

Overview

An important strategy for addressing hate speech is to work with youth to develop and apply critical thinking skills to the social media platforms that they engage with every day. By equipping young people with the skills to recognize propaganda and manipulation techniques they will become better positioned to evaluate arguments and engage in meaningful discussions. Based on the insights of college and university teachers who have used www.newsactivist.com to this end, the following **exercises, rubrics and examples of interventions** provide **concrete strategies to develop the critical thinking skills** of students through online discussions. The integrated comment boxes are meant to encourage feedback and an exchange of ideas and resources between teachers who share this commitment.

Learning Objectives

- To recognize errors in reasoning, propaganda and manipulation techniques as presented in social media
- To assess the credibility of online sources
- To apply critical thinking skills in online discussions on social and political issues by engaging in systematic questioning and ongoing reflection

Duration

The following guidelines are meant to be flexible and adaptable to a variety of learning settings. Although teachers/facilitators are encouraged to tailor content based on their contexts, the sequencing of the units should be maintained. Ideally, learners should be able to commit to two hours a week to complete readings and exercises over a period of about six weeks.

Introduction

Why use an online discussion forum to develop critical thinking skills? An online platform:

- Allows time for reflection before engaging in discussion
- Helps place the emphasis on arguments instead of individuals
- Can emulate the discussions that occur on social media, thus facilitating the transfer of critical thinking skills to social networks
- Allows teachers and students to see and evaluate how a discussion has evolved
- Can be used to develop digital literacy and citizenship skills

In addition, there are many platforms that are specifically designed to link students and classrooms from around the world, thus exposing students to a *wide range of perspectives and ideas*.

STRATEGIES FOR USING ONLINE DISCUSSION FORUMS TO DEVELOP CRITICAL THINKING SKILLS

1. Take the time to introduce the platform to your students.

Teachers who have attempted to integrate online discussion forums insist that first and foremost you need to realize that students are not necessarily as tech savvy as you might expect. It is thus imperative to take the time to go through the selected platform. An introductory assignment (**appendix 1**) that requires registering and exploring the site can help address any technical challenges or navigation issues before participating in discussions. Having students take the time to look through discussion threads and identify what works well is a good strategy for having them think about how to share ideas online.

Reflection: What platforms have you tried? What works well?

2. Have students establish norms of online communication.

Creating an online space where students feel comfortable debating ideas requires that students respect certain rules. Developing these rules can be seen as a strategy for developing critical thinking and digital citizenship skills in and of itself.

EXAMPLE OF EXERCISE TO DEVELOP NORMS OF COMMUNICATION:

Ask students to reflect on, write about or discuss the following questions:

1. How do you think online dialogue might differ from classroom discussion? In your opinion, what might be some advantages or disadvantages?
2. What do you need from yourself and the group to participate effectively in dialogue? In other words, what would help you feel more comfortable sharing your thoughts and experiences as well as reading those of other students that you might find challenging or unsettling?

In small groups, have students come up with three “Norms of Communication” that would help address any of these concerns.

EXAMPLES:

- never comment on language, spelling, grammar*
- always address the argument, not the individual
- start with something positive before providing a critique

* This is essential when dealing with second-language learners

Norms of communication may include how to convey emotion. Some guidelines may advocate, for example, the use of particular symbols/emoticons and/or may ban the of writing posts in capital letters.

Once the Norms are agreed upon, students commit to following them. When choosing an online discussion space the ability to flag comments that do not follow the Norms and/or are deemed inappropriate is recommended. Flagged comments should not be viewed as problems so much as opportunities to deepen a discussion. Presenting a controversial comment to the class and asking them to discuss whether it should be removed can transition into broader discussions around bullying, freedom of expression and digital citizenship.

Reflection: Do you think there should be norms of communication? What kinds of rules or symbols have your students come up with?

3. Before engaging in discussion, introduce students to the skills needed to evaluate arguments and online sources.

Critical thinking consists of the skilled and systematic questioning and analysis of information and argumentation.¹ These questions address the legitimacy of the source, the structure of the argument as well as the evidence provided. Having students learn about and identify common errors in reasoning (**appendix 2**), for example, prepares them to recognize weak and manipulative arguments.

