

# 5<sup>TH</sup> SHAW-IAU WORKSHOP 2023

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## Attendees' Feedback

Office of Astronomy for Education



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# Introduction

The 5<sup>th</sup> Shaw-IAU Workshop on Astronomy for Education was held from the 29<sup>th</sup> of November to the 1<sup>st</sup> December 2023 (UTC time). This iteration of the workshop included the core sessions that have featured in previous Shaw-IAU workshops, a special topic session, a science topic session, as well as several language community sessions. The full titles of each session were as follows:

- Teaching Methods and Tools
- Astronomy Education in Practice
  - Astronomy in Primary/Elementary Schools:
  - Astronomy in Secondary/High Schools
- Astronomy Education Research and Evaluation
- astroEDU
- Special Topic: Astronomy Education Beyond the Classroom:
  - Planetaria, Science Centers, and Museums
  - Amateur Astronomy in a School Setting
  - When Scientists Go Back to School
- Science Topic: Planetary Climate
- Language Community Sessions:
  - Arabic
  - Hebrew
  - Portuguese
  - Romanian
  - Spanish

All sessions bar the language community sessions were repeated at different times to accommodate different time zones.

Given the funding and resource behind the Shaw-IAU workshops, it was important to capture feedback from attendees on the value of the workshop, their experiences

## Methods

The 5<sup>th</sup> Shaw-IAU workshop was evaluated by gathering attendee feedback via an online survey. The survey opened with the workshop on the 29<sup>th</sup> November 2023 and closed on the 31<sup>st</sup> January 2024. All attendees of the workshop were invited to respond to the survey. A link was pinned to the 'reception' area of the workshop online platform and reminders were posted within the platform at the end of each day of the workshop. All attendees were also sent a reminder email in the beginning of January 2024.

The survey itself consisted of a combination of closed and open questions. All questions were voluntary, and all data were anonymous. The protocol for conducting this evaluation

was reviewed by the Cardiff University School of Social Sciences Research Ethics Committee and granted a favourable opinion.

Simple descriptive statistics were performed on closed question data. Content analysis was performed on all open text data to identify common topics and concepts across responses.

## Results

The 5th Shaw-IAU workshop had approximately 790 attendees. The survey yielded 254 responses, demonstrating a response rate of 32.2%.

Respondents provided representation across 65 countries. The biggest proportion of attendees represented Romania (25.6% of attendees, n=65), India (13.8%, n=25) and Venezuela (8.3%, n=21).

Gender representation was approximately equal, with 52.4% (n=133) responding as male, 46.1% (n=117) as female and 1.6% preferring not to say. No responses cited other genders.

Respondents demonstrated a variety of professional roles, however secondary/high school teachers were most prevalent (29.5%, n=75). The range of professional roles are summarised in Figure 1. Of those who indicated 'other', these were primarily university students.

