

**Report of a visit to Arizona State University's School of Interdisciplinary Studies & the annual Association of Integrative Studies conference, Phoenix (AZ), September 26-30, 2007.**

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**Visit to Arizona State University, its School of Letters and Sciences, previously called the School of Interdisciplinary Studies.**

Wednesday, September 26, 2007.

**Discussion with Kevin Ellsworth (director of the Bachelor of Interdisciplinary Studies program) and Fred Corey (director of the School of Letters and Sciences).**

The ASU is a university which is focussing on Access and Excellence. That means that the university tries to accept many students, and to educate them towards good results. An emancipatory strategy is behind this. Also, many professional degrees will include academic components.

General history of the program:

1969 the program was started; first graduation class in 1979; now a student body of ca. 2300 students, in total ca. 5000 graduates.

The program started because the ASU was organized around majors, which would cause students problems who would like to combine majors, or who would like to do a major without the necessary requirements. Moreover, students demanded new areas to be offered or they would like to combine areas which they felt would help them in their careers. Besides, the IDS is not a part of a liberal arts departments, since IDS was created while there was no liberal arts dept. present at Phoenix. That explains why the SIS can offer so many different concentration areas – more than most other IDS programs. Indeed, the IDS degree can be taken as a university-wide degree.

The program has now about 2300 students, and enables students over 100 concentration areas. That is: they follow a required core curriculum in IDS (interdisciplinary studies) consisting of 4 courses at different levels and choose apart from that two concentration areas, offered by the different departments of ASU. Students are not required to finish their studies with a thesis.

Since the ASU is organized at 4 different campuses (large –main- Phoenix campus, Tempe, Polytechnic and Western campuses), where the core curriculum is offered. Although there had to be made some accommodations to the direct context of the program, since departments do not always accept the SIS to teach similar courses next to those offered by the departments.

The program grew faster than thought. Therefore the SIS needed to attract many new faculty, who had to develop their own IDS teaching and the theory behind it. Now there are 11 full time core faculty at the SIS. Faculty from other depts. often get not paid for their instruction hours for the SIS: goodwill is fundamental. Unfortunately, ASU could not maintain team-taught classes because lack of funding.

Most of the faculty come from social sciences, although many students choose Business or a Life science as a concentration area.

Besides, there are 7 academic advisors at the SIS. They will see students in their first year at SIS. Many students always have 1 or 2 years of studies at other depts. behind them, before they discover that they want to do IDS. They will study ca. 3 years before completing the IDS.

The core curriculum consists of 4 courses:

- Introduction to IDS
- Interdisciplinary Inquiry: research methods, quantitative and qualitative, etc.
- Applied class: including an internship where students have to organize these themselves and they are required to combine their 2 concentration areas in this work. Students can also come up with an individual topic and get only marginal supervision.
- Senior/capstone seminar: as a large group they will together investigate a topic chosen by the faculty. 25 students will each bring their expertise to this topic.

Nearly half of the students select ‘business’ as a concentration area. But the Business school will not allow these students to sit in their classes so the SIS has to offer them a separate program. Perhaps this is also a symptom of the fact that, generally, in the US disciplinary studies are valued more than IDS, and most professors are not very fond of IDS programs & students – although often interdisciplinarity is used as advertising word etc. However, students also often value disciplinary degrees more than an IDS degree.

There are some Study abroad programs, sending out students to English speaking areas like London, South Africa, Belize, Australia and also Geneva. They will do some research there. There is no special funding for it and it is quite expensive. Parents will, if they can, support their children to do so, since they often consider it a safe way to get some travel experience through a university program as part of a separation process. Therefore: language, timing and safety are important criteria for the success of such programs.

The SIS offers homecoming activities, also for alumni.

There is a new program for top notch high-school students: they can finish high school while already taking part in the university program and dormitory.

### **Class seminar, teacher David Thomas, PhD.**

The class consists of ca. 20 students. They just formed small IDS groups and will conduct a research project. The groups are heterogeneous over several parameters: concentration areas, gender, group role, etc. Apart from the project, each group is responsible for teaching 2 classes and 1 group activity.

Before forming the groups, each individual student has received –after filling in forms- a ‘Team Dimension Profile 2.0’, which is a personal profile. In this report, the student is judged according to different team roles: creator, advancer, refiner, executor, flexer. (see

[http://www.internalchange.com/disc\\_profile\\_store/mall/teams\\_online.asp](http://www.internalchange.com/disc_profile_store/mall/teams_online.asp) for some info.) These roles have been explained and it has been shown how a group process gains from these different roles and their respective strengths & weaknesses.