EXAMPLES OF EXERCISES TO INTRODUCE CRITICAL THINKING SKILLS:

Exercise 1:

Read:

1. Crap Detection 101

<http://blog.sfgate.com/rheingold/2009/06/30/crap-detection-101/>

2. Assessing the Credibility of Online Sources

<http://www.webcredible.com/blog-reports/web-credibility/assessing-credibility-online-sources.shtml>

Answer:

- a) According to the reading, what is “crap”?
- b) What are key questions that you need to keep in mind when evaluating sites?
- c) Evaluate the site <http://www.martinlutherking.org> according to the guidelines from your readings

Exercise 2:

- a) Read the handout on fallacies (appendix 2)
- b) Choose a social media site and identify three fallacies

¹ Alec Fisher and David Scriven. *Critical Thinking: Its Definition and Assessment* (England: Centre for Research in Critical Thinking , 1997), 21.

Reflection: How do you introduce critical thinking skills to your students? Do you have any sites or strategies to suggest?

4. As much as possible, let students determine the topics of discussion.

In order to maintain student motivation it is recommended that students have the opportunity to select their own topics. This may be done by directing students to news sites and then having them vote on the topics they would like to discuss. There are a variety of free web-based polling tools

(<http://www.freotech4teachers.com/2012/02/11-web-based-polling-and-survey-tools.html#.VUEa4IZ-E3R>) that you can use to this end.

Reflection: What types of topics do your students choose? How did they go about choosing them?

5. Provide clear expectations regarding student interactions and grading.

As many teachers report, participation in discussion on and off-line does not necessarily improve critical thinking skills. You need to work towards the development of higher order thinking skills...but how?

First, research shows that unless online discussions are graded they are unlikely to be taken seriously by students.

Second, you need to provide clear expectations for the type of interaction that you are expecting. This can include providing a framework for the assessment of the quality of participation (**appendix 3**).

EXAMPLE OF STRATEGY TO SCAFFOLD CRITICAL THINKING SKILLS ONLINE:

Ask students to label their comments as follows:

- Discuss to comprehend: means that a students' comment serves to interpret, elaborate or make connections to prior learning
- Discuss to critique: involves carefully examining people's views in order to build on or add new insights or challenge ideas
- Discuss to construct knowledge: requires negotiating meanings, comparing and contrasting views, raising questions and sometimes revising thinking
- Discuss to share improved understanding: synthesizes personal learning and expresses improved understanding based on review of discussion thread

In order to encourage ongoing interaction you can include in your assignment's (appendix 4) description the expectation that students comment on each other's posts and actively pursue posts that have not yet been commented on. You may also require that all posts should end with a question in an effort to keep the conversation going.

6. Provide clear guidelines regarding your role.

You should also provide a clear description of your role in online discussion. Given that students cannot see you they may wonder whether you are reading their posts at all. Many teachers report being uncertain about their own role in these discussions. Although there are many ways that you may decide to be involved, a clear description of your role will help you and your students know what to expect.

EXAMPLE OF DESCRIPTION OF TEACHER'S ROLE IN ONLINE FORUM:

- You can expect that I will be reading ALL posts but will not be responding to each post individually. Instead, I will be sharing information, making comments and asking questions that are directed at the class rather than the individuals.
- At the "end" of each conversation, I will be posting a summary of the conversation.
- Using the provided rubric, I will be entering grades for your message board contributions at mid-semester and then again at the end of the semester.

7. Ask probing questions.

Although there is much debate on this topic, it is generally recognized that teachers should make their presence known.² Without taking control of the conversation, it is important to maintain the development of higher order thinking skills by modeling what you expect from your students and intervening when needed. As a moderator, you can post questions to help your students advance their thinking, individually and as a group.

EXAMPLES OF QUESTIONS TO FURTHER DISCUSSION	
Learning Purpose	Socratic Questions
Clarifying Explanations	What do you mean by....? Provide an additional example of.... How does this compare and/or contrast to....? What are the potential advantages and disadvantages of...?
Questioning Assumptions	What other explanations might account for this? What are the assumptions behind this statement?
Exploring Additional Evidence	How can we find out more about this topic? How does this connect to the concepts we've discussed previously? What additional evidence can you find to support or refute this idea?
Multiple Perspectives	What would someone who disagrees say? What are the cultural implications?

² George Collison, Bonnie Elbaum, Sarah Haavind and Robert Tinker, *Facilitating Online Learning: Effective Strategies for Moderators* (Madison WI: Atwood Publishing, 2000).