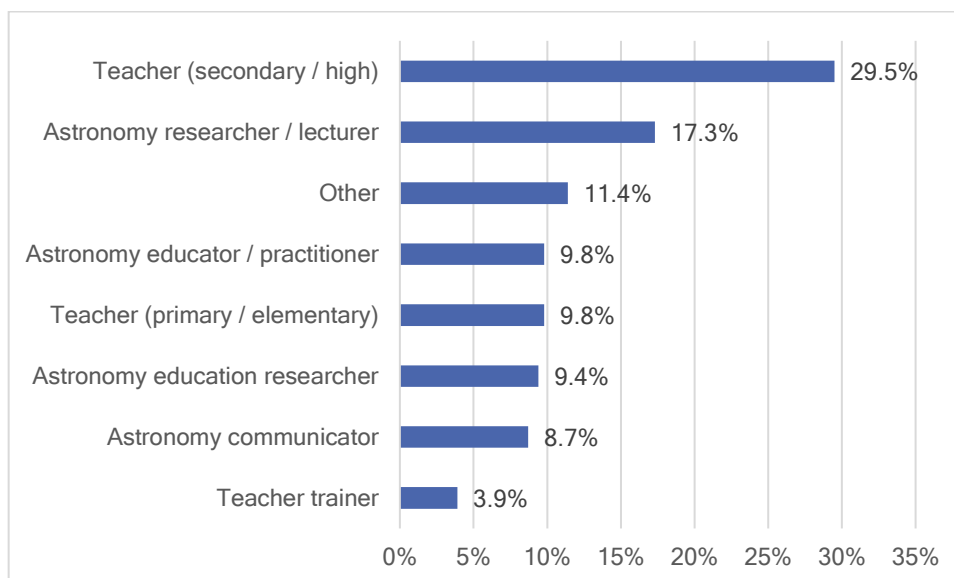
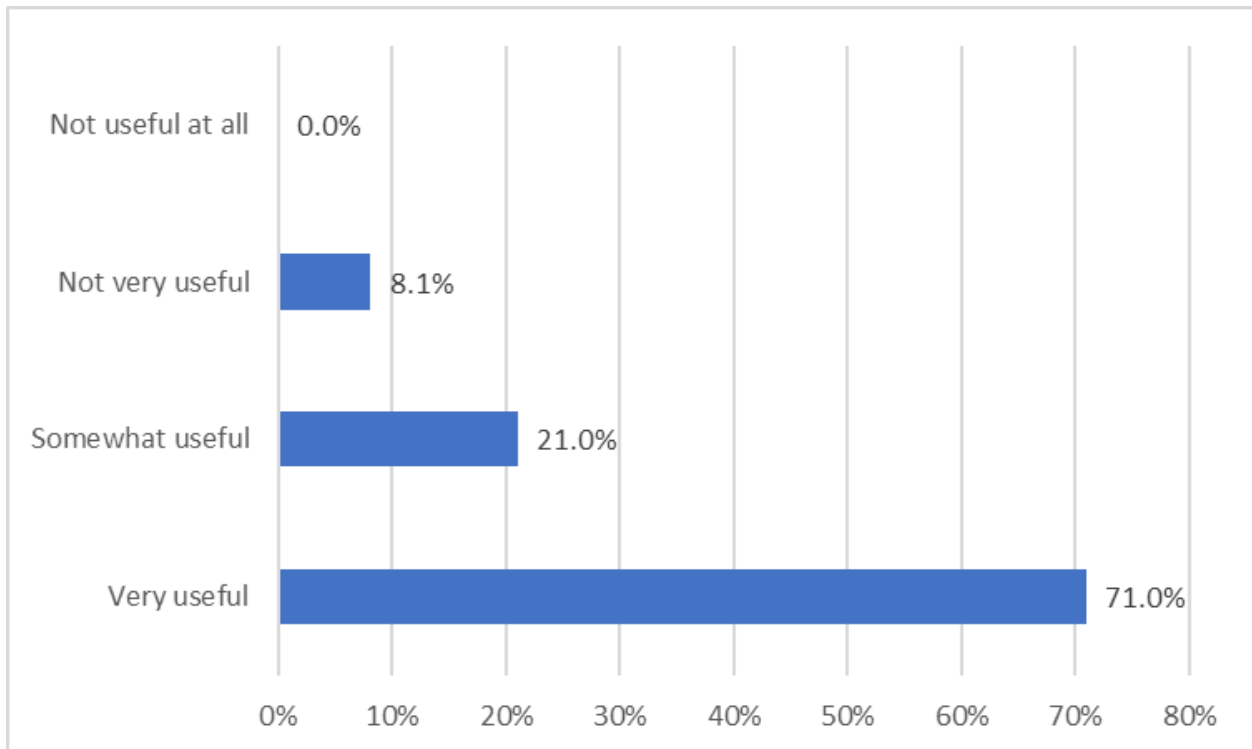


Figure 1 - Professional roles that best describe those of the respondents

### GAINING FEEDBACK ON ASTRONOMY EDUCATION WORK

Respondents were also asked in what capacity they attended the workshop, and to indicate all categories that applied to them. Of the respondents, 16.3% (n=41) had presented a talk, and 10.8% (n=27) had presented a poster.

Of those who presented a talk or poster, the majority (71.0%, n=44) found the workshop very useful in gaining feedback on their work. Alternatively, 21.0% (n=13) found the workshop to be somewhat useful in this area, with 8.1% (n=5) finding it not very useful. No respondents indicated the workshop to be not useful at all in gaining feedback. These results are summarised in Figure 2.



