CHASING ECONOMIC KNOWLEDGE: USING AN ECONOMICS THEMED SCAVENGER HUNT TO LEARN AND BUILD COMRADERY

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ABSTRACT

Games are a common tool in the economics classroom. This paper describes several economics themed scavenger hunts outside of the classroom which both teach concepts and build student comradery. After a description of how scavenger hunts are currently used in the educational setting, there is a presentation of a tested economics themed hunt executed in Washington, D.C. with a summary of feedback about the experience and an annotated list of alternative scavenger hunts, which are practical for most campuses.

Keywords: Scavenger Hunt, Economic Pedagogy, Economic Games, Student Comradery.

INTRODUCTION

Over two decades ago, Becker & Watts (1996) reported that the most common economic instruction method is the traditional chalk and talk. More recently, Becker et al. (2006) provided teaching innovations to enhance undergraduate economics education. Scavenger hunts are frequently used to teach a variety of skills including internet literacy and informational search, though largely in primary and secondary education. This paper describes the use of a scavenger hunt as an active learning technique for undergraduate economics education. In addition to a detailed description of an economics based hunt, student feedback, implementation suggestions, and hunt alternatives are provided.

LITERATURE

Economics has a record of using games as a pedagogical tool. Of note are the Journal of Economic Education's (JEE) list of published articles outlining various games and the benefit of using games in the economics educational setting including Motahar (1994) and Gremmen & Potters (1997). The games were made available online to ease adoption by instructors (Delemeester & Brauer, 2000). Advancements in technology facilitate the implementation of games in or outside of the classroom (Holt, 1999) and continue as a popular pedagogical tool. More recently, other economic pedagogy journals, including the Journal of Economics and Economic Education Research, frequently publish articles describing the use of games in the economics classroom to facilitate and enhance learning (Dolvin & Pyles, 2018), student satisfaction (Yandle, 2004), and interest (Dolvin & Pyles, 2011).

The scavenger hunt is not a new pedagogical tool. It is used to teach students in a variety of fields, and as an aid in tourism and orientation programs. For example, mobile scavenger hunts are used as a learning device in fields such as archeology (Holzinger et al., 2011). Additionally, scavenger hunts are used to develop interest in a topic (Klopfer et al., 2005) teach

research skills (Chalmers, 2003), navigate a campus library (Goebel Brown et al., 2004), and create a sense of cultural awareness and immersion (Doyle et al., 2004).

More traditionally, scavenger hunts are employed in early education. As technology and access to the Internet improved, many hunts moved online. In addition to learning about the subject topic, students also develop Internet search skills (We Are Teachers Staff, 2016). Tüzün, et al., 2009 employ computer based scavenger hunts to develop motivation and a sense of achievement in geography lessons (Tüzün, et al., 2009). Frequently students are given a set of missions or clues and are required to find answers on the Internet. A variety of resources exist for creating online scavenger hunts including several Pinterest boards and Microsoft Word templates. Mobile applications are becoming more common as technology advances. Early on, users developed their own applications making use of QR-codes (Holzinger et al., 2011). Currently mobile applications are available at zero monetary cost from several providers.

GOOSECHASE

Several mobile scavenger hunt applications exist, including Actionbound (Actionbound, 2012), scavify (Scavify, 2018), and Goosechase (Goosechase, 2018). The Goosechase application worked best for the activity described in this paper for a variety of reasons and is ideal for the alternative suggested hunts listed later. The application is not location specific, permitting a wider range of missions. The scavenger hunt organizer creates an account on www.goosechase.com (no explicit cost). Once logged in, the faculty or administrator creates a game. The organizer selects when the game will begin, its duration, and adds missions. There is a mission bank available, but the missions included in the activity detailed here were manually created to keep to the economics theme. Missions are assigned point values and can require photo and video evidence or a GPS-based check-in. Before sending the students on the hunt, request one person from each team download the application to their smartphone and join the hunt. Teams complete missions in any order and see the progress of all other teams participating. The hunt organizer can follow each team's progress and can add or subtract points earned on missions.

