

## **The Worksheet System: A polyvalent knowledge transfer system for fostering analytical thinking in and out of the university context**

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**Abstract:** Low This article introduces the reader to a polyvalent knowledge transfer system called the worksheet system. A pedagogical innovation developed by the author, it has been in use in a variety of settings for over 10 years. The objective is to produce educational aids to teaching analysis in the university classroom and in adult training. The method consists of the following steps: adapting and revising the Socratic structured set of questions to a written form; testing that form repeatedly in the university upper year classroom ; testing that form in the training of adults belonging to the same organization or sharing similar goals. The first part of the article covers two worksheets of the broadest possible application: one that promotes active listening in lectures and explanations or structures small-group discussions, and one that makes the user aware of how s/he integrates new knowledge. The second section of the paper covers nine worksheets which introduce the reader to a form of analysis. Each of the latter has been found to develop analytical skills in university students and adults. The pedagogy proposed herein are suitable for large enrolment classes, the material already having been used for a class of at least 75 students. they can also be used for a professor working with teaching or grading assistants. For classes between 100 and 300 students, some exercises such as the budget simulation will allow for small group work under the supervision of teaching assistants after the professor gives general information to the whole class. For other, multiple class exercises, such as the election exercise, whole class participation is possible. Assignments to be used in class can be done individually or in small groups, depending on the size of the class and the choice of students.

**Keywords:** innovation, pedagogy, analytical skills

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### **INTRODUCTION**

This article introduces the reader to a polyvalent knowledge transfer system called the worksheet system. A pedagogical innovation developed by the author, it has been in use in a variety of settings for over 10 years.

Much of the literature on methods to enhance learning cover such issues as the effects of self-instruction in particular skills [1]. A significant subset of the literature examines knowledge transfer, most of them focus on skills, in particular communications skills [2]. The bulk of the literature on knowledge transfer focuses on various forms of e-learning and their effectiveness[3-8].

As with other cohort-based learning, this type of learning model uses the power of the interpersonal relationships to enhance the learning process at the same time online and distance classes and programs emerged [9]. but it does not stop there. The exercises here increase the socialization process of the learners as a collaborative team[10]. The worksheet system lets

students analyse what Saltiel and Russo call this the Collaborative Intensive Group Learning Experience[11].

The writing of the present article came about as the result of the advent of the Internet about 1998. Over time, I came to see the many advantages of the Internet and its wireless platforms for students – it gives immediate results for research, it provides ample information at anyone’s fingertips, constant texting means that students are no longer afraid of the blank page or the keyboard– but I was immediately aware of the challenges it would present to the most common ways of teaching: lectures, essays, exams. The Internet now trains us all to concentrate for much shorter periods than is required for the reading of a conventional book, to give up if it is not possible to find in always shorter order the information necessary, to accept as truth what can be found on electronic sources, to enter and then stay in what I call ‘the information cave’ to avoid sensory overload, to break tasks down into smaller and smaller units as we delude ourselves about multi-tasking when in fact we are only quickly

changing tasks, and, of course, to substitute keyboard or alphapad capacity for social skills.

The consequences for the university classroom and the training of adults were far from obvious at the start. Was this a qualitatively different form of information, and therefore required entirely new ways of communicating, or was this simply the apotheosis of decades if not centuries of atomism (a theoretical approach that regards something as interpretable through analysis into distinct, separable, and independent elementary components)? It eventually became clear that the classroom had to henceforth engage students, and that the classic lecture format alone would not be enough. And the option of laboratories in the sciences, performance in the lively arts, and studios in the visual arts were not open to political scientists. What was available were the problem-solving and case studies from the professional schools and the simulation exercises from other disciplines. And so I embarked on a quest to find out how to make students learn in the classroom what they could not learn any other way.

The article also covers two worksheets of the broadest possible application: the first is to promote active listening in lectures and explanations, and for structuring group discussions. The second is to make the user aware of how s/he integrates new knowledge. There are four parts to this article: the first describes the worksheets; the second explains their possible uses, the third discusses a worksheet with the potential to help students integrate their new knowledge; and the fourth presents nine worksheets which introduce the reader to a polyvalent method of analysis, strategic analysis. The reader has the option of photocopying the first worksheet and taking notes from his/her reading as s/he progresses through the article, in order to have some direct experience of using a worksheet. The first worksheet is designed to help students take notes during a short lecture on the worksheet system. It was custom-designed for the present article, purely as an example. It does not use Socratic questioning, as do later worksheets. In the alternative, the reader also has the option of trying to fill out the second worksheet, exploring what s/he may have learned as s/he was reading. Again, this will help the reader have the experience of using a worksheet requiring much more abstract thought, and will prepare him/her to use the worksheet in his/her own teaching or training. The Socratic method is a form of inquiry and discussion between individuals, based on asking and answering questions to stimulate critical thinking and to illuminate ideas. A dialectical method, it was formalize by Plato in some of his early dialogues, such as Euthyphro and Ion, as well as in his Socratic dialogues, portraying Socrates himself questioning his fellow citizens about moral and epistemological issues.