*Figure 2 - How useful attendees who presented a talk or poster found the workshop to be in gaining feedback on their work*

### **CONNECTING WITH OTHERS**

Of the respondents, 50% (n=125) felt the workshop presented a fair number of opportunities to connect with other attendees, with 34% (n=85) expressing there were a lot of opportunities.

Approximately two thirds of respondents reported making new connections at the workshop, whether that be a few (62%, n=153) or a lot (9%, n=21).

### **GAINING NEW KNOWLEDGE**

Results were indicative that new knowledge gains were prevalent across respondents. Respondents were asked if they gained any knowledge in the six key areas listed in Figure 3.

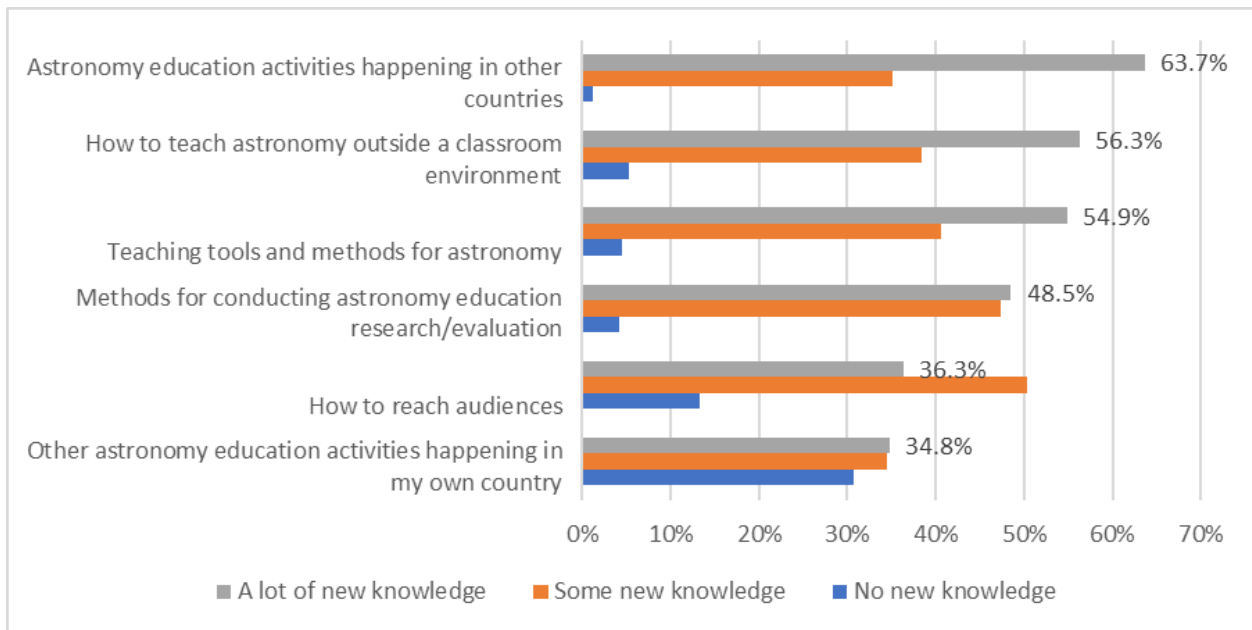


Figure 3 - Responses to the survey question 'Did you gain new knowledge in any of the following areas during the workshop?'

More than half of respondents reported gaining a lot of new knowledge in astronomy education activities happening in other countries, how to teach astronomy outside a classroom environment, and teaching tools and methods for astronomy. For all six areas, approximately 70% or more of respondents gained at least some new knowledge, and for four areas, this was true for approximately 90% or more of respondents.

Although 30.7% (n=75) of respondents reported no new knowledge gains around astronomy education activities happening in their own country, it is likely this is because they entered the workshop with a relatively full understanding.

## ACCESSIBILITY

Almost 85% of respondents found it either somewhat easy (39.1%, n=99) or very easy (45.1%, n=114) to navigate the online workshop platform, Hopin.

Thirty-eight percent of respondents reported being unable to attend all sessions that interested them. The most common reason for this was due to the time slot for the session not being appropriate (45.7%, n=43), however other issues included clashes with other sessions and connectivity issues. The most commonly reported reason related to 'other' was around other working commitments. These results are summarised in Figure 4.

