



Joe Berg Seminars

Vision for the Future

*fostering learning and critical thinking in young people
building a better future for all*

Introduction

The Jacksonville Joe Berg Seminars is an invitation-only honor society for high school sophomores, juniors, and seniors, in operation since 1960. Joe Berg Scholars include many of the best and brightest students from public and private high schools in Duval County and neighboring counties in northeast Florida. It is likely that many of these students will become leaders who will decide how to handle the challenges presented by a complex and fractious world. Ordinary citizens will have to deal in one way or another with these challenges as well. Here we present a vision of how an expanded Joe Berg Seminars program can in some small way help both future leaders and ordinary citizens cope with those challenges.

The challenges

Humanity has always faced challenges of one sort or another. But in the hyper-connected technological world of today, dealing with them is more complicated than it used to be even a few decades ago. Of the many challenges the leaders and citizens will face, some, like climate change, are already happening.¹ Human nature being what it is, wars will be something to deal with for the foreseeable future. In a world where global travel is easy and relatively cheap, pandemics and epidemics are almost certain. Then there are challenges that are much less likely but would precipitate epochal changes were they to occur, like an impending large asteroid impact or the discovery of intelligent extraterrestrial life. And there could be others that we cannot even imagine now. But there are two that, in our view, are the most important – and the most dangerous: misinformation (along with its more toxic cousin disinformation) and artificial intelligence.

- **Disinformation and misinformation**

The world is awash in information freely available to anyone who wants it through traditional media outlets and social media. On social media, information can easily be shared with others. On the face of it, this would seem to be a good thing. After all, a well-informed public is essential for a healthy and adaptive society, isn't it?

Yes, it is. But there is a problem: Much of the information so readily available and spreadable is not true. Some of it is *misinformation*, coming from a source that doesn't realize it is false. More troubling is *disinformation* from a source that is intentionally putting out untruths for some ulterior motive. Both complicate, in potentially catastrophic ways, dealing with all the other challenges we face now or will face in the future. This is because they can corrupt and confuse the information used by leaders and the public to shape their views of the challenges. That is why in our opinion, this challenge supersedes all the rest.

- **Artificial intelligence**

Artificial intelligence runs a close second. It could even take first place if it becomes, as some experts fear, an existential threat to humanity.^{2,3} That would be a significant challenge indeed. But that day has not arrived... yet. For now, AI is an essential tool in medicine and a variety of

¹ Calvin, Katherine, Dipak Dasgupta, Gerhard Krinner, Aditi Mukherji, Peter W. Thorne, Christopher Trisos, José Romero, et al. "IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee, and J. Romero (Eds.)]. IPCC, Geneva, Switzerland." First. Intergovernmental Panel on Climate Change (IPCC), July 25, 2023. <https://doi.org/10.59327/IPCC/AR6-9789291691647>.

² Roose, Kevin. "A.I. Poses 'Risk of Extinction,' Industry Leaders Warn." The New York Times, May 30, 2023, sec. Technology. <https://www.nytimes.com/2023/05/30/technology/ai-threat-warning.html>.

³ "Statement on AI Risk | CAIS." Accessed August 11, 2023. <https://www.safe.ai/statement-on-ai-risk>

other fields.^{4,5} But the challenge that puts it this high on our list is that it is also playing an increasing role in generating and propagating misinformation and disinformation (though to be fair it can also play a role in combatting the problem).⁶

Our society can deal best with misinformation, disinformation, and any other challenges we may face if it consists of an educated citizenry that is willing to learn and to think. That is where we believe the Joe Berg Seminar concept described here can help.

Meeting the challenges

To evaluate the truthfulness and the value of a particular piece of information you come across, you should ask yourself several things:

- Does the information make sense?
- Does the information fit with other things you know?
- Does the information come from a source qualified to make any conclusions presented in it?
- Does the source of the information have reason to want to mislead you?

Only then should you use it to make decisions for yourself, your family, and your society. To apply this simple form of critical thinking effectively, you need to know the background around the information's claim, and if you don't know it, be willing to learn about it. Unfortunately, many people don't do this. In some cases, this is because it *does* fit with things they believe, as they have become immersed in a culture filled with mis- and disinformation. In other cases, it is because they don't have the time or don't know how to learn about it. Either way, this can cause problems not only for those individuals and their families, but for the larger society, and this is one of the major challenges facing us today.