SAMPLE HUNT

The described scavenger hunt is a part of a multi-day educational trip to Washington, D.C. and was included as a comradery-building exercise with an economics theme. Some of the students did not know each other well, and the hunt served to familiarize them with each other and Washington, DC and encourage group discussion at later trip events. By no means is the hunt intellectually challenging. Rather it is simple and entertaining. The level and degree of economics included is up to the faculty.

The objectives of the hunt are: 1) exploring historical sites based on an economics theme and 2) developing comradery amongst the students. The missions are set up ahead of time by a faculty leader. Students are given a three-hour time limit to complete the hunt after it goes live following a brief meeting with participants to explain the ground rules and incentive. Rules of this game include: 1) follow all laws and rules for all locations (ex. do not photograph something if a sign is posted prohibiting photography) and 2) use any resources available to complete missions including the Internet and other people. The incentive in this game is a $50 Amazon

gift card to each member of the winning team. The faculty leaders monitor the progress of the hunt virtually and live tweet updates.

The missions within this scavenger hunt are contained within a known square mile area of Washington, D.C. Photos are the primary artifact required due to simplicity. Table 1 shows the mission title, clue, artifact type required, points, and answer for the sample scavenger hunt. The missions can be completed in any order and point values vary per mission difficulty. This hunt took both teams the full three hours to complete.

Table 1 DESCRIPTIONS OF MISSIONS USED IN SAMPLE SCAVENGER HUNT				
Title	**Mission**	**Points**	**Artifact**	**Answer**
Have a capitol time	Located between Peace and Garfield Circles, economic policies are discussed and voted upon in this iconic building. Take a picture of at least one teammate in front of this location having a *"capitol"* time.	400	Photo	Capitol Building
Natural Wonder-Hope	One of two missions in this building of natural wonders. Take a picture of this 45.5 carat diamond worth ~$300 million. That's more than the GDP of Palau.	400	Photo	Hope Diamond
Natural Wonder-Beast	One of two missions in this building of natural wonders. Take a picture of at least one team member standing near this 14-foot beast. The Republican Party would be proud.	500	Photo	Elephant in rotunda of Smithsonian
State, War, and Policy	Formerly known as the State, War, and Navy Building, this historic building holds over 500 offices, including that of the Vice President of the United States. Many an economic policy is contrived behind these walls. Take a picture with your group outside of this building.	400	Photo	Eisenhower Executive Office Building
Oral arguments and opinions	In Washington, everyone has an opinion, but in this building giving an opinion is big news. Take a picture of at least one teammate looking *"courtly"* in front of this building.	500	Photo	Supreme Court Building
Rotunda of Freedom	Take a picture of at least one teammate in front of one of the three charters of freedom. These documents protect our independence and rights, and are crucial to our economic growth as a nation.	500	Photo	Rotunda for the Charters of Freedom at the National Archives Museum
Small World	Economic ideas and news come from around the world. Find a newspaper from another country and photograph an article about an economic topic.	500	Photo or Newspaper	(any newspaper matching clue)
What a Year	The Great Recession! Yikes. Obtain a coin of any denomination from 2007.	500	Photo or coin	(any coin matching clue)
Teaching Cost-Benefit Analysis	Video a team member explaining to a stranger how to weigh marginal costs and marginal benefits when deciding.	600	Video	(video made by team)
National Gallery-Equilibrium	Equilibrium is a balance between the scales of supply and demand. Photograph one team member with this famed painting showing a woman holding a scale in equilibrium. Perhaps she should be a monetary policy maker. Don't get too close to the painting!	1000	Photo	Woman holding a balance, Vermeer, National Gallery of Art

STUDENT FEEDBACK AND IMPLEMENTATION SUGGESTIONS

After the trip to Washington, D.C. various activities were assessed by participants via a survey including the scavenger hunt. The sample is small (four students), making a statistical analysis inadvisable, but the overall opinion of the scavenger hunt is positive. Students enjoyed the friendly competition and became better friends with others that they had not spoken with frequently outside of the classroom. At dinner after the hunt and the following day, students were still talking about the hunt excitedly. One common request for improvement is to allocate time after the hunt for students to explore sites they saw during the hunt, such as the museums. The following are several suggestions for a successful hunt:

1. Determine objectives prior to the hunt creation. Before setting up the missions, determine what you want participants to get out of it. Create the missions with these objectives in mind. The objectives of this hunt are visiting locations and objects of significance and creating student comradery.
2. Set up the missions ahead of time, but do not make it *"live"* until the start of the hunt. If the hunt goes *"live"* ahead of time, participants can view the clues and solve prior the start. This hunt went *"live"* after explaining the rules and the incentive to the students.
3. Gather participants together prior to the start of the hunt to set the ground rules. Ground rules should include the duration of the hunt, how the winner is determined, and prizes. If you plan to add or subtract points for exceptionally good or poor solutions, explain so in the meeting. For this hunt, groups met at Union Station to review the rules and details of the game and faculty leaders answered any remaining questions.
4. Divide participants into groups of one or more, each group with only one mobile application. Only one person per group should post to the mobile application, otherwise team scoring is challenging. To avoid confusion, it is best to only have the application downloaded on one device per group. Prior to the start of this hunt, each group identified which member would upload artifacts to the mobile application.
5. Double check the availability of landmarks. Landmarks may not update their webpages for closures and other issues. Check that all missions are possible to complete. For example, the Hope Diamond was not on display on the day of this hunt. Luckily, a card identified its usual location, which students could photograph.
6. Test the hunt to ensure the time limit is appropriate (if a time limit is set). Without testing a time limit it might be difficult to determine if limit is too long or short. The time limit for this hunt is three hours which provides enough time assuming students are aggressively completing missions.
7. Use an incentive to motivate participants. Use small incentives attractive to a broad audience to encourage active participation. Gift cards or extra credit points are possibilities. The $50 gift card provided ample incentive, as gauged by student reaction when the incentive is revealed.
8. Note video duration limitations. Videos can be used as submissions, but note that the application will only upload a limited duration of the video. Participants need to reveal their answer in this period. Try to avoid missions that require a lengthy video artifact. In this hunt, students are asked to briefly explain marginal analysis to a stranger.

ALTERNATIVE HUNTS

The sample hunt, described in detail above, is one of many uses for scavenger hunts in the economic curriculum. Below are several alternatives, including non-class related ideas. Variations of the hunt described above include:

1. Explore the economic history of school's location. Travel to a big city like Washington, D.C. may not be possible. The hunt can instead focus on the school's location and economic history. For example, one mission could be to take a picture of a group member in front of a building that used to be a part of an old industry crucial to the location's economy.

2. Locate real world examples of class topics. Have students find examples of class topics on or off campus. For example, ask students to go to a mall and find illustrations of monopolistic competition, price discrimination, and other principles subjects.
3. Include a hunt during a first-year experience or orientation. Pair a more senior economics student with a newly declared (or considering) economics student. Missions can include important offices to student success including tutoring and economics faculty. Pairing with an older student can create a sense of community in the program at an early stage which can help with recruiting, student success, and retention.
4. Vary the duration of the hunt. Rather than a three-hour hunt, the activity can take several days to complete. This provides greater flexibility for hunt topics and does not require class time.
5. Create an online or hybrid hunt. Online classes are increasingly common. Discussion boards are frequently used to foster a sense of community. A scavenger hunt is another tool for this purpose. An assignment in an online course could include missions both online and in the student's community. As the students compete against one another they may begin to communicate in ways that are difficult to generate with a discussion board.
6. Use as an educational tool in a travel course. A hunt can be devised to safely showcase locations of importance on a travel course. One barrier with international travel is the significant cost of mobile data usage outside of a home country. Some cellular providers offer plans that are not cost prohibitive when traveling abroad. A paper based scavenger hunt is also possible.

CONCLUSION

Gaming is a popular activity in many classrooms, particularly economics. This paper describes an economics themed mobile scavenger hunt to showcase items of significance and generate comradery amongst students. This particular hunt occurs off-campus, but hunts can be altered to a campus community. The experiential learning activity proves popular with the students and effective in achieving the stated goals. There are several modifications to this hunt which can be employed in an economics course including six ways ranging from exploring the history of a school's location to using in a travel course. A positive externality of the scavenger hunt is the creation of items to use in a program newsletter or social media outlet to promote the program and experiential opportunities. The scavenger hunt is versatile in providing an educational tool that can be used to build comradery and promote programmatic activities.

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