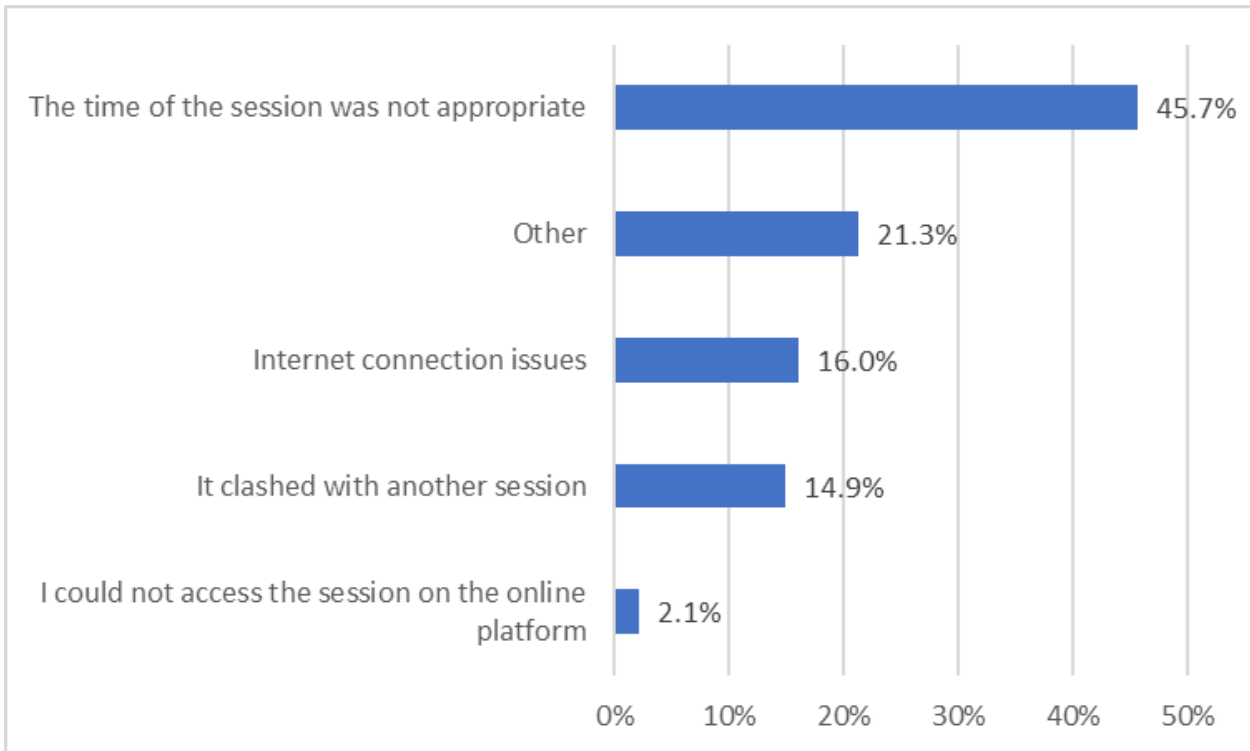


Figure 4 - Responses to the survey question: 'What prevented you from attending sessions?'

#### FORMAT OF SHAW-IAU WORKSHOPS

There was considerable preference for future workshops following the same format - an international conference with participants from many different countries, as opposed to either a regional conference with neighbouring countries (e.g. by continent), or a national conference. Respondents were asked to choose their single preferred format. The spread of responses is summarised in Figure 5.

