2018

INTERDISCIPLINARY GAME DESIGN PROJECT AND STUDY

Jewish Interactive

CONTENTS

GOAL OF STUDY

Jewish Interactive and The AVI CHAI Foundation worked together to offer three US-based schools the opportunity to participate in the Ji Interdisciplinary Game Design Project (IGDP) and Study. The three participating schools were San Diego Jewish Academy, Soille Hebrew Day School and the Kellman Brown Academy.

SAN DIEGO Jewish Academy
Challenge Minds. Inspire Purpose. Explore Possibilities.

SOILLE SAN DIEGO HEBREW DAY SCHOOL

Kellman Brown Academy

There were two aims for the study:
1. Does Ji Tap increase knowledge, understanding and engagement in Jewish Studies?
2. Can Ji Tap serve as a model for expanding the breadth and depth of Jewish Studies through interdisciplinary collaboration?

METHOD

Between June and August 2018, schools were approached to take part in the study. Jewish Interactive provided the schools with teacher training and guidelines, pedagogy and a timeline for the study. Schools had from September to the end of December 2018 to complete the study. During this time, Dr. Gerald Young, a child development researcher and professor with his team, collected data through questionnaires, focused teacher and student interviews and careful observation of teachers and students as they progressed through the Interdisciplinary Game Design Project and Study. September and October 2018 were dedicated to training staff and students in Ji Tap use and game design. December was focussed on hands-on creation of Chanukah-themed games. These games were worked on and designed in cross curricular classes with each teacher providing their knowledge and point of view of their subject matter. Teachers were given the freedom to develop their own units based on Ji's training and the project guidelines.

Students learned about game design, storyboarding, design theory, how to use the Ji Tap creation tool and how to formulate questions out of the information they researched. Students who participated were in upper elementary and middle school.

SHORT SUMMARY REPORT

Students were eager to participate in the study, reflect on their experiences creating games and offer opinions about how to improve Ji Tap and be part of the process of what Ji should create next.

HOW THE GOALS WERE MET

The first goal, to measure how Ji Tap increases knowledge, understanding and engagement in Jewish Studies, was broken down into three categories: knowledge, understanding and engagement.

KNOWLEDGE:

Teacher is responsible for helping students acquire knowledge through asking students to play games on Ji Tap, through giving them information or through leading them in research on the subject.

UNDERSTANDING:

Student understands by taking knowledge/information and manipulating it through the gamification process:
• Creating questions for others about the information
• Creating engaging designs to represent information
• Creating a game that makes relationships between pieces of information

ENGAGEMENT:

• Students fully engaged in the game making process
• Students invested in creating a good product
• Students excited to share their game with the family friends and the world

The second goal was to determine whether Ji Tap can serve as a model for expanding the breadth and depth of Jewish Studies through interdisciplinary collaboration.

Through this study we tested the viability of cross curricular programming using Ji Tap. Teachers at all schools worked well together and created games about Chanukah in Hebrew, Judaic Studies, Social Studies, General Studies and Jewish History.
   Through taking part in the Interdisciplinary Game Design Study, San Diego Jewish Academy, Soille Hebrew Day School and Kellman Brown Academy have demonstrated that Ji Tap can serve as a model for expanding the breadth and depth of Jewish Studies through interdisciplinary collaboration.
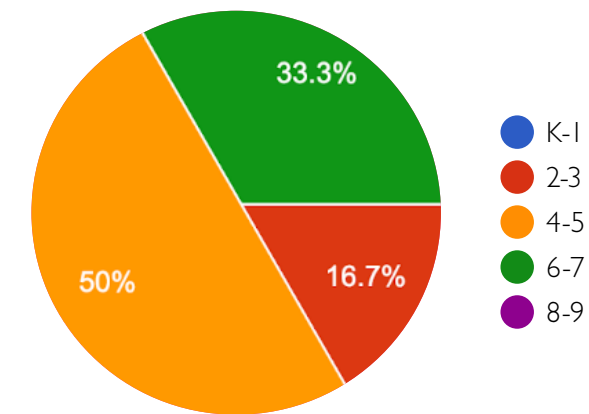
GRAPHS & CHARTS

Teachers' opinion of which grades would benefit most from Ji Tap game creation

- K-1
- 2-3
- 4-5
- 6-7
- 8-9

Student surveys said:

Ji Tap is an effective interdisciplinary learning tool (80%)

Ji Tap is enjoyable to use (88%)