The syllabus for this project contains a.o. a creativity journal, assignments, web based portfolio, readings, exercises, etc.

The activity for this particular class is playing a particular game: cards are divided among the group members, containing limited and specific information. Together, the members should solve a puzzle, without showing their cards. After solving the puzzle, each group may enlist themselves for the obligatory tasks: first come, first serve.

After each group has solved the puzzle (our group of 5 teachers from 3 different universities was last!) Thomas discussed some questions, which relate the puzzle to IDS research, to former classes, to some ideas of the texts and which help to clarify the process followed by the group. Clearly, each group took a different approach, had different roles within the group, made different schemas to represent the information on the cards, etc. It turned out to be critical to first identify the goal of the puzzle, to integrate the different bits of information and to use processes like elimination, gridding a.o. in order to deal with these bits of information.

### **Discussion with Scott Thorpe, academic advisor of SIS.**

At all 4 campuses of ASU, the SIS has an academic advisor. Each student, once started, has to meet an advisor. Every student needs to do an on-line assignment before the first appointment: BIS Cyber workshop. The first hour is mainly informative, although already the 2 concentration areas are being discussed. There is no previous approval needed for these, though. If you fail a class twice, you have to choose a different concentration area. If a student wants a particular program, the related department has to approve. The approval of the supervising professor alone will not suffice.

Other departments may also consult the SIS advisor, if a student has difficulties with a particular class, etc. Tailor made solutions are in order, then.

ASU does not give credit for previous experience learning although they accept some credit for military service.

5-10% of the students are non-traditional (often elderly/adults) although there is no special offer for them. Some classes are on-line, or offered in the evening or on Saturday.

The 401 class internship demands also a lot of advising. There is an online database of organisations etc., but with ca. 300 students per semester, matching takes time. For

this, reflective assignments are part of the procedure, as are classes for groups of interns.

## **AIS Conference 2007: September 27-30.**

### **Interdisciplinary Forecasting (Jessica Hirshorn, Arizona S U)**

IDS problem solving can incorporate issues of future studies. In these, visualization is an important factor. Visualizing may be done while using different 'lenses', like a fear-lens or optimistic lens.

Future research has 5 basic components:

- 1) Identify change - locate the source of change, evaluate its likelihood, growth, speed etc. You can use an environmental scan (of selected media sources) to do this.
- 2) 2) Examine the implications and impact of the change. You can use a mind map or network of implications with the identified change as a centre. ('future's wheel', cf. W.L. Schultz, (2002))
- 3) Create alternative images of the future – use metaphor, analogies, theory borrowing, etc.
- 4) Create images or visions of a preferred future: determine and describe this.
- 5) Create an action plan to achieve the preferred future: put this future in the centre and describe for many aspects what steps have to be taken from 'now' to this preferred future.

This procedure is similar to general strategic planning or... to IDS problem solving.

### **The College Crucible: Mixing up the Disciplines (Kenneth Kuzmich, Mitchell college)**

In developing a Global studies program, religion was used as an interdisciplinary subject matter.

Motivation of students is often about success, wealth, competitiveness, etc.

Considering the risk of failing such aims, education needs to foster self reflection as well. Therefore, even vocational training should be made to include elements of liberal arts studies, since these provide a basis for reflection on the past and on the future – instead of contrasting vocational studies against liberal arts. Besides teamwork, cross-cultural experiences etc. can be enhanced with these studies.

### **Borders and Boundaries: Challenges in Cultivating Ethical Citizenship. (Konz, Butler, Campbell; U N Carolina, Asheville)**

Within the university, boundaries can be seen as necessary contours of disciplines that ensure intellectual quality and are intentionally respected. Borders, on the contrary, function as traditional lines of separation that are limited and even obsolete and can intentionally be transcended or dissolved.

The presenters co-designed and co-taught a senior colloquium, aiming at integration instead of 'multiperspectivalism': 'Cultural Citizenship in the Contemporary World.' This colloquium is ideally followed in the final semester, it incorporates elements of the entire curriculum, is intentionally integrative and framed by both Western and Eastern ethical traditions.