The type of critical thinking described above is especially important for present and future leaders because they will be the ones making decisions about how to deal with the challenges laid out in the previous section. They will have to learn as much as they can about each challenge and confront it with clear, unbiased, and critical eyes. But because those challenges and how they are dealt with could affect every living thing on this planet in some way, directly or indirectly, it is important that the citizens of tomorrow, who will empower the leaders in one way or another, do the same thing. And both the leaders and the citizens of the future must do this with empathy for others, understanding that their decisions have implications for the larger world beyond their own community. The decisions they make tomorrow – and the decisions *we* make today – will determine what kind of future we and our descendants can look forward to.

On the following pages, we present a vision for a program that we believe will help to ensure that the young people of today – the leaders and citizens of tomorrow – will have the love of learning and the critical thinking skills to be up to the daunting task outlined above. It starts with the Jacksonville Joe Berg Seminars, an evening seminar program for gifted high school students that has been in operation in Jacksonville since 1960, when local businesspeople and school officials established it based on a model spread around the country by the Joe Berg Foundation.

⁴ GiniMachine. "10 Fields That Use Artificial Intelligence and Machine Learning," April 14, 2022. <https://ginimachine.com/blog/fields-that-use-artificial-intelligence/>.

⁵ "Artificial Intelligence in Medicine and Public Health: Prospects and Challenges Beyond the Pandemic | Blogs | CDC," March 1, 2022. <https://blogs.cdc.gov/genomics/2022/03/01/artificial-intelligence-2/>.

⁶ Bontridder, Noémi, and Yves Pouillet. "The Role of Artificial Intelligence in Disinformation." *Data & Policy* 3 (January 2021): e32. <https://doi.org/10.1017/dap.2021.20>.

Brief History of the Joe Berg Foundation and the Joe Berg Seminars Concept

The Joe Berg Seminars concept originated in 1955 as a program for bright science students at the Niles Township Community High School in Skokie, Illinois, though it was not yet called by that name. It was the brainchild of Jacob W. Shapiro, a chemist who had established a similar program more than a decade before as a high school science teacher in Columbia, Tennessee. Each student in the program received personalized mentoring on their science research projects from science professionals in the community, and those same science professionals presented periodic evening seminars to all the students in the program. One of the students in the program was the grandson of Joseph Berg, a wealthy Chicago trucking parts manufacturer. Berg was so impressed with the program that in 1957 he established the Joe Berg Foundation and supplied it with a recurring annual budget of \$75,000 (equivalent to more than \$800,000 in today's money!) to enable Shapiro to spread his seminar model around the country.⁷

Demand for the Joe Berg Seminars model increased when the launch of Sputnik I in October of 1957 set the "Space Race" into high gear, and Shapiro traveled far and wide as program coordinator to help communities establish their own seminar programs.⁸ By the mid-1960s, according to Joseph Berg's *New York Times* obituary⁹, there were more than 700 science seminar programs in operation in the US and Canada. Our program, the Jacksonville Joe Berg Seminars, was one of those. For whatever reason – perhaps partly because American astronauts landing on the Moon several times between 1969 and 1972 seemed to have "won" the Space Race – the number of programs diminished over time. Now there are only two remaining that we know of, ours and one at Wachusett Regional High School in Holden, Massachusetts.

The Massachusetts program, which was established in 1959, is called the "Science Seminar". It is like the original Niles Township Community High School program established by Shapiro, with seminars and mentoring, and is limited to students at Wachusett Regional High School.¹⁰ Our program was established in 1960. It implemented Science seminars, but no mentoring with science research projects, and further differentiated itself from other Joe Berg Foundation programs by later adding Humanities seminar track.

Students who qualify for the Jacksonville Joe Berg Seminars have always been among the best at their schools, and even without the seminars most would likely go on to become leaders in whatever field they decide to pursue. But the seminars stimulate their brains in ways that would never happen at school. They are exposed to ideas and fields they would never come across in school, and so envision possibilities they might never have done otherwise. They meet like-minded students from other schools and build friendships and collaborations that would not have happened without the seminars. And most importantly, the Joe Berg Seminars experience fosters their love of learning and hones their critical thinking, qualities that are essential in the leaders and highly desirable in the citizens of tomorrow. On the following pages we present a vision for an expanded Joe Berg Seminars program that someday could make this even more effective and available far beyond the local area.

