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The TCC Worldwide Online Conference: Twenty Years of Affordable, Timely Professional Development

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Founded at the University of Hawaii, Kapi'olani Community College campus, the Teaching, Colleges, and Community Online Conference (TCC), has delivered an online three-day conference annually for two decades to educators in postsecondary education worldwide. Presently, TCCHawaii.org, a non-profit organization, produces this event in partnership with the University of Hawaii, Learning Design & Technology Department, and Learning Times (New York, USA). Evaluation survey data compiled for this event since 2010 showed that the ratings for key conference indicators: Content, theme, community, interaction and face-to-face comparison were consistently high. Participants continued to express that this event is valuable for their own professional development. The conference organizers plan to expand participation in this event among Asian postsecondary faculty and graduate students to further enable information exchange and collaboration in educational technology globally.

Keywords: e-learning, online conference, educational technology, professional development, emerging technology

Introduction

The Teaching, Colleges, and Community Online Conference (TCC), has delivered an online three-day conference annually for two decades to educators in postsecondary education worldwide. Presently, TCCHawaii.org, a non-profit organization, produces this event in partnership with the University of Hawaii, Learning Design & Technology Department (LTEC), and LearningTimes (New York, USA). It is among the earliest and the longest running virtual conference (Anderson, 1996).

Dr. James Shimabukuro, who envisioned creating a global network for faculty to share expertise, research results and teaching experiences with one other, founded TCC in 1996. As its goal, TCC promotes professional development by sharing expertise in educational technology for teaching, learning, research, and creative expression. For the first 19 years, this event was held entirely online. However, in 2015, on its twentieth anniversary, a concurrent onsite conference was held featuring face-to-face (F2F) keynote sessions. All onsite sessions were simultaneously delivered to other participants online. Some participants, who knew of each other online for more than 15 years, met in-person for the first time.

Although email was used for interaction among presenters and participants initially (Shimabukuro 2000), the World Wide Web and synchronous communication tools such as text chat became available and practical for online conferencing. TCC, with licensing from LearningTimes, its technology partner, has migrated to Blackboard Collaborate (http://www.blackboard.com/online-collaborative-learning) and Adobe Connect (http://www.adobe.com/products/adobeconnect.html), widely used real-time conferencing tools. In 2015, keynote sessions were delivered to online participants using, Livestream (https://livestream.com/), a real-time video streaming platform.

Over two decades, the number of participants ranged from 350 to over 2,000 faculty, staff and administrators from colleges and universities representing as many as 20 countries. Graduate students were encouraged to present papers or general sessions as their participation fees were waived ($0 USD). All students completing their Learning Design & Technology (LTEC) master's degree at the University of Hawaii presented their final

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research project to fulfill their degree requirements. Typically, there were 20-30 graduate student presentations each year.

TCC also published refereed paper proceedings freely downloadable from LearnTechLib (http://www.learntechlib.org/j/TCC), a digital library that lists over 100,000 articles and abstracts on education and information technology. LearnTechLib is sponsored by the Association for the Advancement of Computing in Education (AACE).

The purpose of this research is to discuss findings from evaluation survey data collected over a recent 5-year period from 2011-2015 and to compare and contrast differences with that of the previous five-years, 2006-2010 (Ho, Kimura & Boulay, 2011). The significance of this study was to determine if perceptions of conference participants changed since the previous study and to identify changes in participant interests and operational problems that may be helpful to conference planners and future attendees. Specifically, the authors wanted to determine if the high quality of the conference was continuously maintained, how strengths and issues related to this event changed, and whether further intervention was needed to resolve technical issues faced by the participants.

Literature Review

Virtual conferences are a cost-effective, time-efficient alternative to traditional conferences. Advances in internet communications technologies (ICT) allow professionals to receive quality conference experiences while eliminating travel costs (Anderson 1996). A virtual conference experience can be just as effective as a face-to-face conference (Kimura & Ho, 2008) and the quality of the experience can even be better (Minshull, 2006; Wang, 1999). The elimination of travel also saves in cost of time away from work when traveling to and from a conference (Anderson & Anderson, 2010). Travel to international conferences from Hawaii may take up to a day and for domestic travel, between 4-8 hours. A professor from Hawaii may need to pay $2000 USD for air travel since Hawaii is the most isolated population center in the world, more than 3,800 km from the US mainland and almost 6,400 km from Japan (Time, n.d.).