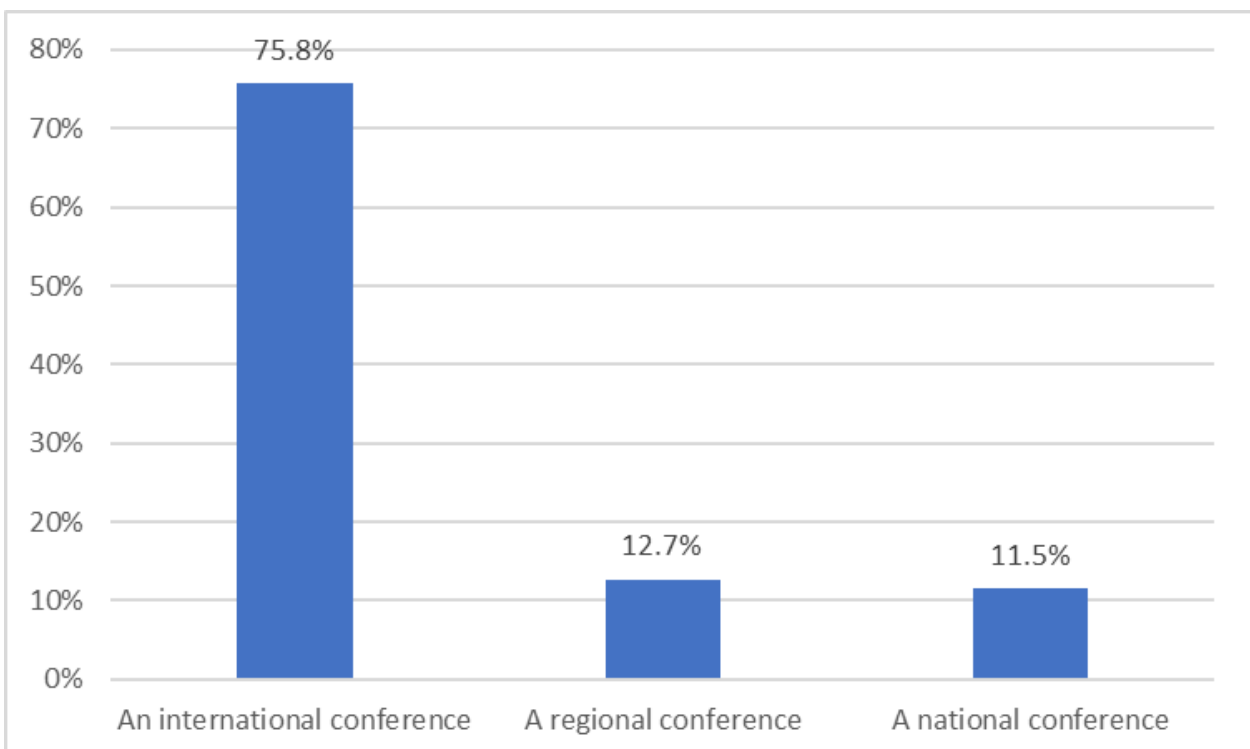


Figure 5 - Response to the question: 'Which of the following formats would you prefer for future workshops?'

Although asked to choose a single preferred format, open text comments demonstrated how respondents held a desire for a combination of formats, or commented on the benefits and challenges of each. A total of 65 open text comments were yielded, 45 of which were relevant to the formatting of the workshop.

International conferences were recognised as providing an insight into astronomy education activities across the globe that can be learned from. This was seen as particularly useful for practitioners in countries where astronomy education research is not prevalent. However, others highlighted the value of regional or national conferences where attendees share cultural dimensions and traditions.

Respondents also reflected on various preferences for in-person versus online workshops. Although online formats are more accessible and have lower associated costs, in-person formats offer more meaningful interaction and engagement with fellow attendees.

Table 1 summarises the focus of respondents' comments on the format of the workshop, detailing the number of relevant responses and some examples. All responses are provided in Appendix 1.

*Table 1 - Summary of responses to the question: 'Do you have any comments on these different formats?'*

Format of future Shaw-IAU workshops	Number of relevant responses	Example responses
Combination of international and regional meetings	15	It is important to know what is happening in Astronomy Education at the international level but it is also important to know what is new in each one country.  Maybe the first two [international and regional] can be possible, in two different moments of the year? Or a day/session in the international conference where people are organized in their national countries.
International	10	When there are people of different countries and different continents enrich the experience.  I would like a physical multi-day international conference. My country or region is not very active in AER, so I would like an international conference and I prefer physical conferences to online ones. Can you consider organizing something like that at least some of the time (maybe every other year)?
In-person format	9	Face-to-face interaction is a better format for future conferences.

Online format	5	Virtual workshop[s] are effective. These are cost and time effective.  The virtual format allows more people to attend without worrying about travel costs. I also appreciate that there is no registration fee because that means there are no costs involved as long as one has a computer and internet access.
Pros and cons of different formats	4	The online format makes [it] more difficult to talk to other researchers, but it is also more flexible (you don't have to travel and so on), so I think it is positive.  Regional conferences are more convenient for the offline version, but international conferences are better in terms of exchange experience on a larger scale.
Regional	4	It is better to have some common exposures on how culture and tradition can help. An international platform will not be of great use here.