⁷ Maizel, Albert Q. "Opportunity for the Brilliant Science Student." Reader's Digest, August 1958.

https://www.joeberg.org/uploads/5/7/0/8/57081557/opportunity_for_the_brilliant_science_student_-_readers_digest_august_1958_opt.pdf.

⁸ Joe Berg Foundation. The Berg Plan for the Advancement of Science. Joe Berg Foundation, 1959.

https://www.joeberg.org/uploads/5/7/0/8/57081557/the_berg_plan_1.pdf.

⁹ The New York Times. "JOSEPH BERG." July 8, 1964, sec. Archives. <https://www.nytimes.com/1964/07/08/archives/joseph-berg.html>, or view a PDF [here](#).

¹⁰ For information about the Wachusett Regional High School program, search for "Science Seminar" on the "WRHS Student Activities" page at this link: <https://sites.google.com/wrsd.net/wrhsstudentactivities>.

Vision Statement for the Future of Joe Berg Seminars

The concept for the future of the Joe Berg Seminars program consists of four phases, described here in order of ease of implementation:

- Phase 1 - Maintain the existing Jacksonville Joe Berg Seminars (JJBS) program.
- Phase 2 - Introduce a mentorship program into the JJBS program.
- Phase 3 - Establish Joe Berg Middle School clubs in local middle schools.
- Phase 4 - Expand the Joe Berg Seminars concept beyond the local area.

Phase 1: The Jacksonville Joe Berg Seminars program (www.joeberg.org)

Members of Jacksonville's Southside Kiwanis Club brought the Joe Berg Seminars concept to Jacksonville after hearing about it in a presentation on the Joe Berg program, possibly by Jacob W. Shapiro, at a Kiwanis International Convention in Chicago in 1958. The Southside Kiwanis Club introduced the concept to the Duval County School Board, and the school board adopted it, but broadened the reach of the program by offering the seminars without the post-seminar mentoring in the original Joe Berg Foundation design. This made it possible for gifted students from multiple schools to attend seminars presented at a single location, rather than having multiple seminars at each school. The program, known then as the Joe Berg Society, was launched in 1960 with a Science Seminar series. Students were nominated by their teachers and guidance counselors and tested for admission into the two-year program in the fall of their sophomore year, and newly admitted Joe Berg Scholars began attending seminars in the spring of their sophomore year. They continued attending seminars, with summers off, through the fall of their senior year. In the spring of their senior year, the Southside Kiwanis Club held a graduation banquet for the Scholars. The success and popularity of the program led to a Humanities Seminar series being introduced alongside the Science series in 1963.

Support for the program came from the Duval County School Board and the Southside Kiwanis Club until 2000, when the University of North Florida (UNF) took over. In 2008, cuts in the state university system budget due to the financial crisis of 2007-2008 meant that UNF was no longer able to provide financial support, but facilities support continued. Since 2008, our financial support has come from individual and corporate donations to our tax-exempt UNF Foundation account.

Today, the Jacksonville Joe Berg Seminars still invites nominations from teachers and guidance counselors and tests students for entry in the fall of their sophomore year. Each year we admit around 100 Joe Berg Scholars, who choose at the time of testing to join either the Science seminar track or the Humanities seminar track. In February the new sophomore class joins the existing junior class (Scholars who are in their senior year have already graduated from the program). By this time, the junior class has dropped by about 20% because Scholars must maintain a certain level of seminar attendance to remain in the program. Each February therefore finds up to about 180 Scholars in the program, usually coming from 16-18 different schools. Until the COVID-19 pandemic, Scholars were required to perform a minimum number of hours of community service during their junior year. This requirement was put on pause due to the pandemic but will be reinstated. By the time Scholars graduate they have attended 20 to 28 hour-and-a-half-long college-level seminars in a variety of subjects in the fields of science or humanities.

The Jacksonville community has been and continues to be very generous to the Jacksonville Joe Berg Seminars and our Scholars. Excellent speakers are eager to share their fields with these bright young people for *no* financial compensation, local organizations host site tours *gratis*, and speakers, parents, and organizations provide financial support when they are able. The Jacksonville Joe Berg Seminars will be a fundamental part of our new vision for the Joe Berg Seminars.