Real World Implications	What are potential consequences or implications of this? Provide a real world example of....
Self-Reflective Processes	Why should this issue matter? What is the importance of learning about this issue? What other questions do you now want to explore?

Reflection: How are you involved in online discussions? What are strategies would you suggest?

8. Conclude by reflecting on the process.

Meta-cognitive skills can be nurtured through a concluding assignment that has students reflect on their participation and the evolution of their thinking. You can ask students to analyze and point out what discussions appeared to be most effective and why. Students can also conduct an analysis of their own online networks to consider the extent to which the participants appear to apply critical thinking skills.

CONCLUSION

Finally, learning to critically navigate and engage in discussion through social media is quickly becoming an essential civic skill. Developing the capacity to engage in thoughtful discussions on social and political issues online will help students circumvent hate-based dialogue and diffuse conflict in an effort to work towards greater tolerance and understanding.

Reflection: What guidelines and/or resources can you share about critical thinking and online discussion forums?

Bibliography

- Byrne, David. Tuesday, February 28, 2012, "Free Technology for Teachers," <http://www.freetech4teachers.com/2012/02/11-web-based-polling-and-survey-tools.html#.VUEa4IZ-E3R>
- Collison, George., Bonnie Elbaum, Sarah Haavind and Robert Tinker. *Facilitating Online Learning: Effective Strategies for Moderators*. Madison WI: Atwood Publishing, 2000.
- Fisher, Alec., and David Scriven. *Critical Thinking: Its Definition and Assessment*. England: Centre for Research in Critical Thinking, 1997.
- Gao, Fei., Charles X. Wang and Yanling Sun, "A New Model of Productive Online Discussion and Its Implications for Research and Instruction," *Journal of Educational Technology Development and Exchange* 2 (2009): 70-73.
- Harrington, Christine,. and Maya Aloni, "Promoting Critical Thinking through Online Discussion: Developing Questions and Managing Conversations." Paper presented at Lilly Conference on College and University Teaching, Middlesex County College New Jersey, June 1,2013.
- Nandi, Dip., Shanton Chang and Sandrine Balbo, "A Conceptual Framework for Assessing Interaction Quality in Online Discussion Forums." Paper presented at Ascilite, Auckland, 2009.
- Porter, Cherri. "Fallacies Handout". <http://www.cherriporter.com/docs/fallacy%20handout.pdf>
- Rheingold, Howard. June 30, 2009, "Crap Detection 101," <http://blog.sfgate.com/rheingold/2009/06/30/crap-detection-101/>
- Webb, Philip. "Assessing the Credibility of Online Sources," <http://www.webcredible.com/blog-reports/web-credibility/assessing-credibility-online-sources.shtml>
- Zuniga, Ximena. "Dialogue: Social Issues in Intergroup Dialogue- Exploring Social/Cultural Differences and Common Ground." Course outline. <http://people.umass.edu/educ202-xzuniga/Educ202%202014%20-%20Section%204%20Race%20Ethnicity%20&%20Gender%20Dialogue.pdf>

APPENDIX 1: Example of Introductory Assignment

Throughout the semester you will engage in online discussions through a platform called NewsActivist. Through the use of this site you will be able to present, reflect on and defend your positions on the social and political issues of your choosing. You will also be asked to respond to and engage with the ideas of other student users of the site. The purpose of the following assignment is to introduce you to the site by having you register as well as read through the posts and comments of other students.

DIRECTIONS

1. Register for NewsActivist

- Go to the site www.NewsActivist.com and click on “Register”
- Your class is called “XXXX”
- Follow the instructions in your e-mail account and wait for my approval (this may take up to 24 hours)

Once I have confirmed your membership you will have full access to the site.

** when you register make sure that you click the box indicating that you would like to be notified when people comment on your posts.*

2. Browse through **Featured Student Writing** on the Home Page and look for articles under a category that interests you. After you have spent some time exploring the site answer the following questions:

- In your opinion, what are two features of a strong post? Provide examples.
- In your opinion, what are two features of a weak post? Provide examples.