### Description of the worksheet system

The worksheet system is a set of individual forms that leads the student through the process of analysis using a structured set of open-ended questions. It is therefore a structured and organized version of the Socratic method, also similar to that developed by Blake and Mouton[12]. It is also used in the classroom in a variety of disciplines[13-20]. A worksheet is, in physical terms, an 8.5 by 11 inch sheet of article with boxes to be filled in, a form. In each box is a question. The format for each worksheet is clear and simple. What matters is the pedagogy behind it. The worksheet should be tied to an immediate task in the course and it should be graded.

There are several applications for the worksheet system. The applications discussed *inter alia* are: the step-by-step analysis for active listening in large lecture courses. Another is for structuring discussion in small groups, either for seminars or small group work in larger-enrolment classes, a third is the analysis of case studies, a fourth is for problem solving in various disciplines, for fostering the integration of learning, for teaching analysis or for teaching various analytical processes.

The first of these applications is for active reading of this article, answering the questions: does this article model the behaviors discussed? Does this article operate on several levels of abstraction at once? Can the reader immediately apply what s/he learns? Were the requirements clear?

For example, Worksheet 1, below, allows the reader to complete a single page summary of a, so far, four page article.

#### Worksheet 1: Active Reading

Applications	LP's	My own
Requirements	LP's	My own
Characteristics	LP's	My own
Problems in Applications	LP's	My own
Questions		
Thoughts or comments		

The next worksheet is one of the most broadly applicable, the integration diary, where the student shows what s/he has learned and how s/he integrates it. It helps the student become aware of how they learn, so that they eventually become a better learner. The levels of abstract thought required increases as the integration diary progresses. Students must complete the diary in point form rather than full sentences, to help them work

with individual ideas and concepts, rather than being descriptive. The limited space also forces students to choose among various possibilities, and therefore learn what priorities on which to focus. There are no right or wrong answers. Below are specific instructions on how to fill in each box, from left to right.

Line 1, box 1: this is the specific aspect that the student wishes to analyze in greater detail. There should be only one topic, for example: counterinsurgency, not ‘counterinsurgency and planning.’ The topic should be as specific as possible. The topic should also be at the same level of generality as the rest of the content of the worksheet.

Line 1, box 2: the student should break down the topic of his/her choice into components. The student repeats the process should continue until it is no longer possible to break the parts down. The student then selects the components which will be discussed in the worksheet. Not all components will be analyzed.

Line 1, box 3: the student gives the reasons why the components selected are important enough to continue to work with. Here the student must select priorities once again, explicitly. This process occurs in everyday life, but it is not explicit.

Line 2, box 1: the student must think over what s/he has learned about strategic thinking in the past, and identify how the topic under consideration connects with what s/he already knows. The student then lists those connections.

Line 2, box 2: the student will have a wide range of reactions to the learning that has just occurred. This box allows him/her to make those thoughts explicit, and also to provide him/her with the opportunity to set them aside for future consideration, if necessary. The student will be less mentally encumbered and better able to continue the analysis.

Line 3, box 1: for the learning to be genuine, there has to be a greater comprehension of some, possibly several, phenomena. The student is expected to provide at least one of these.

Line 3, box 2: if there is genuine learning, then the student will change his/her behavior. Changes include improvements in existing behavior, variations in the probability that a particular action or course of action will be chosen. Even small changes are significant. The student should list at least one change in behavior.

Line 3, box 3: if there is genuine learning, the student will change his/her behavior. That behavior may be mental or psychological. For the learning to be genuine, there has to be a change in behavior. Sometimes that behavior is mental or psychological. Changes include improvements in existing behavior, variations in the probability that a particular action or course of action will be chosen. Even small changes are significant. The student should list at least one change in probability.

**Sample Integration Diary**

Topic of Report: Telescoping	In my view the important components are: Levels of abstraction Changing levels of abstraction Obstacles to changing levels	Because: This is the crux of the task to be done This is the skill I have to learn or develop This is what I have to overcome
Links with previous learning about strategic thinking: Old definition of strategy Old definition of tactics	My thoughts about this topic are: Limits to what I can learn in a single day Why hasn't metis been discussed before anywhere?	Unsure of how much I can actually telescope Confused about the way I'm being trained here
I have a better understanding of: How this can help me understand insurgents	I am more effective at: Picking out fellow soldiers who can do this metis	I am more likely to: Take into account who is a strategic corporal and who isn't when I plan
I want to learn more about: How insurgents think	What I can use... The test	where? With soldiers in my unit when we deploy

In the last three boxes, the student must identify specific advances based on what they have learned.

Line 4, box 1: earlier, the student identified learning previous to the topic of the diary. Now, the student identifies topics that s/he would like to learn about next.