The graph below indicates the diversity of the teachers involved in both the study and in the Ji Tap game-making process

- Yes
- No
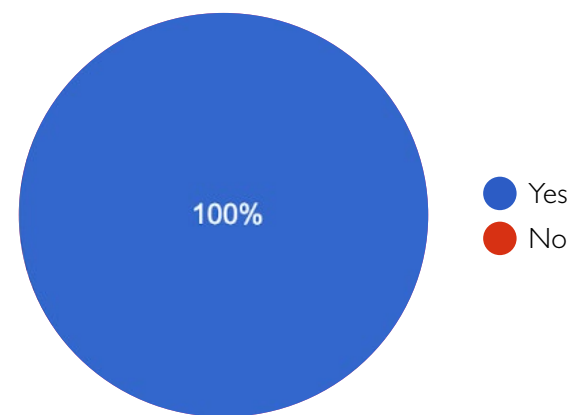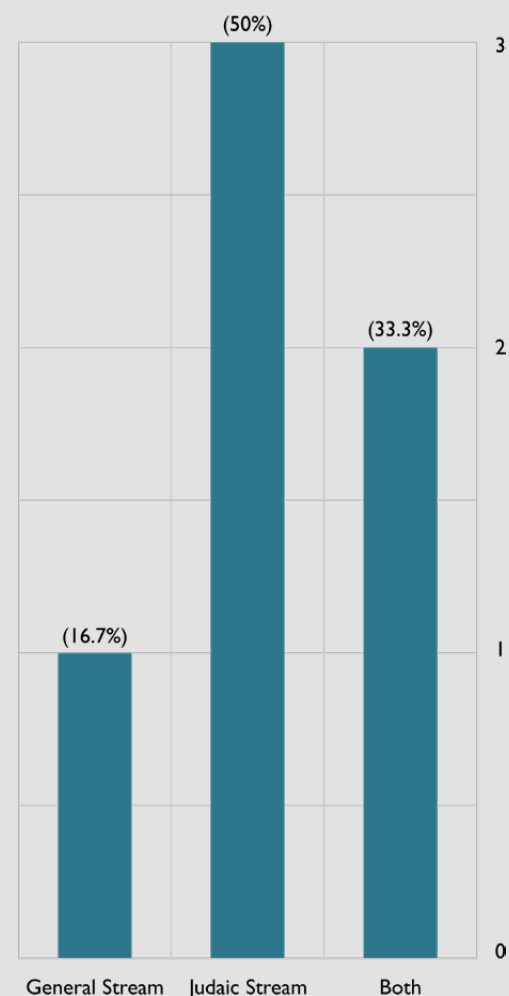
100% of teachers involved in the study wanted to invest in more teacher training after the training was over

- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
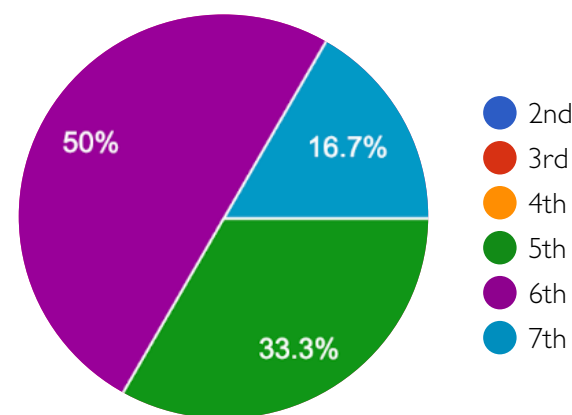
Grades involved in the IGDP study

100% of teachers recommend interdisciplinary game design for grades 2-7

87% of teachers recommend investing $120 per year for a school subscription of Ji Tap!

85% of trained teachers recommended schoolwide training for other colleagues

- Yes
- Somewhat
- No
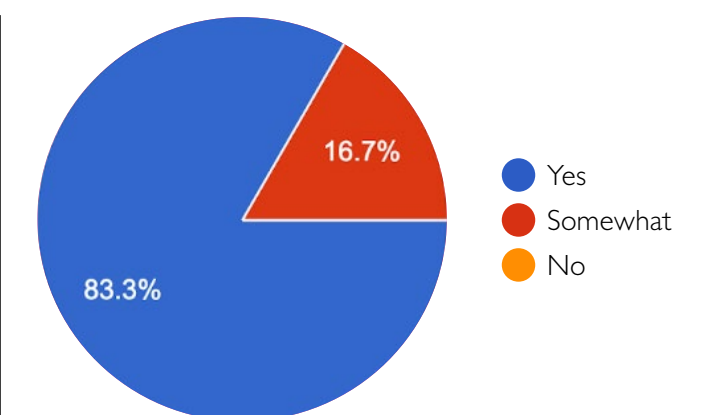
Number of teachers who feel comfortable using Ji Tap after taking part in the IGDP study

