluate learner skills.

The journal/portfolio will be a primary resource for evaluating learner performance, and for evaluating and enhancing skills, especially those used for communicating. With proper guidance, the journal can become a way to improve writing skills.

Encourage use of photographs as part of journals. The ease with which digital photos are made and inserted in computer-based journals makes them a natural means of transmitting information. Creating and using other kinds of graphics should also be encouraged.

Project-Based Learning

What's being said about and done with project approaches are inherent in CS, and should be central to education in general: (1) Emphasis on use of critical thinking skills (2) emphasis on collaboration, and (3) communicating plans, processes and outcomes effectively to others. Elements (1) and (2) grow rather naturally out of hands-on investigations and reality-based problem solving.

Journals provide the core of element (3), but additional communications—presentations, dialogue, posters, student-made slideshows or videos, etc.—can and should grow out of Investigations.

Internet

The Internet is a learning resource, providing ready access to nearly unlimited information, but it often presents the same problem as conventional text and reference books. It offers pre-processed information and conclusions that limit learner thinking. The activities in *CS* don't call for second-hand answers, but they may stimulate interests that learners pursue on their own.

Some Internet resources (e.g. Google Earth®), perhaps used in unconventional ways, may be used as the basis for investigations. But simply looking up answers to questions, then moving the information from the Internet (or a library book) to the learner's memory or journal is largely a waste of time and should be discouraged.

Local government

The main resource for learning about government is the government closest to the learners. **Contact representatives of the local government early on** to identify local experts in various fields that can act as sources of information—including visiting the class to answer questions, if possible. Alternatives include email contact, of course.

Lesson Planning

As noted earlier, there's a fundamental conflict between conventional bureaucratic expectations for teachers and the kind of active and project-based learning central to *Civic Systems*. The crux of the matter: **If a concept or idea is truly important, but learners are struggling with it, there's no point in moving on until the idea is solidly grasped.**

Requiring teachers to plan lessons days or weeks in advance may give administrators or non-educators a sense of satisfaction that schooling is proceeding smoothly, but it's at odds with effective teaching and learning—a product of the traditional curriculum's lack of sound theory, organization, sense of relative importance, and reluctance to trust teacher and learner judgment.

Website Support

For many Investigations, additional information may eventually be available from educators that have used the material:
<https://www.marionbrady.com/CivicSystems.asp>. See the “Discussions and User Feedback” box at the right of the webpage. **Those using *CS* are invited to contribute to this part of the program, sharing experiences and insights.**

Much of this course is based on the *Introduction to Systems* course prepared earlier. That course has supplementary documents (free to teachers, as are all our

materials) that may be used to expand the *Civic Systems* investigations. See <https://www.marionbrady.com/IntroductiontoSystems.asp>.

Right Here, Right Now

Within each unit of *Investigating World Cultures* is an investigation of the “Target Area.” For most learners, this will be the school and its immediate environment. The “RHRN Project” symbol (right) is used to highlight investigations. Focusing on the target area has several advantages:



- It’s accessible.
- It’s sufficiently complex to challenge every learner.
- It’s a system, with a full range of interacting components: Energy, raw materials, waste, teachers, learners, objectives, assumptions, money—an extensive list, with multiple interrelationships.
- Applying what’s being learned to a real and immediate slice of reality emphasizes the relevance and usefulness of what’s being learned.

Evaluating Learners

“How do I evaluate?” (Translated, the question usually means “How do I determine and defend the grades I assign?”). We believe grades are crude, even counterproductive tools deemed necessary because traditional schooling is so often irrelevant or boring, but the practice is too embedded in bureaucracy and public expectations to discard. It’s also a source of teacher vulnerability, so much so that the fans of the “standards and accountability” reform effort have been able to use it to undermine public confidence in teachers and promote mass, standardized testing.

Thinking about using *Civic Systems*? Contact us at www.marionbrady.com. We have suggestions for pre- and post-evaluation. (Free)

The answer to the grading question is easy or difficult depending upon what one is trying to evaluate. Traditionally, grading has been relatively easy, and remains so for those who believe that educating is primarily a matter of delivering and recalling information. For these people, evaluation generally means, “How much do you remember, at least long enough to pass a test?”