The course outline includes concepts of citizenship, varieties of ethics, global and environmental concerns, economical issues and ethics, national and global

governance studies. Focus is always on the role and operation of disciplinary differences as boundaries as well as borders. For instance, the a-historical and anti-empirical ethos of analytical philosophy is being discussed as well as its individualistic bias – both are clarified in discussion with non-western ethics; and vice versa.

Borders that are discussed are a.o. the alleged separation of science from ethics, of expert versus lay knowledge, the tension between local and global impact, the insider-outsider difference, etc. Task for teachers is to resist easy binaries and to show how e.g. overlapping consensus, realistic hopes, collective action and new forms of interaction may bridge the binaries.

Apart from plenary lectures, the students will function in separate groups with one teacher. They will individually prepare a paper.

### **Integrating Science, Religion and Psychology (Linn Mackey, Appalachian S U)**

With Mary Coelho's book 'Awakening Universe, Emerging Personhood' as a central text, a relation between the three domains science, religion and psychology was discussed. The author, a successful scientist, describes how a profound religious experience she had questioned both her work as a scientist and raised questions about the psychology of mystic experience. Leaning heavily on the work of physicist David Bohm, cosmology, complexity science, science of self-organisation and encountering mystical traditions, she aims to describe a possible unity and for this creates a new integrative terminology. Discussion of the book and related texts can help to reflect on the possibilities and difficulties for such integrative enterprises.

### **Reclaiming Metaphors in Scientific Narratives: Images in Embryonic Stem Cell Research. (Th. Flynn, U Washington)**

Science and Christianity can be taken as two grand narratives. These in turn allow for different perspectives on an issue like stem cell research. These different narratives use also different archetypical images to portray research in general, and stem cell research in particular. Authors like Bruno Latour or Donna Haraway help to uncover images of salvation, modernity, success etc. that can be found in both domains. As an extra exercise, a student can be required to create a story about a stem cell procedure, like a narrative, including a good and bad element, sin, two persons, fertilization, etc.

### **The Metaphysics of King Lear, Scientific Narratives and Self-Justification (Thomas Sorger, Roger Williams University)**

Literature can be used to locate assumptions and the emergence of topics that are relevant for science. In Shakespeare we can find such elements, especially in King Lear which includes a discussion of the tides and in which elements of both an Aristotelian and a modern (Newtonian) physics can be traced. The concept of time plays a role, as well as the discussion of an absolute or relative frame of time/space. Action in distance was a discussed topic as well, since Kepler and later Newton invoked it, notwithstanding their troubles with it. However, stories

of imagination clearly are present both in literature and in science as well – just like Newton discussed relevant topics not only in his physicist works but also in his theological works.

In *Lear*, we witness Edmund and Gloucester discuss cosmological issues, like in their different opinions on the microcosmos-macrocosmos relations. These are relevant for the possibilities for an individual to engage or initiate action instead of being merely predestined to social customs and actions under cosmic influences.

The notion of form as well is discussed, in relation to the ‘form of the King’ – is it mere appearance?

Shakespeare seems to create a circular image of time that suggests there is not really linear time nor human intervention possible. It is worth knowing that around that period, Britain saw a rise in commercial agriculture, where individuals were trying to take opportunities. Edmund takes the more modern position, even visible in his many asides to the audience.

### **From Mirror-Neurons to Hermeneutics: in Search for Mutual Clarification (Machiel Keestra, University of Amsterdam, the Netherlands)**

The neuroscientific literature on mirror-neurons tends to emphasize the important role of these neurons for communication, understanding and even empathy in a.o. primates and humans. As such, these neurons appear to be involved in those intersubjective activities that are the subject of hermeneutics as well: hermeneutics being the systematic approach to understanding and interpreting the expressions and behaviours of other subjects – especially human subjects. However, apart from such a superficial observation –both mirror neurons and hermeneutics deal with understanding- it is not clear how our knowledge of both fields can be made to bear fruit for each other, can be integrated.

A simple approach is to explain understanding as a process that goes bottom-up: starting from allegedly simple ‘mirroring’ (which can be observed in social contagion processes in yawning, body posture, etc.), the network of associated brain activities and stored memories gets more complicated over time, as are the kinds of relations or events that humans are able to understand. Not surprisingly, however, both everyday experience and research shows that there are many top-down influences as well – even in youngsters and animals. These show that higher level reasoning, contextual features, experiences etc. influence the activity of mirror systems in the brain.