APPENDIX 2: Examples of Fallacies

Cherri Porter. "Handout on Fallacies" <http://www.cherriporter.com/docs/fallacy%20handout.pdf>

Writers make appeals (ethos, pathos, logos, mythos) to sway—to persuade—a specific audience of a particular claim. Solid arguments (that withstand investigative, critical thinking) include a balance of appropriate and truthful appeals. Fallacies are appeals that do not stand up to investigation, that in some way stretch or step beyond the bounds of accuracy and relevancy, or that create a break or weakness in reasoning. A writer creates a fallacy in any number of ways, including crafty wording, inaccurate comparisons, and reliance on audience emotion and assumption. Sometimes we're unaware of our own fallacious rhetoric; sometimes we use it on purpose.

A writer often has more than one purpose in the construction of a text, and the explicit purpose might be different than the implicit purpose. When this is the case, fallacies can be effective means of persuasion. We've all fallen for fallacies, and politicians and advertisers hope we keep doing so. One (of many) reasons we fall for fallacies is that we often have a belief without understanding the why and the how of that belief. Fallacies of all kinds manipulate this dynamic.

There are many ways to categorize fallacies (like these at www.onegoodmove.org/fallacy/toc.htm or these at www.fallacyfiles.org/taxonomy.html), though this handout is organized by appeal, many of the fallacies exist under the umbrella of more than one appeal. Many of the following examples are taken from a variety of online sources.

Fallacies of Ethos

1. **False Authority** asks audiences to agree with an assertion based simply on the character or the authority of an author or institution—or one that may not be fully qualified to offer that assertion.

E.g. *Is a panel of middle-aged men (at least one of whom has taken a vow of celibacy) a reasonable authority to make recommendations about women's health and reproduction?*

2. **Using Authority Instead of Evidence** occurs when someone offers personal authority as proof.

E.g. *Trust me – your mother wouldn't do that, so you shouldn't. Or, when someone succumbs to peer pressure, a parent might say: if all of your friends jumped off the Brooklyn Bridge, would you?*

3. **Moral Equivalence** compares two issues that don't have the same moral gravitas or that should not be considered on the same scale.

E.g. *"Smoking cigarettes is nothing short of suicide: the smoker is willingly killing herself." Or, the common moral equivocation of gay marriage with bestiality and pedophilia: "If this law is passed, what is going to happen? Do they believe that if they change the definition of marriage being between one man and one woman, what is going to stop two men one woman, two women one man, one man and a horse, one man with a boy, one man with anything" (Pastor*

Ken Hutcherson).

4. **Ad Hominem** (Latin for “to the man”) arguments attack a person’s character rather than that person’s reasoning, or, more commonly, an argument is rejected in advance on the basis of the person’s character. Scientific American did a great piece on how to apply this fallacy (<http://www.scientificamerican.com/article.cfm?id=character-attack>).

E.g. *I refuse to read Thomas Jefferson. He was a slaveholder, and therefore has nothing of value to say.*

5. **Straw man arguments** set up and dismantled easily refutable arguments in order to misrepresent an opponent’s argument to defeat him or her. Imagine a fight in which one of the combatants sets up a man of straw, attacks it, then proclaims victory. All the while, the real opponent stands by untouched.

Fallacies of Pathos

6. **Red Herrings** use misleading or unrelated evidence to support a conclusion. The term originates from the practice of using a smoked herring in fox hunting to throw the foxes off the dogs’ scent. The fallacy refers to throwing the audience off the trail of an initial claim to raise (or solve) another. Nearly every procedural detective drama has a red herring character to throw the audience off the scent of the true criminal.

7. **Appeals to Fear**, or **Scare Tactics** try to frighten people into agreeing with the arguer by threatening them or predicting unrealistically dire consequences.

E.g. *If you keep making those funny faces, your face will stay that way. Or, if you have sex before marriage, you’ll spend eternity in hell.*

8. **Slippery Slope** arguments suggest that one thing will lead to another negative thing, or that one thing will spark a chain of negative events.

E.g. *If you get bad grades in high school, you won’t get into the college of your choice, then you won’t get a good job and therefore you’ll be alone and unsuccessful your whole life. A variation on this theme is the idea that marijuana is a gateway drug, and thus smoking pot leads to other kinds of addictions and/or violent crimes.*

9. **Either-or** and **False Dilemma** reduce complicated issues to only two possible courses of action. Either-or suggests there are only two sides, two choices, two possibilities; false dilemma insists that the only options are limited to those stated.