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Line 4, box 2: the student selects the practical or immediate applications in his or her area of responsibility. First, the student identifies the elements of learning that have immediate or known applications.

Line 4, box 3: the student selects the practical or immediate applications in his or her area of responsibility. Now, the student identifies areas of applications for the elements listed in the previous box. Students ought to be as specific as possible.

### III. Analysis and Worksheets

What follows are descriptions, instructions and examples of nine worksheets that can be used for the development or analysis of strategy in all its applications. This was developed in order to help people use or analyze strategy. The number of worksheets needed to be limited, they were chosen either to address the difficulties most common among people using strategy or in order to make a comprehensive analysis of a strategy and its environment. Some worksheets are harder to grasp than others. For each worksheet, there is an explanation of its purpose, a blank worksheet, a set of instructions on how to fill it out, and a sample. Several case studies are presented later on. For all the worksheets, the samples are drawn from the same hypothetical situation, that of a collective in conflict.

The goal of the worksheets is not to provide an exhaustive (or exhausting) set of minutely described steps in order to reach a single correct conclusion. Rather, the intention here is to provide support for the art of designing or analyzing a strategy. In most cases, there are no single correct answers or correct ways to interpret the forms. The worksheets are not necessarily obvious to use at first, and to achieve conscious competence, the user needs to practice on average six or seven times. Once the user is proficient, however, s/he should only use the worksheets when there is a problem to be solved or as long as it is necessary for the strategy or strategic analysis to be completed in his/her mind.

The nine worksheets are:

- Strategy
- Key Actors
- An Actor's Actions or Tactics
- Resources A Strategy Can Draw On
- What You Can and Cannot Do
- Factors Outside Your Control
- Steps and Nodes
- Tactics and Counter Tactics
- Core Idea

#### Worksheet 1: Strategy

In this worksheet, the student is expected to identify the components of a strategy to answer a particular challenge. The student should use point form

and no more than a single sheet to complete the worksheet. This will force him/her to be conceptually specific, and to choose among competing priorities. This way, it is possible to assess the judgment of the student as well as his or her capacity to think using strategy. Those components are: the problem, to be described succinctly in the top box, "Issue"; the solution to that problem that suits the student best, again to be described succinctly in the middle box, "Goal"; and the steps that will have the student reach the goal, or the method he plans to use, of the collection of actions s/he plans to use, in the bottom box, "Tactics." A strategy need not be developed only in adversarial circumstances - it can be used to rise to a challenge of any type. But because it is demanding to develop and implement, it is usually only used in difficult or really challenging circumstances where there are at least one and usually many enemy players. As usual, the student must be detailed, specific, succinct, and must stay at one level of generality or detail throughout the worksheet. As an example, let us consider the circumstances of a feminist collective.

#### Collective in Conflict

The actors are: Theresa, a member of the collective and peer counselor and facilitator of groups; the collective, about twenty women who are active volunteers in the crisis center for women who have been sexually assaulted; and Paula, a member of the collective and a collaborator with Theresa : co-author, co-facilitator of groups, formerly having been counseled by her.

The collective operates a crisis center for women who have been sexually assaulted, usually in childhood, in a major Canadian city. It has always operated on a volunteer basis, with no funding at all for the first eight years. It has only recently started to receive enough funding to go beyond paying the rent and the telephone bills, to offer two contracts of a few weeks each for peer counselors. The year is 1985. The center offers a 24-hour crisis line so survivors can talk, peer counseling, confrontations, and peer support groups, all at no charge. The collective operates on a series of radical feminist principles. It overtly rejects any form of hierarchy. It makes all decisions on a consensus basis, with each member of the collective having, in effect, a veto. Anyone who is not an assailant can go through the training and become a collective member. The collective has a group and caucus system for dealing with privilege. For women who are at any disadvantage for reasons of race, gender, class, religion, able bodiedness or sexual orientation, there is a caucus which meets periodically to discuss whether anything in the collective is creating a disprivilege. There is a parallel system of groups, where the women who are privileged meet to examine themselves and their behavior and discuss whether they are doing anything to create or reinforce their own privileges. Members of the

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collective are required to self criticize. One of the founding principles of the collective is that women who have survived sexual assault can and should be peer counselors, and should, after training, participate fully in the activities of the center. The majority of collective members have been sexually assaulted. There is no policy or principle explicitly governing personal relationships between collective members and survivors.

At the time of the conflict, Theresa is 37 years old. She was a founding member of the present collective, which she created after resigning from another crisis center which did not allow survivors of sexual assault to become volunteers. About 18 years before that, Theresa founded the first battered women's shelter in the city. She eventually worked in that shelter but was fired because of conflict with the collective operating the shelter. She works as a volunteer in the collective full time, and manages to live without much money by hand making dolls. Theresa has not been sexually assaulted.