Recently, international conferences such as EDUCAUSE (https://www.educause.edu/annual-conference), E-Learn (ww.aace.org/conf/elearn), EdMedia (https://www.aace.org/conf/edmedia) and ICERI (https://iated.org/iceri/) have included virtual presentations, ostensibly to increase participation while decreasing travel costs.

Since the inaugural TCC event, participants were given an opportunity to complete a questionnaire after the conference. The conference organizers reviewed these results to plan, maintain and improve the quality of the virtual conference experience (Kimura & Ho, 2008).

Methods

Data was collected and summarized from participant evaluation questionnaires, including written comments. The questionnaire items have been relatively unchanged historically, except for the addition of new features or technology. This enabled planners to draw meaningful conclusions from one year to the next.

Participants received a link to the online survey by email a few days after the end of the conference. A reminder email was sent two weeks after the initial request for completing the survey. Although completion of the survey was anonymous, participants could submit their email addresses for a random drawing of small, incentive gift certificates. The participant's identity was disregarded and not factored into the data analysis.

The evaluation questionnaire consisted of items related to the number of conferences attended previously, conference activities, logistics, participant benefits, social media use, digital badges, attendee motivation, and marketing and conference promotion. In addition, open-ended questions were included to solicit suggestions for future conferences and to identify problems encountered by participants.

The following fixed-response items (single choice) were selected for comparative analysis:

1. Content quality (Rating): *Rate the conference content quality.*
2. Conference theme (Likert scale): *The conference theme was relevant.*
3. Feeling of belonging to a community (Likert scale): *There was a feeling of belonging to a "community."*

4. Interaction with others (Likert scale): *My interactions with participants and speakers were of value to me.*
5. Compared to face-to-face conferences (Likert scale): *This online conference is equal to or better than that of a traditional face-to-face conference.*

For content quality, respondents rated the quality of the conference content as Poor-Fair-Good-Excellent. For the 5-point Likert-type statements, responses ranged from strongly disagree (1 point) to strongly agree (5 points).

Two open-ended questions were included for comparative qualitative data analysis:
1. The strongest features of this conference were …
2. I encountered the following problems …

The data compiled from these surveys for the seven selected items were imported into a spreadsheet. For each Likert-type item, positive responses were combined (Agree Strongly – Agree. Likewise, positive responses were combined for the rated item (Excellent – Good). Percentages were calculated based on the total number of responses. Two other numeric items were collected from participant attendance records and the number of completed questionnaires.

Qualitative data were coded from two open-ended questions that were extracted from the conference questionnaires between 2011 and 2015. The data were grouped into clusters of keywords or themes and then ranked by frequency of responses. Rankings were then compared between 2011 and 2015.

In summary, data from evaluation surveys received from conference participants were compiled for five fixed response items (single choice), and two open-ended questions.

Results

Quantitative data from five consecutive TCC Worldwide Online Conferences are tabulated in Tables 1-4. Data for 2005-2011, published and analyzed earlier (Ho, Kimura, & Boulay, 2011), are included in Tables 2 – 4 for comparison.

The number of registered participants varied from year-to-year, with a high of 1069 and to low of 518. The average participation was 830 over the past five years (Figure 1). The average number of completed evaluation questionnaires averaged 12% over the same period.