Apparently, modulations of these mirror systems are dependent on both ‘lower’ and ‘higher’ processes in the brain.

More importantly, in such a complex process, there are conditions involved of totally different kinds: neurological, linguistic, socio-cultural, etcetera. What is required, therefore, is an approach that truly integrates both the neuroscientific and the hermeneutical conditions of understanding. Although the three levels proposed by the influential neuroscientist David Marr (1982: what & why? – which representation & method? – what components & properties?) can be taken as a lead, the relative independency of these levels seems not fruitful. So mirror neurons should not simply be taken as the components of a hermeneutic function of which we may ask ‘what & why?’ Instead, we should look for an integrative picture that will lead to a multi-level approach to understanding, where each level will impose some constraints on the

process as a whole. This means for instance, that indeed mirroring is not an unconditional or unconstrained activity – fortunately, since otherwise we e.g. always would feel empathy for every single person that we observe. On the other hand, it would perhaps enable us to explain why in fact there appear to be some limitations on the possible understanding and interpretation as proposed by hermeneutical approaches.

Such an approach receives some extra plausibility if we take into account the co-development of our brain together with the development of language and culture. This co-development may have used perhaps mirroring as a kind of scaffolding. Like in many evolutionary processes, such a scaffolding can help to establish other adaptations or properties, after which the earlier developed scaffolding loses some of its earlier importance. Mirroring and hermeneutics may perhaps be considered components and stages in such a process.

Thus, an interdisciplinary approach to understanding and interpretation should lead to a complex and dynamic description and explanation which indeed includes the results of different fields – although not just by adding these to each other but really integrating them.

### **Knowledge at the Border between Speaking and Writing (Whitaker & Clark, Georgia College & State U)**

In many IDS programs speaking and writing skills are being fostered. However, seldom they are discussed as topics in themselves. In this course, ancient and modern rhetoric's are placed central.

This included introduction to ancient rhetoric's, focusing on the relation between rhetoric and democracy, the 5-point structure of a speech, Aristotelian distinction logos-pathos-ethos, and persuasion as the goal of speech.

Then shifting to present times, rhetorical analyses of political and cultural discourses are being conducted. Rhetoric as a vehicle for democracy is analysed, in which character, choice and consensus play a role. Overall, rhetoric is being considered as more than just a handy tool.

### **A Place for Transdisciplinarity (Doug Cremer, Woodbury University)**

The School of Arts and Sciences at Woodbury was some years ago a school in crisis, with not enough students etc. Previously, it provided the General Education of the university. After having investigated several other institutes for liberal arts around the country, the school was changed to an Institute of Transdisciplinary Studies (cf. <http://www.woodbury.edu/s/131/index.aspx?sid=131&gid=1&pgid=1374&sparam=transdisciplinary&scontid=608> ). Behind the institute are motives concerning the role of learning, integrity and public trust in professionals and academics and economic & socio-cultural mobility. Professional education in disciplines as architecture, business and design has its own particular 'ethos', which need to be fostered. For this, it seemed that not just interdisciplinary but real trans-disciplinary skills were needed, in which borders are crossed - not just between disciplines but also between the spheres of the personal and the professional, a.o. Transdisciplinarity offers an environment and process, is not a discipline in itself, of course. The newly established institute is able to offer contributions to the departments of the university as well as to students.



Often, the Institute functions as an 'incubator' where new initiatives can develop and flourish, after which they are taken in by a particular department where it seems fit. Several other institutes of the university now follow this process as an example.

### **An Interdisciplinary Examination of Quality Improvement in Education. (J. Morrison, U Oklahoma)**

The U Oklahoma observed a low –and even worsening- graduation rate for Hispanic students: 12 -> 8%! The question was, whether these figures could help to articulate the quality of the program, since many students arrived poorly prepared for study. Besides, quality in education crosses many disciplinary boundaries and intergenerational differences, etc.

Using Bill Newell's model of integrating disciplinary perspectives, we tried to articulate the assumptions of the variable 'access' as it holds differently in different disciplines. Moreover, attention was paid to different barriers or constraints that can play a role for students with respect to their entrance in the university: these can be economic, physical, educational, etc. in character. The ensuing Academic Quality Improvement Program –an accreditation model and organization:

[http://www.aqip.org/index.php?option=com\\_frontpage&Itemid=115](http://www.aqip.org/index.php?option=com_frontpage&Itemid=115) - was established that recognized various subsystems and processes within the university that should be involved. These all had to reformulate their goals such that they also applied to the non-standard population of the university, including new measures of effectiveness, access, behaviour modification etc.