At the time of the conflict, Paula is 25 years old. A survivor of childhood sexual assault, she came to the center to participate in a peer support group which was facilitated by Theresa. She took the training and became a member of the collective, and then co-facilitated two groups with Theresa. At the time of the conflict, she and Theresa are talking about writing a book together about surviving childhood sexual assault. Paula places great store in living by her values. The conflict comes to light when Theresa tells various members of the collective that she is now involved with someone to whom she has, until then, been giving peer counseling. The person has multiple personalities. If asked, the person would have said that the relationship was consensual. Theresa has not been secretive about the relationship. Theresa has talked about these developments.

There is a first meeting, facilitated by two women from outside the collective. The outside mediators facilitated a meeting that lasted from 19:00 to 4:00 the next morning. Theresa neither hid nor justified her relationship. Theresa did not offer to end the relationship. Theresa said she thought that the collective's concern on this issue arose from previous personal differences, largely political and/or feminist in nature. The collective in general did not consider the circumstances to be acceptable to continue. Paula said nothing, except to note that certain members of the collective seemed to be taking their cues one from the other. Only one member of the collective (not Paula) expressed support for Theresa's contributions.

A second meeting occurred, this one shorter and sharper. At that meeting, a lot of resentment between Theresa and the collective was expressed.

There was tension and invective. Eventually, Paula suggested to Theresa that she go and have a cup of tea at a Chinese restaurant two doors away. Theresa did leave for the restaurant.

At this point, Paula was the only person left who enjoyed the trust of both the collective and Theresa. In her discussions with the collective, Theresa became convinced that the personal relationship was an excuse the collective seized on to try and throw Theresa out.

Paula's goal was to achieve the best result possible, for the collective to continue its work and for Theresa's contributions to remain possible. Paula was unwilling to compromise her principles. Paula asked the collective what the bottom line was. The bottom line was that Theresa had to resign, to leave the collective voluntarily. In fact, the collective wanted Theresa never to set foot in the center again.

Paula said she would go and talk to Theresa and return. Paula went to Theresa and told her that she was now convinced this was only an excuse to get rid of her. Paula talks about the senescence of the organization which had gotten Theresa fired before. Theresa was a visionary and a pioneer, and had achieved great things. But when grants started creating jobs, people would join the centers as established organizations, and did want to be constantly in turmoil, reexamining what should be done and living out of tents in the country. Theresa asked Paula if she would collaborate on a book with her, and Paula agreed. Paula then told her that she saw no way for Theresa ever to return. Theresa eventually agreed and they discussed the minimum that Theresa needed. Theresa needed to go back to her desk to clean it out.

Paula returned to collective and said that Theresa agreed to resign, but that she wanted to clean out her desk. The collective was reluctant but Paula convinced them that this was a small thing. She offered to have everyone leave and to guarantee personally that Theresa would not leave with anything that was not hers. The collective agreed and left. Theresa and Paula returned and cleaned out her desk and when to Theresa's place and shared a long cup of tea and talk. At the next meeting of the collective, Paula reported that Theresa had resigned and cleaned out her desk. The collective commended Paula for her mediation. Paula then explained that she had been convinced that the collective was using the personal relationship as an excuse to get rid of Theresa for other reasons. The collective protested, and Paula challenged them to prove it by developing a principle governing personal relationships between counselors and survivors. They declined, because they said that the principle that survivors were wholly empowered stood. Paula resigned and went on to write a book with Theresa.

Accordingly, the first worksheet can be filled out as follows.

### Worksheet 1. Strategy

Worksheet 1. Strategy	
Issue/Problem	Conflict between the collective and Theresa
Goal	Resolve the conflict in keeping with principles
Core Idea (metaphor, slogan, etc.)	Go under cover
Tactics (actions or bundles of actions)	1 Paula keeps views to herself
	2 Paula separates collective and Theresa
	3 Paula negotiates acceptable solution to both sides
	4 Paula addresses inconsistencies with the collective's principles

### Worksheet 2: Key Actors

In any strategy, there are a number of possible actors. Those actors can be individuals, groups, governments or even groups of governments. The actors can be involved in the planning of your own strategy, or be on the outside. They may be helpful to your strategy, neutral, or opposed to it. They may be conscious of your strategy or actions, or they may not. But most importantly, they may have an impact either on the tactics or the strategy itself you are analyzing or designing or carrying out. The goal of this worksheet is to identify which ones may have an impact, so that you can set the others aside and concentrate your energies on the actors who matter.

Column 1: Give a comprehensive list of actors in the first column. You may want to list them under various headings, such as civilian, military, domestic, foreign, army, navy, air force, etc. Do not be concerned about putting people or groups in the correct categories; just assure yourself that you list every individual and/or group possible. Ask yourself whether the groups listed ought to be broken down further into smaller groups. For example, should a coalition of rape crisis centers be listed as such, or should it be broken down into the different member organizations? Once the comprehensive list of actors is established, the next column helps differentiate between significant and insignificant actors. Since the ongoing analysis is similarly and repeatedly reductionist.