Phase 2: The Jacksonville Joe Berg Seminars mentorship program (NEW)

As mentioned above, the original design of the Joe Berg Foundation called for the student members to attend periodic seminars given by professional scientists from their community, like our program, but the students also received help from those scientists with their science research projects. The assistance might have simply been advice given before or after the seminars. But it sometimes went beyond this, with students gaining access to equipment in industrial or academic research laboratories that they would never have had in their high school. Some of these collaborations even resulted in published papers!¹¹

We are not planning to reinstitute that same exact aspect of the program here in Jacksonville. But we encourage speakers to consider mentoring interested Joe Berg Scholars, and we encourage interested Scholars to ask speakers if they are willing to mentor them. The nature of the mentorship is up to the mentor, but could range from the speaker allowing the Scholar to shadow them as they go about doing their work to allowing the Scholar to be actively involved in the work. The idea is to give our Scholars a taste of what it is like to work in the speaker's creative field, and to give the speaker an extra pair of hands – and an extra brain – to help with their work. The Scholars are among the brightest students at their schools and would likely contribute to the speaker's work in a positive way.

Due to the mismatch between the number of Scholars at any given time (about 180) and the number of speakers (30 or less per year), this is not a requirement, but it is strongly encouraged. Our speakers lead very busy lives, and having a mentee merely as a shadow is a significant commitment, so we have not had significant participation in this program yet. But we hope by encouraging both speakers and Scholars we can increase participation. We believe it would be a rewarding and unusual experience for both Scholar and speaker.

¹¹ As an example, Ed Pollock was a 15-year-old Niles Township high school student when he teamed up with Dr Richard Edgren, a biologist at G.D. Searle to do the research published in Pollock, Edward J., and Richard A. Edgren. "Effects of Stathmokinetic Agents on Planarian Reconstitution." *The Anatomical Record* 128, no. 3 (1957): 601. <https://doi.org/10.1002/ar.1091280310>.

Phase 3: Joe Berg Middle School Clubs (NEW)

The middle school years are challenging for most young people. Middle schoolers are transitioning from childhood to adolescence. Hormones are beginning to rage. Their brains are changing rapidly. They are surrounded by new peers, and the social pressures that come with that are exacerbated by social media. The result of all of this is that they will tend to gravitate toward a group of like-minded peers with similar interests. This could be a good thing or a bad thing. Depending on the other students they associate with, their lives can take a turn in a positive or a negative direction. We believe Joe Berg Middle School Clubs could help steer middle schoolers in the direction of a love of learning and critical thinking that would help them to make a positive contribution to society.

The clubs would be modeled on the high school Joe Berg Seminars, with some important differences:

- They would be housed at the middle school.
- They would be open to any student who wanted to become a member.
- There would be no separation into Science and Humanities tracks.

Speakers would be drawn from the teachers and students at the school, professionals from the community, and Joe Berg Scholars from the high school program. Joe Berg Scholars would help organize each club and would receive community service credit for this as well as for speaking at the club. The point is to have the middle schoolers get together on a reasonably regular schedule with a group of peers who all love to learn and think, hear a talk about something interesting, and learn and think!

This will require approval of the schools, of course, and there are a variety of other issues (funding, personnel, transportation, background checks, parental approval, etc.), so this program has some obstacles to overcome. But at least one of our schools has established a middle school club, and we hope more will follow. We believe Joe Berg Middle School Clubs would be an innovative way to foster a love of learning and critical thinking skills in the middle schoolers who participate. These middle schoolers may or may not go on to become leaders, but we think that even if they do not, the experience would translate into benefits for themselves and society.

Phase 4: Dissemination of the Joe Berg Seminars beyond the local area once again (NEW)

We believe our Jacksonville Joe Berg Seminars program is an important and unique program, providing great value to our Scholars and to our community, and we think programs like it would contribute to a better future for all. We would like to see them established in other communities throughout our local area, our nation, and the world. Our plan is to create a how-to brochure and make it available to any communities that are interested. Those communities could follow the model of the current Jacksonville Joe Berg Seminars by just holding seminars. They could add in a mentorship program like our Phase 2. They could even go back to the original idea still followed by the program at Wachusett Regional High School with individualized assistance on research projects and occasional seminars.¹² It would be up to each community. But if a community implements any of these designs it would benefit its students, the community itself, and beyond.

This is of course a big task and a bit of pie in the sky. Many things need to be done before it can commence. But Jacob W. Shapiro and the Joe Berg Foundation did it more than 60 years ago on the North American scale. With funding and the right personnel, we could do it again on a much larger scale. And we believe the world would be a better place if we succeed.

¹² “WRHS Student Activities.” Accessed July 24, 2023. <https://sites.google.com/wrsd.net/wrhsstudentactivities>. Also see footnote 10.