"I have been very fortunate to be a part of the IGDP study as a teacher, and to have had access to Ji Tap as well as the fabulous educators from Jewish Interactive. Getting to spend time thinking about, planning for and developing games on Ji Tap has been incredibly beneficial for me as a teacher and for my students. Game design helps the students plan and think through their ideas in a clear way, and the Ji Tap platform provides a forum for assessment that is engaging and technologically current.

Based on our original participation with my 5th grade class, I was inspired to broaden the reach of Ji Tap in our school, and create a meaningful assessment for our middle school students. As part of an intensive research project about architecture, our students will be learning about different sites in Israel. Each student will be tasked with creating a game on Ji Tap to describe the who, what, where, when and why of the site, in addition to explaining how the building represents the unique Israeli "neshama," spirit. We will be sharing these games with the students in our elementary school to plan a "virtual tour" of Israel and to help them connect with Israel as the homeland for the Jewish people.

We look forward to using the innovative technology from Jewish Interactive to design a meaningful assessment tool for our students, as well as a creative method of engaging our students in Israel education."

Eliana Seltzer
Jewish Life Coordinator
Kellman Brown Academy

THE IGDP STUDY 2018/2019 DETAILED REPORT

The AVI CHAI Foundation made it possible for Jewish Interactive to collect data from teachers, parents, administrators, and students, which exceeded the scope of the IGDP study and its goals. This information is vital to our growth as an organization and will help us shape the way we craft new products for Jewish education as well as how we improve Ji Tap. Below are the results of the broader study that was carried out and compiled by Dr. Gerald Young.

Ji TAP SCHOOL USE and EFFICACY TRACKING, INTERDISCIPLINARY GAME DESIGN PROJECT (IGDP) AND STUDY:

INVESTIGATING STUDENTS, PARENTS, TEACHERS, AND ADMINISTRATORS BEFORE, DURING AND AFTER ITS USE

Final Report
Short Version without Tables, Questions, and Pie Charts
January 20, 2019

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Ji Tap (Jewish Edtech) is a Jewish-themed, cutting-edge, customized game-making platform for students and teachers that aims to increase and encourage (a) effective and creative student learning, understanding, and knowledge and (b) interest/ involvement/ enthusiasm/ engagement/ motivation/ enjoyment in student education, Judaics, and Jewish culture and identity. It does this by having students work together with each other, and with teachers and parents, to explore existing Ji Tap games and to develop new ones, thereby increasing the confidence in using educational technology. The Ji Tap games on the website indicate the topic and age range for the students. These games use captivating graphics and voices. The website gives all the tools required to create new games.

The primary purpose of Ji Tap and its games is to have students learn about and engage in Judaics/Hebrew studies, Jewish themes and contents. A second goal is to create a well-rounded integrated learning experience by incorporating STEAM subjects (science, technology, engineering, arts, e.g., design, and mathematics) into Judaic games, making the games interdisciplinary (cross-topic).

This consulting study is on the value of Ji Tap and its games and whether it is achieving its goals. Briefly, the present study demonstrates that Ji Tap is achieving its goals, and with improvements can attain them better. Moreover, the data from the current study indicates how to improve it, that the students were quite happy with it, and that parents, teachers, and administrators in future uses of Ji Tap will now have documented information in how it is helpful to their children and their schools.

PROCEDURE

There were three data-gathering points in the 5-6 week duration of the project – Beginning (October), Midway (November), and End (December). The study used a questionnaire format that asked ask core, central, or overarching questions to students, parents, teachers, and administrators. Respondents indicated their answers on a three (3)-point scale (Agree 2, Agree somewhat 1, Disagree 0), or respondents could indicate for any one question that they are not sure/ it does not apply N, instead. At the end of the study, the researchers charted or tracked the answers to the questions for each class/ school over the three time periods, getting an idea of the quality of Ji Tap and its cutting-edge gamification, and whether it increases learning and interest in Judaics as well as creating engagement/ enthusiasm. The questionnaire provided room for comments. Respondents could make comments, as well, when the researcher contacted the schools by Skype/ phone at the beginning and middle of the study. The researcher knew that respondents have different knowledge of computers, Ji Tap, etc., but he asked them to try their best.