E.g. *Rick Santorum has established this either-or: there is no such thing as a liberal Christian. A famous false dilemma is: You’re either with us or against us.*

10. **Poisoning the Well** is an argument that is delivered in such a biased way or with such charged language that the response looks inherently dishonest or immoral. This might also be such an unreasonable accusation or claim that any response seems ridiculous.

E.g. *Ask that little liar where he put the remote—I bet he won’t tell you!*

Fallacies of Logos

11. **Hasty Generalizations** draw conclusions from scanty evidence. Many stereotypes are based on hasty generalizations.

E.g. *My car broke down, and thus Fords are worthless garbage. Or, my sister has to borrow twenty dollars, so she must be irresponsible with money.*

12. **Equivocation fallacy** occurs when a partially synonymous or unclear—equivocal—word or phrase makes an unsound argument appear sound. It might be a half-truth, or a statement that is partially correct but that purposefully obscures the entire truth.

E.g. *"I did not have sexual relations with that woman" (President Bill Clinton).*

13. **Shifting the Burden of Proof** occurs when one person will not provide support for their own claim but requires proof from their opponent. The burden to provide proof in support of a claim is always on the person advancing the idea.

14. **Faulty Causality** or **Post Hoc Ergo Propter Hoc** (Latin for "after this, therefore because of this") arguments confuse chronology with causation: one event can occur after another without being caused by it.

E.g. *The Urban Institute, a research organization based in Washington...released...[a] report that suggests that the proliferation of iPods helps account for the...rise in violent crime in 2005 and 2006.*

15. A **Non Sequitur** (Latin for "it doesn't follow") is a statement that does not logically relate to what comes before it. An important logical step may be missing in such a claim. "Therefore" or "thus"—spoken and unspoken—are often clues to breaks in logic.

E.g. *Steven Johnson grew up in poverty. Therefore, he will make a fine President of the United States.*

16. **Faulty Analogies** are inaccurate, inappropriate, or misleading comparisons between two things. (These might also be moral equivocation fallacies.)

E.g. *Roger Ailes called NPR "the left wing of Nazism."*

17. **Quoting out of Context** or **Quote Ambiguity** is when, because of lack of context or completion, the intended meaning of an idea is distorted and lost entirely.

E.g. *Mitt Romney was quoted as saying, "I'm not concerned about the very poor." The actual quote was: "I'm in this race because I care about Americans. I'm not concerned about the very poor—we have a safety net there, if it needs repair I'll fix it. I'm not concerned about the very rich, they're doing just fine. I'm concerned about the very heart of America, the 90-95 percent of Americans that right now are struggling."*

18. **Stacked Evidence** represents only one aspect of an issue to the point of distortion.

E.g. I'm trying to find a new home for my dog and write an ad in which I detail how sweet and cuddly she, and discuss how much enthusiasm she has for chasing squirrels and taking walks. I fail to mention in this ad that she eats her own poop, pees in the living room and barks incessantly at the neighbors. (She's pretty though; are you interested?)

19. **Sloganeering** reduces the solution of a complex issue or controversy to a single statement that is recalled often, or is used as shorthand for an entire situation.

E.g. Rudy Giuliani saying "9/11" as often as possible, as a stand-in for his patriotism and leadership. Also, during the health care debates, the term "death panel" was thrown around as shorthand for all that was hateful and horrible about the health care bill. It didn't matter in the least that there was no such thing as a "death panel."

20. **If-by-whiskey** is an argument that supports both sides of an issue by using terms that are selectively emotionally sensitive.

E.g. If by war you mean the loss of thousands of human lives, some of them innocent bystanders, then I'm against it. But if by war you mean the protecting of our sovereign nation against forces that would seek to destroy us, then I'm for it.

21. **Ad Nauseam** is when an argument is discussed extensively and repeatedly—to the point of making the audience "sick" of hearing it. No matter how many times something is said, that doesn't make it true or persuasive. Often this is a practice used to wear down the opponent. Or, it might be used to speak specifically to a very narrow audience when the majority of the audience has moved on or tuned out.

E.g. The Obama birth certificate fiasco. Although Obama tried to ignore the non-argument for a while, birthers kept at it, ad nauseam, until he was required to make an official statement and released the document. And, people are still talking about it even though most sane people think it's a non-issue.