### Worksheet 2. Key Actors

Worksheet 2. Key Actors	
All Actors	Can this actor affect your achieving the goal? (Yes or No)
Paul	Y
Theresa	Y
Collective	Y
Mediators	Y
Survivor with multiple personalities	N

Column 2: An actor can affect whether or not the tactic required can move the strategy toward the achievement of the goal. Ask yourself: can this actor affect your achieving your goal? Or are there actors whom you know stand no chance of affecting the outcome?

may prevent the goal from being achieved or the strategy from being successful, i.e. they can be key tactics.

### Worksheet 3: An Actor's Actions and Tactics

The next step in the tactical analysis of a situation focuses on the tactics, and similarly differentiates significant from insignificant actions, using Worksheet 3: An Actor's Actions and Tactics. There are a number of actions on the part of each significant actor. Those actions may be tactics, i.e. relevant to the strategy, or not. In order to be tactics, they must directly or indirectly move the situation towards the goal being achieved. Tactics themselves

Column 1: give the date and time of the action you are analyzing. During the first draft, you can list actions as you remember them, but in later draft it is helpful to list them chronologically. Only if more than one action takes place on a particular day do you need to list the time.

Column 2: give a detailed description of the action you are considering. Use point form rather than full sentences: this will help focus on the most important features of the action.

Column 3: an action is a tactic if it is relevant to the achievement of the goal identified in the strategy. If the answer to the question: “Does this affect reaching

my goal in any way?” If the answer is yes, than the action is a tactic.

### Worksheet 3. An Actor’s Actions and Tactics

Worksheet 3. An Actor’s Actions and Tactics		
Actor: Paula XX Individual __Group		
Time/Date	Action	Is this a tactic? (Yes/No)
Not given	Attends first meeting	Y
Not given	Facilitates groups with Theresa	N
Not given	Attends second meeting	Y
Not given	Writes book with Theresa	N
Not given	Asks Theresa to leave the second meeting for tea at a restaurant	Y
Not given	Negotiates with collective in Theresa’s absence	Y
Not given	Negotiates with Theresa at restaurant	Y
Not given	Accompanies Theresa when she clears out her desk	Y
Not given	Gives collective her personal word regarding Theresa’s return to the offices	Y
Not given	Attends third meeting	Y
Not given	Challenges collective’s principles	Y
Not given	Resigns from collective	Y

### Worksheet 4. Resources a Strategy Can Draw on

The third step is the identification of resources, using Worksheet 4: Resources a Strategy Can Draw On. Put at its broadest, resources which make tactics possible are generated by “the symbolic experiences, mythic lore, and ritual practices of a group or society [that] create moods and motivations, ways of organizing experience and evaluating reality, modes of regulating conduct, and way of forming social bonds”. [21]. Conventional wisdom usually finds that money is the most important resource, and it can certainly be a severely limiting factor. Much more scarce and harder to increase is the attention and good will of people with power. It is also much easier to squander inadvertently. The four general types of resources discussed below are: the right equipment, the right people, time, and information.

Although more ink is spilled and meetings held on money and money-related issues than anything else, the most important resource is human: skills, energy, and number. The first step is to establish what skills are useful, and then scan for them among the significant actors. Among the non-technical skills that may be needed are: counseling, writing, speaking, planning, research, tactical analysis, strategic analysis, forecasting, calm under pressure, good judgment, integrity. Worksheet 4: Resources A Strategy Can Draw On should be filled out listing as many of the resources as possible.

Column 1: List here all the materials, services, people (beyond the people who are carrying out the strategy with you), information, and funds that you need

to achieve your goal. The list should be comprehensive, i.e. it should include absolutely everything you will need. In order to increase the chances of writing a comprehensive list, it is helpful to look at categories of resources, so that you are less likely to forget anything. You may use as categories materials, services, people, information and funds. You may also develop categories that are specific to your situation, as has been done in sample worksheet 4.

Column 2: answer here the question of whether there is enough of this resource for you to reach your goal. For example, if the collective is considering extending its hours of operations, for example, it may incur extra expenses, or need to hire more people. Is more money available, and if so, is it on a one-time or long-term basis? Even if there is enough for foreseeable needs, or even more than foreseeable needs, it is still a specific amount available. Whether the resource is limited or not is an important point for carrying out the strategy. The strategist needs to take into account the limited resources as the strategy unfolds.

Column 3: here, ask yourself whether the resource being analyzed is absolutely necessary for reaching the goal, whether if there is none of this particular resource left you could still achieve the goal. If so, then you may write ‘yes’ in this column. Whether the resource is limited or not is an important point for carrying out the strategy, but if it is an essential resource, then the strategist has to put it at the highest priority. The list below is an illustration of the type of

analysis that needs to be done; it is not a complete list of resources necessary.

Column 4: Is the resource being analyzed helpful to the goal being reached? Is it something that will move the strategy forward? If so, the answer is yes. Only the 'yes' resources need to be analyzed further.