In sum, quality in education is hard to recognize but even harder to measure since it often is idiosyncratic, context-bound and an emerging factor (even post-university).

### **Guide table with Roz Schindler about organizing an AIS/Interdisciplinary conference.**

On the AIS website many reports and guidelines on previous conferences can be found: <http://www.units.muohio.edu/aisorg/conf/conf.html>

Important is timing: you need time to get physical, organisational and financial commitments from your unit and university. Costs –apart from the conferences fees- will amount to ca. \$ 9.000. It is wise to have a committee of ca. 20 persons involved, which can be organized around designated committees and of course one director should supervise all.

Coordination with the AIS board is wise and goes via Roz Schindler. Next board meeting is March 2008, which would be the time for an informal proposal (letter indicating interest; adequacy of the institution to benefit from the conference; indication of the subvention from your institute –as a safety cushion).

Exchange your information with like-minded organizations and benefit from each other's membership. Around 50% of the AIS conference attendees are first-timers! You need to identify a host hotel, that can host the guests as well as the conference meetings – including a back up hotel if more attendees enrol than expected.

A conference theme is needed: realize that such a theme may attract another population as well. Similarly, a joint conference with another organization may be attractive.

Put at an early stage a note on your website as a start for connecting to people and building a list of those interested. General queries to approach these interested people may help as well. For US academics half May-June is a good time, as well as the Spring break (~mid March).

### **Permeating the Invisible Border: Integrating the Academy and the Community (Loras College)**

At Loras College – a small catholic liberal arts college- we established a program of experiential learning which focussed at the ‘working poor’. In developing the program contacts were established with community members that were involved with this group. A monthly program of common reading and discussing helped to prepare topics, get ideas for speakers –including those that could tell ‘real life stories’-, design a program for doing a ‘poor family simulation’ (including budgets, events, scenario writing, etc.), connecting to families and community agencies, etc.

The framework was taken from a Transformational Model that has as a goal to reach truly transformative partnerships: long-term, interdependent, mutual transformative relations instead of short-term relations that are driven by utilitarian purposes.

This led to programs where students would not only study ‘Care’ from different angles but were also involved in caring for an elderly person e.g., but also to programs which included local, active community members as partners. Of course, it took time to explicate the different ‘languages’ and agendas of various agencies and groups and to bridge these. Respect for other groups and persons is crucial in this. Generally, the willingness and interest of other groups and agencies to bring their experience and expertise to the classroom was great and led to continuous collaboration. For most of these, it turned out that this program offered them a unique opportunity to reflect on their own activities and goals, outside a direct strategic or practical context.

The establishment of a broad advisory board is a fruitful step for such a program, whereas rotation of members is important in order to forestall private or disciplinary (hidden) agendas.

### **Integrative Pedagogy for Creative Problem Solving: transforming a social problems course. (Laura O’Toole, Reanoke College)**

In the wake of new strategic plans for the small liberal arts college, which impacted also the General education courses, we put integrative learning in the centre. This implied as well, integrating various kinds of learning, including visual, experiential, community based learning, with critical thinking and writing, creative problem solving, praxis learning.

The existing course was therefore redesigned, which changed it into a departmental honors class. Students had now to write essays, to conduct a journal, to make a Saturday field trip and do a final group project. They could also use political cartoons, make a collage, do a case study, etc. Many students found it very useful to write their journal. Several groups were later active at a neighbouring community centre or worked for a home for the homeless, etc.

The group followed a ‘Conflict transformation tools’ workshop, which focused on taken-for-granted cultural perceptions and involved active learning via exercises and

role plays as well as reflective listening. The field trip included observation but also participation and some interview – after which a small presentation had to be done by the groups. The field trip was made to a small community that practices an alternative lifestyle and aims of the community.

### **Teaching Integrative Thinking (David Thomas, Arizona State University)**

Integration means something different for most students who will not pursue graduate studies etc. For them, there is no discipline of interdisciplinarity, but other issues appear. Therefore, it is important to let students troubleshoot their own learning behaviour. In my class, I used Prochaska's stages of change (for addiction behaviour). Begin with discussing the expectations of students coming to an IDS or integrative class. Why integrate at all; what is it; it is a process or model or outcome? What kinds of experiences did they have before and –importantly- will they have after graduation?