Fallacies of Mythos

22. **Appeal to Tradition** is a fallacy that occurs when it is assumed that something is better or correct simply because it is older, traditional, or "always has been done."

E.g. Marriage has always been between a man and a woman so we shouldn't allow same sex marriage.

APPENDIX 3: Example of Assessment Criteria for Posts

Dip Nandi, Shanton Chang and Sandrine Balbo, "A Conceptual Framework for Assessing Interaction Quality in Online Discussion Forums" (paper presented at Ascilite, Auckland, 2009): 670.

	Criteria	Poor	Satisfactory	Good	Excellent
CONTENT	Clarification	Regurgitation of information	A clear explanation of available information	Explaining available information using clear examples	Articulating information to expand on ideas presented
	Justification	No justification of points	Justification based on personal opinion	Justification using existing cases, concepts and theories	Justification using existing cases, concepts or theories and providing clear discussion of implications
	Interpretation	Misrepresentation of information	Basic paraphrasing of information	Clear interpretation of information	Critical discussion of available information
	Application of knowledge (relevance)	No application or discussion of relevance to questions asked	Application of knowledge to questions asked	Application of knowledge including discussion using relevant examples	Knowledge is critically applied and may include discussion of limitations
	Prioritisation	No prioritisation of information or knowledge	Some basic comparison of information	Ability to prioritise information and knowledge	Ability to prioritise information and knowledge based on criteria that learner has established
	Breadth of knowledge	Narrow and limited knowledge	Some indication of a wider view of the topics discussed	Presenting a wider view of the topics discussed by showing a good breadth of knowledge	Ability to point out other perspectives, including drawing from other fields of study
INTERACTION QUALITY	Critical discussion of contributions	No engagement with other learner's contributions	Some basic discussion about other learner's contributions	Consistent engagement with other learners' contribution and acknowledgement of other learners' comments on own contributions	Contribution to a community of learners, with consistent engagement and advancement of each others ideas
	New ideas from interactions	No evidence of new ideas and thoughts from interaction	Some new ideas developed as a result of interaction	Some solutions and new ideas as a result of interactions	Collaborative approach to solution seeking and new ideas developed
	Sharing outside knowledge	No sharing of outside knowledge	Sharing generic information that is easily available from outside sources	Sharing real-world examples that may not be immediately obvious to other learners	Sharing real life knowledge, personal experience and examples of similar problems/solutions

	Using social cues to engage other participants	No engagement with others in the discussion forum	Answering some basic question posed by facilitator or other learners	Engaging with the work and discussion of other learners	Engaging and encouraging participation with fellow discussants in the forum
OBJECTIVE MEASURES*	Participation rates	None or less than 2 posts per week	Between 2 to 5 posts per week	Between 5 to 10 good quality posts per week	More than 10 good quality posts per week
	Consistency of participation	Rarely posts with occasional activity	Occasional activity	Consistent activity	Consistent and productive activity

(*this category is subject to facilitator's expectations)

APPENDIX 4: Example of Social Issue Analysis Assignment

Instructions:

1. Pick a social/political issue that you care about and learn about it. Identify, link to and evaluate three sites that address your issue. Consider the following questions:

1. What arguments are being made?
2. What evidence is being provided?
3. Who is making the argument? What are the perspectives and assumptions that are present in this article?
4. What perspective is missing?
5. How do power and privilege affect this issue?
6. Are there any possible policy solutions? Which solutions are not being considered?
7. What is your position? How does the evidence support your position? How do you think your position is grounded in your personal and social identity- relationship to power and privilege?
8. What questions are you left with? *

2. Add a comment to the social analysis of three students and label them accordingly:

1. discuss to comprehend;
2. discuss to critique;
3. discuss to construct knowledge; and
4. discuss to share.

Comments should:

- Build on a point they make, offer evidence in support or in opposition to a position they take or claim they make, post a link to a resource that can illuminate or extend the post. If the blogger whose post you comment on posts a reply, see if you can extend the dialogue by asking questions and inviting others to participate.
- Try and solicit comments in a post on your blog. Ask for opinion, examples, evidence. End your post in a question that invites comments.
- For an advanced exercise, use a blog post or series of blog posts and invited comments to organize collective action- a meeting, a petition, a boycott, letters to the editor etc.

* Adapted from Rheingold, 2005