**Worksheet 4. Resources a Strategy Can Draw On**

Worksheet 4. Resources a Strategy Can Draw On			
Resource	Do you have enough? (Yes/No)	Is this a 'nice to have?'	Is this a 'must have?'
Good will of collective	N	Y	N
Theresa's trust	Y	N	Y
Meeting that lasts from 9 pm to 4 am	Y	Y	N
Time for second meeting	Y	Y	N
Time for third meeting	Y	Y	N
Theresa's good will	Y	N	Y
Information on Theresa's previous social activism	Y	N	Y
Information on collective	Y	Y	N
Paula's strategic skill	Y	N	Y

**Worksheet 5. What You Can and Cannot Do**

The fifth step in the tactical analysis requires an examination of the rules. Rules can be either formal or informal, and they may be incomplete; if you are dealing with hostiles, these rules may not be obvious although yours will be to them. Rules are enforced through sanctions, so one way to spot informal systems is to watch for behavior changes among the hostile actors, and then look for the factors that led to the modification. If there were sanctions, then you are on the right track. Sanctions tend to be obvious.

Column 1: List here all the formal and informal rules about materials, services, people (beyond the people who are carrying out the strategy with you), information, and funds that you need to achieve your goal. The list should be comprehensive, i.e. it should include absolutely everything you will need. In order to increase the chances of writing a comprehensive list, it is helpful to look at categories of rules, listed above, so that you are less likely to forget anything. You may use

as categories materials, services, people, information and funds. You may also develop categories that are specific to your situation, as has been done in sample worksheet 5.

Column 2: Is the rule being analyzed helpful to the goal being reached? Is it something that will move the strategy forward? If so, the answer is yes..

Column 3: here, ask yourself if disregarding this rule will ensure the failure of your strategy. Rules constrain behavior, but it is important to be aware of how and why each rule constrains which behavior or action. Ask yourself if the rule being analyzed is absolutely necessary for reaching the goal, whether if this rule is broken or ignored, whether you could still achieve the goal. Answer "yes" or 'no.' For those rules, the strategist has to put it at the highest priority. The list below is an illustration of the type of analysis that needs to be done; it is not a complete list of rules necessary.

**Worksheet 5. What you can and cannot do**

Worksheet 5. What you can and cannot do		
Rule	Does this rule help you reach your goal?	Does breaking this rule guarantee your failure?
Being non-conflictual in negotiating	Y	Y
Being truthful	Y	N
Being principled	Y	N
Telling part of truth	Y	Y
Being personally disciplined and/or focused	Y	N

**Worksheet 6: Factors Outside Your Control**

Factors are events, actions, trends, tactics outside your own or your actors' control. The desired strategic outcome is the goal listed in the strategy. These may include goals drawn from a variety of

categories, or can be very simple. Factors that help may include public anxiety, political pressure, or pressure on other institutions of society. Factors that don't help situation may include budget constraints, lack of



information, few effective measures, and lack of experience.

### Worksheet 6. Factors Outside Your Control

Worksheet 6. Factors Outside Your Control			
Goal:			
Factors that help		Factors that don't help	
Theresa's trust	→	←	Theresa's being in the wrong regarding her personal relationship
Collective's trust in Paula	→	←	Collective being inconsistent with its principles
Theresa's past experience	→	←	

### Worksheet 7: Do or Die Moments

The strategic pathway is the succession of steps which are likeliest to lead to the achievement of the goal, for a particular tactic. It can be identified using a three-step process: first, all possible steps to the goal are identified; second, the significant steps out of all the possible ones are identified; third, the critical steps are identified. The strategic pathway is made up of the critical steps, i.e. strategic nodes.

Worksheet 7: Do or Die Moments, asks the following questions: what are the steps to achieving the goal? For each step, what are the alternative steps that can also lead to goal? What are the scenarios you can think of that will achieve the goal? Who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Are any more economical, not just in terms of money, but also in terms of other resources? Are any more likely to succeed? What arguments are convincing to those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps?

Worksheet 7 also assists in identifying the do-or-die moments. Among the questions are: what are the critical actors, actions, resources, rules? Where are they situated on in relationship to another? Are you focused on the strategic nodes? Are you concentrating your efforts there? How does this change your own planning to reach your goals?

The strategic goal is the goal that is given in the strategy from worksheet 1. In the first column, write out each of the steps necessary to reach the goal, in sequence. This first column is for reaching the goal with no surprises or problems. You must fill in the steps until you reach your goal. Each step should represent a single tactic or action contributing to your goal. You need to list all the steps necessary to reach your goal. Next, you

need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if you failed at this step. If the answer is 'yes', then you can circle that step. That is a strategic node, and you need to develop alternatives to make sure that you get beyond that step.

In the middle column, write alternative steps to reach the goal for each of the problems you can anticipate at a strategic node. If at any point your pathway starts to be the same as in column 1, then just draw an arrow returning to that step. Next, you need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if you failed at this step. If the answer is 'yes', then you can circle that step. That is again a strategic node, and you need to develop an alternative to make sure you get past it.