## SUGGESTED IMPROVEMENTS

Respondents were also asked if they had any suggestions about how their experience of the Shaw-IAU workshop could have been improved. This yielded 131 responses, and approximately 65 cited suggestions for specific improvements. Of the remaining 70 responses, 58 were solely positive comments, and eight were not clear or relevant to improvements.

Suggested improvements centred around 11 areas. These areas are described below and listed in Table 2 with examples of relevant responses. All responses are provided in Appendix 2.

The most common suggested improvement centred around the **dates and times of the workshop and sessions**. Some felt the programme would be better spread out over additional days rather than condensed into three. Some respondents also felt that parallel sessions should be avoided.

Several respondents suggested introducing **additional opportunities for attendees to interact** with each other. Some wanted to see more discussions in sessions (not just via the chat function), and more structured discussion sessions for networking. Relatedly, respondents suggested more structured opportunities to **interact with poster presentations**, and there was also a desire for a designated space on the platform for people to **upload and share resources**.

There were suggestions for **particular topics and themes** that could be included in future programmes. Some also portrayed preference for an in-person workshop rather than online. Some respondents also desired more representation of different languages.



Some reported **connectivity or technical difficulties**, though some recognised this was out of the control of the OAE. Similarly, some described some usability issues with the platform and **presentation of the workshop schedule**. Respondents suggested a ‘how to’ guide or initial tutorial at the start of the workshop for using the platform (although this is something that is already provided in the opening ceremony of the conference) and a PDF version of the programme for readability. There were also expressions for earlier communication and information around the workshop.

*Table 2 - Summary of responses to the question ‘How could your experience of the Shaw-IAU workshop have been improved?’*

Area for Improvement	Number of relevant responses	Example responses
Dates and times of workshop and sessions	13	<p>Certain sessions of same interests could be given different timings and along with would like to suggest to kindly take into consideration the timing of participating or collaborating regions/countries.</p> <p>I think the fully online workshop is great, also the repeated sessions. However, if you want to try to see all of the different sessions, it does become rather intense in a 3-day period. I wonder if it would be worth looking at spreading the workshop out over a whole week and having a less dense format. Still having sessions repeat, and the same number of sessions as now, but over more days. This could also give more time to e.g. browse the posters and arrange some more networking sessions.</p> <p>Since this is online, there is no need for parallel sessions. I missed a few from the other sessions.</p>
Interaction with attendees	8	<p>I would have liked to be able to interact with the presenters and other participants in a live video discussion after their presentations, please.</p> <p>I do love the format, but missed having more in-depth discussions.</p>
Resource sharing	8	<p>As a teacher, it was very helpful for me to learn all new tools to make my astronomy teaching better. I could connect with people. but I feel we lack a platform where we can go [to] upload our resources and get other people[‘s] resources.</p> <p>Possibility to download a small presentation with essential information about every talk I attended.</p>

Workshop content / session topics	7	<p>I think the workshop was excellent. I think that we could use a job opportunity session, that would be very helpful.</p> <p>With a better evaluation of the contributions about Astronomy Education Research to be presented in the workshop.</p>
In-person format	7	I would have liked the conference to be in a physical, face-to-face format.
Platform usability	5	<p>Would suggest for the first sessions to repeat how these will work, in particular that the talks are recorded and questions will be at the end. Also emphasize where to put the questions. Explain more how the posters will work. That was slightly confusing to me.</p> <p>Make the platform more user friendly and make the connection more stable.</p>
Technical / connectivity issues	6	There were some issues with playing the videos, but they were not very important.
Early communication around SIW	4	<p>If I had more information beforehand on what each session was about, in order to make a preliminary schedule of what I would be able to attend.</p> <p>Before individuals enter, a guidebook should be provided on how to use this platform.</p>
Schedule format / presentation of schedule	3	I would have liked a short format PDF program/schedule or a schedule that is easier to read. The one on the website was a bit confusing in that I couldn't always easily know whether the presentation was associated with the abstract above or below their name. I also couldn't easily tell which talks were happening when in parallel sessions to be able to move back and forth those parallel sessions.
More representation of different languages	3	Opción a otros idiomas [Option for other languages]
Interaction with posters	2	More free time for the posters or alternatively let the posters authors to have a slot of 2-3min each to explain their work at the end of each of the sessions.