Once the three phases of the study were completed, the researcher plotted the answers using pie charts for each of the students and the adults in the study. The present research report is based on the quantitative data gathered in the pie charts over the three time frames of the study. Moreover, all comments were analyzed for suggestions on how to improve Ji Tap and the Ji Tap game-creation tool in order to make it a better educational experience.

Finally, input was sought from the project administrator for her hands-on experiences in dealing with the adults, students, and the Ji Tap platform itself.

For the qualitative data to the questionnaire answers, both parents and children want to see improvements in the game. The class interviews were good, too, this way. Several teachers gave their own recommendations in another questionnaire.

The suggestions that came out from all sources are organized in tabular format (at the end of the report), and I provide integrative comments below.

USER RESPONSES:
HOW TO IMPROVE JI TAP

The researcher canvassed adults and students on how to improve the game

There were positive comments, and these included adjectives and descriptors like --- the training is easy, helpful, learning by doing, learn the facts, helps other kids learn, great game, impressed, really, good, impressed, like it, novel, engaging, super fun, easy to use, amazing tool, interactive, pretty easy interface, encourages you, helps learn typing, and how to use apps and visuals, helps with the alphabet, with math problems, better than textbooks, a good quote: "Creating the games was fun, putting your ideas into pictures, creating new things like sound boards, trying to teach other kids once the game is made."

Also, the respondents indicated that the game can be improved. There were some contradictory suggesti ons, but generally one major issue was device compatibility across the iPad and the computer. "There is no way to save a game in the middle of creation and transfer work to the computer in the current app." The issue of saving games came up in several ways, e.g., "need to avoid accidentally deleting them so a dedicated trash can is needed, avoid breaks, Ji Tap needs the ability to go back and undo." A good suggestion was to "save in the cloud. The platform should not only be Apple. There should be a demo for when you need help".

Another good suggestion was to categorize games in a better way, or by gamification experience.

A useful suggestion in this regard, is to have a more helpful help button, as the current "help" was criticized. Students are looking for in-app tutorials, for instructions to be easier, clearer, less confusing, less time consuming, and more user-friendly. Students often felt as though they missed important information.

Some students thought the home page should be less crowded and wanted an easier way to find out about each game, like a pop up when you scroll over each icon.

Teachers would like to see an interactive setting that allows the student to record an answer while playing a game, which can be checked by the teacher in the LMS. Having more options and activities in many ways emerged a constant theme. For example, some comments related to increasing the range of games (meaning interactive settings that were less ambiguous and programmed for specific outcomes), e.g., memory games, fun games like hangman, Torah games, spinning wheel of fortune type setting, applications for English and math for interdisciplinary use. Some children wanted to see more than one activity per slide. There were also requests to have an option to make flashcards for studying facts.

Respondents wanted the games to be "more fun", for example, with special features and special effects. Even after training, it was hard for the students to conceptualize how to use the interactive settings to create the effects they imagined. One teacher commented that she

wanted games to be applicable to real life and needed more training as a teacher to help the students achieve their visions. Some students commented on the graphics, and wanted choices that were more varied and more for middle school as most appeared oriented to younger students, in particular.

Students enjoyed the challenge function of the game and wished that Ji Tap included elements of Quizzlet and Scratch so they could use it to input information to study and have programming options.

A lot of the comments were technical -- such as: putting the "dashboard" off and to the corner while increasing the space between the elements on the "dashboard" (dashboard could be referring to home page); making it easier to find the login button; reducing lag time, making the process of making games more easy, having more features to allow interaction; having more game styles; coordinating visuals and text better; making everything smaller on the slide; improving the quality of the voice over, use voice command or tap command, make it easier to "make created game" instructions like knowing about recording an intro and how to jump to another page (it isn't intuitive enough to tap on the check to move to the next slide).

One good idea was to have the ability to create a new slide within a slide. The transfer between slides was criticized ("if you want to jump to the next page, you have to create a new slide"). More advanced respondents referred to coding (e.g., drag and drop block of code.). Having the ability to cooperative make group games will help, almost like building a game cross accounts or like on a Google shared document. Perhaps adding more competition components will help, e.g., who makes a game faster. "I like the idea of quizzes to test knowledge. Moreover, having expert students mentor beginners will help."