Recalling, of course, is just one of many thought processes. That recall (and low-level application) are the only processes that can be quantified with enough precision to allow machine scoring goes a long way toward explaining their extensive—even exclusive—use. When the list of thought processes needing to be evaluated is extended, their complexity makes clear the necessity for subjective judgment. This must be accepted as unavoidable.

Civic Systems assumes small-group or teamwork as a means to the end of maximizing the benefits of dialogue and “thinking out loud.” It also assumes learners will keep journals, that instructional activities will involve a complex mix of thought processes, and that the teacher plays the role of co-learner and “guide

on the side,” rather than “sage on the stage.” It also allows continuous monitoring opportunities—sufficient to eliminate the need for periodic testing. Minimizing teacher talk creates more time for listening to learner exchanges, for noting facial expressions, for interpreting body language, for reading student journals as they’re being written, for evaluating arguments as they’re being offered, for getting a feel for team dynamics, and so on, all in real time.

There’s no substitute for the intrinsic satisfactions of learning via human interaction, and no substitute for continuously evaluating learner performance.

(For more on this subject, see *What’s Worth Learning?*, p. 89ff. Free download: <https://www.marionbrady.com/documents/WWL.pdf>).

Forget periodic testing...unless custom or authority requires it. If such is the case, keep certain general principles in mind:

- Don’t call the test “a test.” Don’t call it anything. Just treat it as yet another learning activity to be completed alone rather than with teammates.
- Keep the directions simple. Some dependence on verbal comprehension will be unavoidable, but even the most difficult task should be described in plain language.
- Make the task self-contained—not dependent on remembering an earlier activity.
- Never lose sight of the overarching instructional aim: making more sense of reality. What needs to be known is what the kid does when dealing with the unfamiliar. What questions is the learner asking? What thought processes are being used? What relationships noted, traced, explored?

For example:

Almost certainly, the neighborhood or area where you live is changing—gradually getting dirtier or cleaner, prettier or uglier, safer or more dangerous, etc. If you want to know why, what questions will you ask?

This is Monday. I’ll ask for your lists of questions next Monday.

For example:

I’m giving each of you three pennies. Imagine yourself a thousand years from now, digging the pennies up. You know nothing at all about America, and don’t understand any of the words on the pennies. Write as much as you can about the society that created them.

Think about this for a couple of days, then we’ll talk about a due date for the assignment.

For example:

Choose one of the following policies and draw a flow chart identifying its probable or possible local consequences, the consequences of those consequences, and the consequences of *those* consequences:

- Every family must grow at least one quarter of the food they eat.

- Each person can generate no more than one pound of waste per week that can't be recycled.
- No able-bodied person can use an energy-consuming vehicle for a commute of less than a mile.

Complications

The assumption that the primary source of learning is a textbook is so firmly engrained in American education that change will be difficult for everyone involved—learners, parents, administrators and teachers.

If the learning mode is passive and based on memory, the teacher can be the fount of knowledge, the hero, the story teller, the guru. The learner is the absorber of knowledge, the disciple. These roles are satisfying to many teachers, and familiar to all learners. On the other hand, if the learning mode is investigation, roles are different. Instead of providing answers, the teacher must be a source of questions that push learners to create information themselves. If a teacher gets impatient and provides answers, the investigative process is short-circuited.

As noted earlier, learners must also change, must take a more active part in the process. Both teacher and learner may resist moving to unfamiliar roles. The changes aren't easy, but they're worth the effort.

Finally

With *Civic Systems*, *Introduction to Systems*, *Investigating American History*, *Investigating World History*, and *Investigating World Cultures*, we've tried to create programs that illustrate best practices, to raise awareness of the potential of General Systems Theory to organize information in ways that simplify teaching and learning, and to encourage examination and acceptance of the enormous potential of the approach to organizing information and sense-making that the young begin to use at birth and use in sophisticated ways long before kindergarten.

The world changes, necessitating curricular adaptation. We believe classroom teachers, working together—not commercial publishers—are best positioned to continuously adapt and improve the general education curriculum. To that end, we'd like to see formal provision made for assuring an "open source" approach to the general education curriculum, for continuous, cross-cultural user dialogue.




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