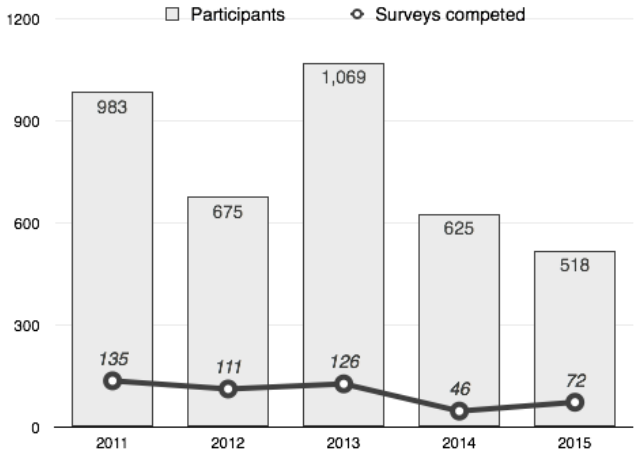

Figure 1. TCC Conference Participants & Evaluation Surveys Completed

While averaging over 800 participants annually, surprisingly, many participated for the first time. Typically, the response is about 30% regarding first time participation. The coordinators noted that in informal polls, sometimes more than 50% were in their first or second TCC conference. In 2015, the majority of respondents (33%) were new to TCC, while 28% had attended 2-3 previous conferences, 10% had attended 4-5 previous conferences, 18% had attended 6-8 previous conferences and 11% had more than 8 TCC conference experiences. The conference was promoted primarily through a mailing list of approximately 3,000 individuals. However, new participants seem to have found this event through word-of-mouth, or through encouragement from campus administrators. Participants often cited *curiosity* as a reason to participate.

In Table 1, the five selected fixed-response items are presented as percentages of combined positive responses for each item between 2011-2015. The results indicate a highly favorable response to the conference theme and quality of the content presented. The data also shows that participants responded affirmatively to the sense of belonging to a community, interaction with others, and equal to or better than a traditional face-to-face event. These results showed that the positive nature of the responses were relatively consistent from year to year.

Table 1.
TCC Evaluation Survey Data (2011-2015) for fixed-response items.

Item	Response type	2011	2012	2013	2014	2015
Content quality	R	98.8%	94.5%	95.9%	93.3%	98.5%
Conference theme	L	95.9%	90.1%	97.6%	97.8%	98.6%
Feeling of belonging to a community	L	78.2%	62.2%	73.8%	78.3%	83.3%
Interaction with others	L	85.9%	73.9%	82.5%	87.0%	87.5%
Compared to F2F	L	77.0%	76.6%	71.4%	76.1%	NA

Response types: L = Likert scaled response with a combined total for Strongly Agree and Agree responses; R = Ratings that include Excellent & Good combined; NA = In 2015, the question about comparing TCC with that of a F2F conference was NOT applicable since 2015 offered participants BOTH options.

Table 2 provides statistical comparisons of fixed-response items. The results were calculated from data provided in Table 1 and combined with data from the previously published report (Ho, Kimura & Boulay, 2011).

Table 2.
Statistical summary of fixed-response items for comparison, 2006-2010 vs. 2011-2015.

Study period	2006-2010		2011-2015	
Item	Mean	Standard Deviation	Mean	Standard Deviation
Content (R)	97.4%	1.2%	96.2%	2.4%
Theme (L)	96.0%	4.6%	96.0%	3.5%
Belong to community (L)	78.5%	3.8%	75.2%	8.0%
Interaction (L)	84.9%	3.4%	83.4%	5.6%
Compared to F2F (L)	74.9%	4.2%	75.3%	2.6%

Table 3 provides a comparison of participants' perceived strongest features of this event. Qualitative data from open-ended responses were coded according to identifiable keywords or words with similar meaning. For example, the following responses were coded into the categories *variety, global and interactivity.*

Category: *variety*

- The wide variety of presentation offered.
- The topics and presentations were very varied …
- The wide variety and excellent quality of the student presenters

Category: *international/global or global*

- Keynotes from all over the world.
- I appreciated that the speakers came from all over the world …
- How cool it was to communicate with people from all over the world.
- E-learning and global education.

Category: *interactivity*

- Interactions of participants - many to many. Willingness to share both during and after the conference. This conference "has legs."
- Being able to interact and ask questions freely.
- Being able to chat your questions and the interactive poll was cool!

Table 3.
TCC Conference Strongest Features ranked by total number of coded response categories.