Different modes of organization occur on the workplace, which ask for different modes of integrative thinking. In general, environmental factors like team composition and characteristics, and the integrative strategies & team skills play a role along with each individual's characteristics. Motivation issues play a role in such teams as well. These are related to team characteristics as mutual respect and trust, complementary knowledge and skills, shared vision & values, communication skills. Intra-personal and interpersonal strategies & skills contribute to integrative thinking, which follow a process model: why (identifying core values) – what (developing vision) – from where (assessing current reality) – how (planning, evaluating). Prochaska's stages of change model is also helpful: precontemplation, contemplation, preparation, action and maintenance.

For each stage, it is useful to use various resources in class, like books, games, etc.

### **Loving the Bomb: a Literature/Philosophy Learning Community on Cold War America (Dinkins & Neighbors, Wofford College)**

Wofford College offers to their students in the fall different learning communities: small (~17) groups, co-taught by two teachers from different departments, credits for two different courses – in this case for philosophy and for English. Typical activities for such learning communities are discussion of various media and topics, collaborative learning, creative project, special events. Literature and philosophy texts are read alongside each other.

As a paper assignment, a short persuasive speech was asked (“You are a cold war Crito in the US and your friend Socratsky has been tried and convicted. Write a letter to his friends to explain why Socratsky is willing to receive the capital punishment.”). The creative assignment was a.o. the draw a 1950's comic or cartoon. There were online discussions among students and with the teachers.

The fact that the two disciplines contributed on equal footing on all topics and continuously led to a stronger integration than expected by even the teachers: they had to reconsider many of their original texts and readings in light of the collaboration – even after the ca. three weeks of full time preparation during the summer.

For more information on this learning community, check:

[http://webs.wofford.edu/dinkinscs/Cold\\_War\\_LC/index.htm](http://webs.wofford.edu/dinkinscs/Cold_War_LC/index.htm)

### **Who are these students? Christine Drewel and Susan Mendoza-Jones**

Who are these students? Christine Drewel and Susan Mendoza-Jones used the generation theory as developed in the thirties by Karl Mannheim to identify some characteristics of the present students, millennials, as they called them. Being used to multiple sources of information and using all kinds of different devices to get in touch with facts and discussions about the world around them, making life both easier and more complex at the same time, the nine/eleven made for an event which sets them apart from earlier generations. There is a pervasive feeling of threat, which makes safety a very important thing.

### **Candice Biggs and colleagues, Fear and the Cold War**

Another workshop explicitly dealt with the subject of fear, as related to the Cold War. Candice Biggs and colleagues developed a case study approach, using it as a method to integrate disciplinary perspectives to allow a fuller and more complex understanding of the issues relating to the Cold War of the 1950s. Interviewing, reading, the writing of an interdisciplinary essay and the use of film and cartoons made their course exciting and challenging for the students. The way in which humanities and social sciences were seen as different angles I found particularly engaging.

### **Dave Wells, Illegal immigrants as a case**

The same case study method was used by Dave Wells to explore together with students the case of illegal immigration. Using all kinds of sources - Senate reports, newspaper clippings, scientific journals, it was soon clear that a social problem can and should be understood by using different disciplinary angles. The workshop at the conference was a replica of a real meeting with students, with participants in the conference trying hard to define the problems and find solutions. I noted that fear was an important undertow in this project about illegal immigration as well.

### **Gretchen Schultz and Creativity**

But not everything in the conference was subconsciously related to fear. Gretchen Schultz from Emory University showed that even after forty years of teaching, renewal and a fresh approach to classes was possible. She showed how one could use creativity and the crossing of disciplinary borders in classes as different as English, math or science.

### **Melanie Szulcewiski and the use of film**

Melanie Szulcewiski showed how films can capture students attention and can focus them on new ways of seeing. You tube is a huge treasury of images that can be used

to illuminate problems like gen technique - there is satiric film on killer tomatoes which make it clear in a new way how people relate to technological possibilities. By laughing about exaggerated stories, it is possible to see the fear underneath and to analyse reactions to genetic manipulation in the real world. Just around the corner of the hotel in which the conference took place there was a huge health food store, as if to prove the point.