JI IGDP STUDY TEACHER FEEDBACK

A teacher questionnaire was given to four teachers, three of whom are emphasized, toward the midpoint of the study, and their answers are placed first in the series of quantitative data in the study because of the importance of their responses. They noted positives about Ji Tap.

The questions concerned:

- Whether the teachers learned?
- Did the students learn?
- Are you proud of the games created?
- Did you personally create games with Ji Tap?
- Did you use it for your work outside of the project?
- Did you assign homework on it?
- Will you be using it after the study is complete?
- Were you trained on it?
- Could you train students on it now?
- Should your school train teachers on it?
- Should your school buy it?
- How can it be improved?

The answers to these types of questions responded to by the responding teachers indicated especially that the teachers were adequately trained, they learned, they led their students in the learning, the teachers were proud of the students work, Ji Tap is best for the grades 6-7 (this was the age of most students who participated in the study), the teachers were comfortable using Ji Tap and plan on creating games with it, it was used to assign homework to students, it will be used for the rest of the year and after the project ends, and more teacher training would help. Notably, the teachers believe that it is worth investing in and that the school should purchase it for next year.

TEACHERS, PARENTS & ADMINISTRATORS
QUANTITATIVE DATA

- Twice as many adults thought it was a good tool rather than not.
- Half of committed respondents thought it increased Jewish education involvement, and the same percentages were obtained for STEAM involvement.
- Ji Tap is considered a motivator (100%).
- It is clearly perceived as better in its existing form than its competitors (40% vs. 20%) and not needing improvement (unanimous, although the tables of suggested improvements are more specific about this).

STUDENT DATA

- Twice as many adults thought it was a good tool rather than not.
- Half of committed respondents thought it increased Jewish education involvement, and the same percentages were obtained for STEAM involvement.
- Ji Tap is considered a motivator (100%).
- It is clearly perceived as better in its existing form than its competitors (40% vs. 20%) and not needing improvement.
- The data indicates that most students had experience with online educational games before being exposed to Ji Tap.
- By November, all the children responded with definitive answers one way or another, and most liked the game (71% vs 29%).
- For the question of whether the game is effective, again most students were positive (80%).
- Most students thought it was enjoyable (88%).
- Most thought it was a good tool (71%).
- It increases involvement in Jewish education (67%) and in STEAM subjects (55% vs 8%).
- A majority thought it is effective.
- Most students recommended it (62% vs 38%) and thought it better than its competitors (75% vs 21%).
- Finally, almost all the students had ideas how it could be improved (96%) and felt invested in making changes for the betterment of the product.
- Generally, the students maintained a positive attitude about Ji Tap.

As for the December results, for some questions, the students were even more positive about Ji Tap than in November. For almost every question, the responses were positive. There was a slight decrease in the positive response for five questions but an increase in the positive response for four questions, and most of these increases were notable. The best explanation for the results is that once they made the effort to apply the program, the students were happy with the games that they created and realized the benefits of the program.
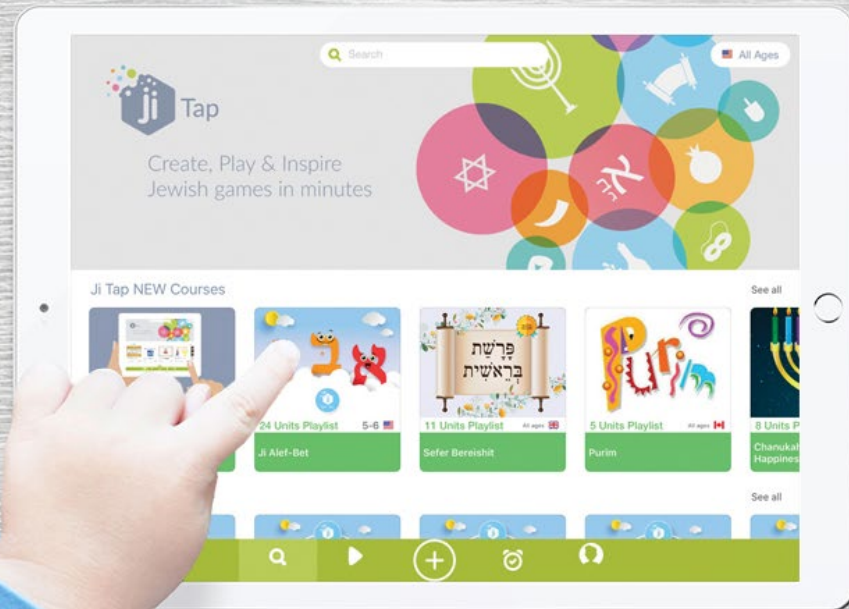
OVERALL CONCLUSIONS