In the right-hand column, fill in the steps to reach your goal if another set of problems occurs after what you have predicted in the middle column. Again, fill in the steps until you reach the goal, and if at any point your pathway starts to be the same as in the middle or left-hand column, then just draw an arrow returning to that step. You may use more than one copy of the worksheet if necessary. Remember to number the worksheets sequentially if you do that.

- Choose the tactics to which you must respond.
- Choose the earliest possible moment in the decision making process.
- Choose only key actors.
- Brainstorm the possible actions without prejudging your own or others' ideas, but then assess them as carefully as if they were other actor's.
- Initially choose only four possible actions, and assess the cost and benefits of each.

**Sample Worksheet 7 Do or Die Moments**

Sample Worksheet 7 Do or Die Moments		
Goal:		
Problem 1	Problem 2	Problem 3
Theresa starts personal relationship ▼		
first meeting is called ▼		
first meeting occurs ▼		
second meeting is called ▼		
second meeting occurs ▼		
Collective position is given during second meeting ▼	Theresa doesn't resign ▼	
	▼Paula convinces Theresa to leave the meeting ▼	▼
	Paul negotiates with the collective ▼	▼
	▼	Paula negotiates with Theresa ▼
		Theresa wants to clear out her desk ▼
		Collective refuses Theresa's request ▼

Once the analysis is complete, choose tactics for their economy and maximum benefit. If that is not apparent, it is possible to develop multiple scenarios for outcomes, depending on how favorable various factors are to the tactic, using Worksheet 8: Tactics and Counter Tactics. Questions to ask in terms of this latest worksheet include: who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Are they economical in terms of personnel, resources? Who is likely to succeed? What arguments are convincing to those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps? For the next phase, start with steps, then actors, then factors, then resources, then actions/tactics, then at last rules for system analysis.

The two columns represent the tactics of two actors. On the left list your tactics, and on the right is another actor with a different goal from yours. The goals need not be contradictory: they need only not be identical. Under the heading Tactics, on the left, list all the actions that move that actor towards the strategic goal chosen.

Under the heading Countervailing Tactics, on the right, list all the actions that move that actor towards the other strategic goal chosen. The tactics and counter tactics do not have to match up, although many of them will. The list on each side needs to be complete, so that it may be useful to use categories of tactics to make sure you are not missing any.

### Worksheet 8. Your Tactics, Other's Tactics

Worksheet 8. Your Tactics, Other's Tactics			
Your Goal: resolve conflict while respecting principles		Others' Goal: get rid of Theresa	
Your Tactics		Their Tactics	
Attend first meeting	→	←	Call first meeting
Attend second meeting	→	←	Have first meeting
Attend third meeting	→	←	Call second meeting
Negotiate with collective	→	←	Have second meeting
Negotiate with Theresa	→	←	Call third meeting
Confront collective about principles	→	←	Have third meeting
Accompany Theresa back to office to clear desk	→	←	State position during second meeting
Give collective personal guarantee	→	←	Negotiate with Paula
Resign	→	←	Decline permission for clearing out desk to Theresa
	→	←	Accept that Theresa can clear her desk
	→	←	Decline to set a policy regarding personal relationships

### Worksheet 9: Core Idea

Coming up with a core idea is often the most difficult part of the exercise, here is a short worksheet that can be completed quickly to stimulate the thinking of the students. This worksheet is designed to force the student to start thinking beyond the rational, linear model that has served him/her so far so well. The goal of the worksheet is to get the process of thinking metaphorically established, and then to give the student some practice. It is deliberately simple to foster and focus thinking with strategy. Not all the metaphors are actually practical or helpful. The point is to produce a number of them so that the student can then develop the capacity to judge which are better or more practical.

In the third column, list the metaphors, images, role models or images that come to your mind that fit the same category. In the fourth column, chose one image or metaphor and work it into a slogan that captures how you want to achieve your goal. Repeat these steps for the other categories. At the bottom of the page is a blank space for you to write in a category of images and metaphors that come to mind during this phase of your thinking. Then list the images or metaphors that come to mind, and then develop a slogan using that metaphor or image.

### Worksheet 9. Core Idea

Worksheet 9. Core Idea			
Category	Suggested Metaphors, Images, Analogies, Role Models	Your Metaphors, Images, Role Models, Analogies	Core Idea
Military	Machine gun, rifle, tank	submarine	Come to port unobserved
Geographical	River, waterfall, creek	Pond	Still waters run deep
Plant	Tree, fern, Venus flytrap	Roots	Root action in principles
Transportation	Bus, golf cart, car	Subway	Get to the point without getting bogged down in traffic
Sports	Caddy, gymnastics, football		
Mechanical	Wrench, Allen key, ratchet	Screw	Screw the collective regarding its own principles
Insects	Mosquito, ant, butterfly	Mosquito	Bother the collective without getting crushed
Animals	Cougar, puma rhinoceros		
Role models	Princess Diana, Donald Trump, Gandhi	Gandhi	Stick principles with love (satyagraha)
Your own Category: counterintelligence	Your own metaphors: infiltrating, turning	spying	Go under cover

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Images or metaphors that come to mind, and then develop a slogan using that metaphor or image. When the worksheet is completed, you will then have several possible core ideas to choose from for your strategy.