Year	**2006**		**2010**		**2015**
Quality Content/Presentations/ Sessions	21	Virtual/Online/ Convenience	65	Quality Content/Presentations/ Sessions	21
Virtual/Online/ Convenience	16	Quality Content/Presentations/ Sessions	41	Variety	7
Tech Used/New Tech	15	Variety	35	Face to face	6
Interactivity	9	View recordings	25	Global	5
View Recordings	5	Organization/Structure/ Fee	23	Virtual/Online/ Convenience	2
Community Building	5	Tech Used/New Tech	17	Community building	2
Technical Support	4	Community Buildings	15	Interactivity	1
Variety	4	Interactivity	14	Tech Used/New tech	1
International/Global	3	International/Global	6		
Conference Resources	3	Conference resources	5		
Pedagogy/Best Practices	2	Tech Support	5		

Table 4 lists coded keywords and equivalents relating to difficulties or problems encountered by users during the event. For 2015, the questionnaire asked respondents to provide suggestions for improvement, rather than simply identifying problems that they encountered.

The coded term *badges*(2015) refers to the use of digital badges during the three-day event. The conference distributes badges that are claimed by participants for roles such as presenters, facilitators and staffing volunteers. The conference implemented the use of portable, open badges since 2012 in partnership with Credly (https://credly.com).

In recent years, user connectivity or access to the live, online conference session has emerged as the major source of difficulty for participants. Over the years, participants have had difficulty navigating the conference website and also dealing with differences in time zones. The event schedule is published in Hawaiian Standard Time (HAST) and links are provided for conversions to all other time zones.

For example, conference connectivity related responses in 2015, included responses such as:

- Occasionally lost connection and dropped out of session.
- I had some audio problems in a few of the presentations.
- I lost connections frequently, which made my experience very frustrating.
- It is a continued process of educating *underprepared* faculty to use tools that keep merging and emerging. Technology does not run itself.

Table 4.
Difficulties Encountered by Users ranked by total number of coded response categories.

Year	**2006**		**2010**		**2015**
Technical User	20	Schedule/Time Zone	35	Technical, Conference connectivity	8
Schedule/Time Zone	15	Technical User related	18	Website: navigation, finding information	6
Website: navigation, finding information	8	Technical Conference	17	Schedule/Time Zone	4

Technical Conference	7	Website: navigation, finding information	15	Badges	4
Communication: timely announcements	5	Organization/Structure/ Fee	8	Technical, User related	3
		Communication: timely announcements	7	Organization/Structure/ Fee	2
		Conference Resources: PPT	2	Communication: timely announcements	1
				Conference Resources: PPT	0

Discussion

TCC continued to maintain a quality professional development event over two decades as participants have affirmed in their responses to the end-of-conference evaluation questionnaires. In this section, the authors compare and contrast data from the past five years (2011-2015) with the previous five-year period (2006-2010) reported in an earlier paper (Ho, Kimura & Boulay, 2011).

The conference organizers were pleased with the relatively large number of participants and the number of survey respondents for the past five years. The number of participants appears related to the number of presentation proposals received along with the number of site licenses purchased by university campuses or systems.

The average 12% return of evaluation surveys was noteworthy, since the survey was lengthy and administered online the week after the conference closed. The quantity of responses assures the coordinators that the evaluation results were credible and trustworthy.

Respondents continue to rate the content quality very positively. More than 96% of the responses fell in the *excellent* and *good* categories, which is identical to the 96% reported in the previous five-year period. The ratings for relevancy of the conference theme to teaching and learning were also high, and ranged from 90.1% to 98.6% for responses in the *strongly agree* and *agree* categories.

In this virtual conference, where participants are focused on audio and visual quality and do not have access to non-verbal communications, the sense of belonging to a community of learners is an important goal. From the outset, TCC organizers have monitored responses to this category. The responses to this item averaged over 75%, suggesting success in this area. It indicates that participants experience a reasonably strong sense of community. The value of interactions with presenters and other participants is an added measure of this sense of being in a community. In this regard, high response rates (62.2% – 83.3%) were recorded for interaction with others.