BY THE RESEARCHER

Ji Tap is an innovative gamification program that has much potential to help in Judaics, STEAM subjects, and general learning at elementary and middle school. Most of the quantitative responses about it were positive, whether by adults or children, as shown by the pie chart analysis. The adults and children who participated in this dry run of using Ji Tap for interdisciplinary use made many qualitative suggestions to improve Ji Tap, too.

Next time around, it would be best to select 5 questions to ask respondents who use Ji Tap, and ask them only after teacher and student training. I suggest the following questions: 1. Ji Tap is an effective learning tool for Judaics; 2. Ji Tap is an effective learning tool for STEAM subjects; 3. It is enjoyable and motivates me; 4. It can be improved in the following ways; 5. I recommend it highly.

BY THE PROJECT ADMINISTRATOR

Re: Teacher Training and Implementing Ji Tap in schools

The teachers we worked with were wonderful and worked hard to make the project a success and meet the requirements. Some teachers found it hard to set up their sub accounts and invite students because they did not involve their technology coordinator. Schools that had support from their administration for the successful implementation of Ji Tap did not experience these added challenges.

Teachers who relied on IGDP student workshops as their only Ji Tap training did not gain confidence in game creation and in turn did not feel as much ownership over the project as teachers who participated in teacher trainings, explored the Ji Tap platform, assigned games to their students and dabbled in game creation themselves. My conclusion is that teachers need in-depth training and support with Ji Tap and game creation in order to properly implement it in their classroom. It is one thing to learn to create a Ji Tap game and another to teach game creation. Teachers need a good couple months of playing and assigning games to their students, a couple months of experience in creating games themselves before venturing to teach middle school level Ji Tap game creation. Schools that are invested in the implementation of Ji Tap and spend the time training their teachers create a better experience for their teachers and students. Ji Tap game creation should be used as a singular assignment and assessment once the students are very familiar with the program and with its preexisting games. Finally, game creation at the middle school level works well implemented as a PBL comprehensive unit culminating in quality game creation.

CHALLENGES AND OBSERVATIONS

At the start of the study, we had hoped to get younger elementary students to participate in this project. Interest came from upper elementary, middle school, and high school teachers. This shows us that there is a desire for Jewish educational games, game creation and JSTEAM (Jewish STEAM) for this demographic. Running this study with students ages 10-13 has helped us understand what this group is looking for in JSTEAM game design. Schools were eager to have their teachers participate in the study, however, they had a hard time with the logistics of setting up trainings for their teachers. Even though all three schools have Ji Tap Pro subscriptions, all three schools chose to focus on implementing Ji Tap in selected classrooms with enthusiastic teachers. Each school selected teachers for the IGDP study who had an affinity for technology and were excited to use Ji Tap and/or who had time in their schedule to include this project. Schools who had the involvement of the tech coordinator and support of administration felt better about participating in the project and about using Ji Tap after the project was over.

Some challenges were using old (slow) iPads, slow internet and multiple iOS updates over a couple of the IGDP weeks. Due to these challenges, some students experienced a period where it was challenging to create games. The study felt rushed for schools, and they hoped to be able to play with games and teach about game design for a longer period of time before entering into the game design phase of the study. Interdisciplinary project-based Ji Tap game design is best implemented over the course of a year. We can see an example of this in schools who have Ji Prime.