## DISCUSSION

The bulk of articles on teaching at the university level in political science, at least, cover for the most part various forms of active pedagogy: case studies, use of films, use of role play simulations. The only other topic explored for more than one article is inclusiveness[22-24]. Many of these teaching methods go considerably beyond what is proposed here. "There are a variety of ways to present the material in a political science class. One that is not often considered is the use of play-acting. Creating a play to present the material is relatively simple as will be demonstrated below." [25] The reason for using such varied exercises is always the same: "Play-acting triggers the students' unconscious and paraconscious in addition to their conscious level thereby easing the reception, understanding and retention of the material." [25]. And some methods are better established than others. "The case method is relatively new to much of political science. Historically, it has been used in business schools and public administration and policy programs... Recently, however, it has emerged as a popular method of instruction for those who teach international relations." [26] Indeed, the same author identifies cases in International relations to be used, as other authors do American state tax regimes [26]. The advantages for case studies are many. It accurately portrays political reality [26]. Students are forced to engage themselves with the content [26]. It prepares students for a standard methodology of the social sciences [26].

Many of the articles advocate the use of particular teaching methods. There are articles on how to use online services and the internet [27-29]. There is an article advocating what is called a worksheet to assist in reading primary sources or real-life documents [30]. Case studies come in for a good deal of attention [31]. The closest to a role play simulation is the analysis of brief field experiences [32]. There are several articles about the use of films and television, plays, songs, and literature [33-34]. Finally, there is an article advocating borrowing methods from other disciplines, which this book does extensively [35].

The present article introduces the reader to the worksheet system. This worksheet system makes a number of requirements of the instructor and the student. First, the instructor must understand and be able to articulate the structure of the analytical framework and be able to break it down into a step-by-step process. The instructor must also be able to increase or decrease the level of his or her own abstract

thinking, and to do so transparently before the class. The instructor should also fill out the worksheet during the time of the class. If the worksheets are being used in more than one application, the instructor must be able to adapt them as necessary. The worksheets must be varied and they also must be varied in level of difficulty and complexity. Students must have the capacity and the willingness to ask questions before the group. They must also not be convinced that they already know everything they need to know.

The learning that is expected of students must be structured, and the worksheet system itself must reflect that structure, or be amended to do so. There must be successive levels of learning, and successive levels of awareness of that learning: i.e. it means that students may start with information provided to the, but that must be followed with an immediate application, then the context of the learning can be broader, and so is the application. Ultimately, there must be an awareness of learning about learning, or a reflection of learning as a reflection on one's practice.

There are limitations in applying worksheet design for higher education. The first and most common, the habitus, the Aristotelian problem of believing what is known is all that can be known. This will make the worksheet system, Socratic as it is, difficult for the most successful students to use. This will also lead to what I have called the scream of dismay, the difficulty of students to adopt a novel method of analysis. One consequence is a bimodal distribution of evaluation of this type of assignment. Another is the lack of staying power of students may lead them to simply quit the course.

## CONCLUSION

The present text will find its place at the heart of these proposals. In addition, it proposes the use of active pedagogy which, while not explicitly discussed in the literature on teaching political science at the university level, is still the the hottest trend in teaching in universities across the disciplines. In this context, active pedagogy means learning that is problem-based or occurs through experience. The choice of active pedagogy in developing the present text is also consistent with the most recent and best-selling monographs on university teaching also focus on the how-to aspects of pedagogy include: Bain's *What the Best College Teachers Do*, McKeachie's *Teaching Tips*, Lang's *On Course*, Barkley's *Student Engagement Techniques*, Ambrose et al.'s *How Learning Works*, Nilson's *Teaching at Its Best*, Hall's *University Teaching*, Biggs and Tang's *Teaching for Quality Learning at University*, and Royse's *Teaching Tips for College and University Instructors* [36].

Newer faculty using this method will not have to prepare lectures to nearly the same extent, and the

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material is already in the textbook. The text also offers a number of one-page exercises the students must work through and hand in for grading, so that each student must purchase his or her own new textbook.

The pedagogy proposed herein are suitable for large enrolment classes, the material already having been used for a class of at least 75 students. they can also be used for a professor working with teaching or grading assistants. For classes between 100 and 300 students, some exercises such as the budget simulation will allow for small group work under the supervision of teaching assistants after the professor gives general information to the whole class. For other, multiple class exercises, such as the election exercise, whole class participation is possible. Assignments to be used in class can be done individually or in small groups, depending on the size of the class and the choice of students. Presentations by students or guests can occur in small groups or to the entire class.

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