The final item listed in Table 1 asked participants whether the TCC online conference was equal to or better than a traditional face-to-face event. Since 2011, a majority of participants agreed or strongly agreed with this statement through responses ranging from 71.4% to 77.0%. This result was gratifying to the conference organizers, who have extensive experience teaching classes online and are well aware that faculty and students often compare the quality of online experiences with face-to-face classes.

In addition to rating or Likert scale response items, participants responded to optional open-ended questions. This alerted the conference organizers as to what contributed to the overall success or problems and challenges that conference goers encountered online. As networks have become more reliable and responsive globally, technical problems such as connectivity and user error, while still present, have decreased.

Participant responses were similarly categorized as reported previously. In 2015, as in 2006, the quality of content offered through presentations and keynote sessions was mentioned most frequently. However, comments about the convenience, flexibility, cost-effectiveness, and accessibility of a virtual conference were mentioned less often. Due to the rapid expansion of online technologies and proliferation of distance learning in the past 10 years, educators probably view an online conference as ordinary, and not especially unusual. This certainly was not the case in the early years of TCC.

By contrast, the global outreach feature of this event was mentioned. The conference coordinators have continued to reach out to colleagues in Asia and Europe by participating in international conferences sponsored by the Association for Educational Communications and Technology (AECT), Association for the Advancement of Computing in Education (AACE), and the Japan Association for Educational Media Study (JAEMS). This enabled the authors to identify potential featured speakers.

In 2015, reports of technical difficulties (Table 4) such as signing in to the virtual sessions along with network problems were most frequent followed by problems with website navigation and finding information. Participants also mentioned time zone challenges with the schedule that was presented in Hawaiian Standard Time. Overall, however, such difficulties were mentioned less frequently.

To minimize technical difficulties, the organizers provided an orientation session (including a recording) to presenters. The conference also presented a special panel session four weeks prior to the main conference to anyone interested. This event was also intended as an orientation for first-time participants to learn about the online technologies employed by the conference.

The term *badges* was mentioned for causing difficulty in 2015. The conference has deployed the use of digital badges for the past four years. As a new concept in academia, the badge culture has rapidly emerged (Casilli & Knight, 2012; Grant, 2013). Many participants are not yet familiar with its use and implications and this "problem" is expected to decrease in the next few years. The organizers were testing the potential of badges for certification and evidence of participation.

In summary, evaluation data compiled for this event since 2010 showed that the ratings for key conference indicators: content, theme, community, interaction and face-to-face comparison were consistently high as the previous study. Throughout two decades, TCC has continued to provide faculty an opportunity to participate in a high quality, global professional development event.

Conclusion

Overall, TCC presents quality and a wide variety of conference sessions. The conference organizers have continued to promote a full range of themes with the help of volunteer faculty reviewers of presentation and paper proposals. Since all sessions are recorded and archived, it is useful to email post-conference reminders to view featured recordings, which would draw interest back to the conference site and the archived sessions.

The quality of this event was verified by participant responses to key conference indicators (content, theme, community, interaction and face-to-face comparison) through an evaluation questionnaire. The results helped to monitor and maintain a high quality online event. The evaluation data was also reviewed favorably by the TCC Online Conference Advisory Panel, a group of colleagues that advise the coordinators by meeting online prior to each year's conference (https://tcchawaii.org/about/advisory-panel). A much longer, full report prepared annually may be obtained from the authors upon request.

The coordinators will continue to explore alternative ways of providing presenter orientation. Difficulties encountered by users such as poor audio quality typically result from presenters who lack preparation or use the technology without being simultaneously aware of the user experience. Masters degree candidates at the University of Hawaii, who are required to practice and prepare their presentations well in advance, present their sessions with minimal technical difficulties.

Looking ahead, the conference organizers plan to expand participation by inviting more Asian and European postsecondary faculty and graduate students. This will further information exchange and intercultural collaboration in educational technology. Graduate students from the University of Hawaii, Kansai University, and elsewhere have impressed conference organizers with their interesting, relevant, trending and high quality presentations.

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