SUCCESSES

Through participating in this study, we are able to learn how to improve our product and deepen our understanding of the needs of our community and user base. The IGDP study goals were completed and students thoroughly enjoyed making games. Teachers learned to teach a game design unit and built their own lesson plans and rubrics. Ji Tap was tested in middle school. This project has not only inspired the schools that participated in the study, but it has inspired other schools to use Ji Tap in a PBL, interdisciplinary approach. One of the Ji IGDP schools is looking into using the IGDP study model and expanding it for next year. Schools that were approached to participate in the study are also considering using the IGDP as an interdisciplinary project based model for Ji Tap implementation. Because of The AVI CHAI Foundation's grant, Ji was able to offer deep partnerships to participating schools. Schools engaged in interdisciplinary project based JSTEAM education, stretching Hebrew and Jewish Studies into General Studies subjects. In turn, Jewish values and learning infuses daily living and current issues, creating a relationship to Judaism and its teachings which speaks to the student's experience of life. These schools have taken initiative to become leaders in JSTEAM education. Paving the way for a continued future of vibrant Jewish life and creating community with integrated Jewish identity.
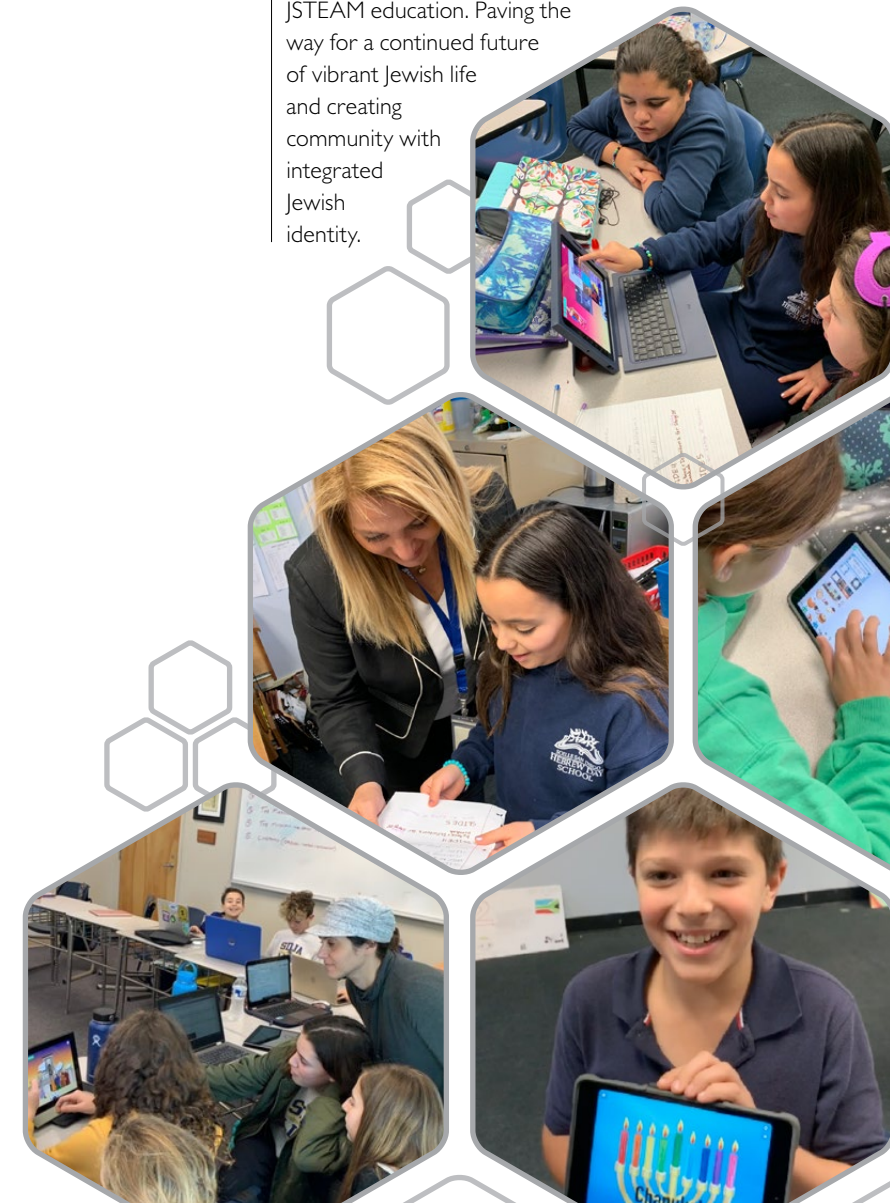
COLLECTED COMMENTS ON OPINIONS OF HOW TO IMPROVE JI TAP

Are you proud of the work your students have accomplished? Why?

- I think with more time and better instructions (more training) the students could have done a better job while enjoying the process.
- They engaged with the program and designed fun and educational games while having fun doing it.
- They worked really hard even though sometimes the instructions were not clear and easy to follow.
- There were a few really well put together games. Some kids took the assignment really seriously and put thought into their design.

What would you need to make the integration of Ji Tap more successful (hardware, tech, support)?

- Creating game should be on PC and not on the iPad only. Better instructions for creating the games will be very helpful. (more tutorials/more intuitive)
- In my opinion the platform of playing the games is easy to use however the designing of game platform needs improvement. It could be more user friendly and not glitch as much. For someone who didn't have any experience or training in JiTap, it is extremely difficult to execute the game ideas into life. It seems like it is time consuming to go through the process of understanding the gaming design which takes time from the actual creating time which is suppose to be the main focus. (not an IGDP teacher)
- Teacher training, which my school has neglected to arrange.
- There needs to be more training for the teachers as well as for the students. I feel like the trainings that I was apart of for teachers was limited to only setting up the teacher account and the class accounts and not aimed towards game design. I didn't know how to really use the design feature and when it came time for me to create/ help my students create, I was at a loss on what to do more times than not. (not an IGDP teacher)

What were the biggest challenges you faced in running the design project with your students?

- Time, time, time and old iPads. The platform really needs to be cloud-based through a computer, iPad technology gets outdated and schools can't keep up with new iPads.
- Time! It took a lot of our regular teaching time. Also, I could not help them very much since I was not proficient enough in Ji Tap. I should have had more training and practice to help them.

Please use this space below to add suggestions or any other comments.

- Ji Tap is an amazing tool for teacher to make Jewish learning more interactive and engaging and as a complement to traditional teaching. It would be nice to be able to design games in different platforms.
- It would be great to have more games for the older students - Middle School and High School
- I think that Ji Tap should have more possible features of interactive gameplay.
- It is hard to create games on Ji Tap and I think that practice will help
- Add Torah reading in a fun way
- Some minor tweaks to the platform- allow you to go back or undo when doing game design, perhaps have other options of activities to set on a game, having an easier to access help button- to remind me of how to use all elements of the game design

- Make the game more involved and make it more fun with cool special features such as special effects like flaming fire and just cool effects
- Personally, I think that the game has been a little bit hard for some students that make an attempt to make a game. I think that you should have more options that will help kids/ students make more educational games.

- As we are at the beginning of the process, I'm impressed with the examples of work I've seen other teachers create that is already available but have little experience myself.

- People who like it could mentor (younger kids or peers)
- I'm learning by doing the game and making games!
- Creating the games was fun, putting your ideas into pictures, creating new things like sound bars, trying to teach other kids once the game is made
- I like it, it helps you learn the facts before you play the game, and it helps other kids learn when the game is done
- I didn't learn what you could do with it until someone who knows Ji Tap came to school (to train us)
- Class answers loudly "yes!"; when asked about mentoring younger classes once you learn and if that would that make it more interesting
- I am learning; I played many games; I made many games
- I like the games because they help you and it's fun
- Yes, I could show someone; it could be harder for a student
- Another game Khan Academy, it has flashcards and quizzes
- Quizzlets lets you make little flashcards and limited test games
- Doing the research for the topics helps in learning too

- Should be able to use it by kids together
- Players should be able to race against each other and get points
- You can choose options, quizzes and videos
- It's geared toward the younger ages; needs to be better for higher grades
- Need to make them work on laptop instead of just an iPad, for creating the games

- There should be some coding too with more complex games, like Scratch
- It encourages you and you have to play to get the right answer
- Learning typing and learning how to use apps for his education
- It helps us learn visuals to use technology better
- (5-7 students said) the training is easy
- It's a pretty easy interface, even for people who are not tech savvy
- Played learning games for alphabet
- Math games – Ji Tap helps with problems and it's kinda fun
- We used Scratch in lower school
- Textbooks are boring
- For kids who don't want to just only read
- A game called Khoot.IT, it creates Trivia questions with four answers
- It's fun [all agree]

- There are a couple ways that you can improve. Just like there should be more fun games like hangman. I think it will be cool if you add something like kahoot or quizlet.
- It should have competition where you can play with friends in games.
- It cannot be set up with anything but an Apple device and for a GAFE school using mostly chromebooks, this project was difficult to facilitate

Thank you to The AVI CHAI Foundation for making the Interdisciplinary Game Design Project and Study possible.

To see the games created from this project, download the Ji Tap app on your iPad and search "IGDP" and "KBA" and play the Chanukah-themed games.

Below is a link to a short slideshow of time spent in game design:

https://animoto.com/play/QnN9M05ARztiajffKlQnBw