In terms of the comments that were solely positive reflections and did not reflect any suggestions for improvements, these were categorised into five key areas: general comments, learning gains, organisational aspects, opportunities to interact with others, and language sessions. These areas are described below and listed in Table 3 with examples of relevant responses. All responses are provided in Appendix 3.

*Table 3 - Summary of positive open-text responses*

Area of positive feedback	Number of relevant responses	Example responses
General	37	Very interesting, useful and inspiring!  Everything was perfect.
Learning	24	First of all, I learnt some really great tricks, demonstrations, and techniques while teaching astronomy at school. This also applies to theme-based software. And it was also useful to hear about some methods that will help to better engage the auditory during public lectures.  By participating in the event, I learned about many training opportunities, had access to various materials, which will have a beneficial effect on my work in the classroom.
Interaction with others	7	I've met people eager to spread their experience and enjoy other opportunities in the field.  I met some important people and projects. It was very inspiring.
Organisational	5	The workshop was well organized and worthwhile.  The conference was extremely well-organized in terms of schedule thanks to the pre-recorded videos.
Language sessions	1	I would also like to praise the special sessions that take care of those who speak one language, and I find them a tremendous opportunity to also communicate among themselves and exchange ideas. It is even possible to create joint projects.

# Summary and Next Steps

Respondents' feedback on their experiences of the 5th Shaw-IAU workshop and suggestions for improvements and future formats is a valuable information source for the planning of future workshops. Below is a summary of the main findings from the evaluation survey and the intended next steps of the OAE.

- Respondents to the SIW feedback survey provided representation across 65 countries, with approximately equal representation of males and females.
- Respondents demonstrated a variety of professional roles, however teachers were most prevalent, representing nearly 30% of respondents.
- Of respondents who presented a talk or poster, 92% found the workshop either *somewhat useful* or *very useful* in gaining feedback on their work.
- Eighty-four percent of respondents felt the workshop presented either *a fair number* or *a lot* of opportunities to connect with other attendees.
- Knowledge gains were prevalent. More than half of respondents reported gaining *a lot of new knowledge* in astronomy education activities happening in other countries, how to teach astronomy outside a classroom environment, and teaching tools and methods for astronomy.
- Almost 85% of respondents found navigating the online platform, Hopin either *somewhat easy* or *very easy*.
- Nearly 40% of respondents reported being unable to attend all the sessions that interested them, the most common reason was due to the time slot for the session not being appropriate.
- There was considerable preference for future workshops following the same format - an international conference with participants from many different countries.
- However, open-text responses demonstrated respondents' desire for a combination of formats: international, regional, and national workshops, as well as in-person and online workshops.
- Many open text responses provided positive feedback about the workshop, with many highlighting the learning offered.

The OAE have begun a process of reviewing the results of the 5th Shaw-IAU workshop feedback and are discussing how the format of future SIW might evolve.

# Appendices

The following sections provide all responses to the open-text questions within the feedback survey. In many cases, respondents made multiple points or comments in their responses that were relevant to different areas. This means that there may be more comments listed in the tables than individual responses, or responses are repeated. These have been highlighted in italic.

To protect the identity of respondents, any potentially identifiable data has been replaced in square brackets with a more generic statement.

## APPENDIX 1: ALL OPEN-TEXT RESPONSES TO THE QUESTION: 'DO YOU HAVE ANY COMMENTS ON THESE DIFFERENT FORMATS?'

Format of future Shaw-IAU workshops	Responses
Combination of international and regional meetings	<p>It is important to know what is happening in Astronomy Education at the international level but it is also important to know what it is new in each one country.</p> <p>Maybe the first two [international and regional] can be possible, in two different moments of the year? Or a day/session in the international conference where people are organized in their national countries.</p> <p>My preference is for a combination of the above formats, please. Thank you for your consideration.</p> <p>All is OK and each one has an advantage than the other.</p> <p>An international conference if it is online give a lot of us the chance to join. The other formats are also interesting, if possible maybe a combination of the three would be interesting.</p> <p>It is great to learn about what other countries are doing and how these are similar or different. But also would be good to more time for regional sessions.</p> <p>I still appreciate the existence of some national sessions.</p> <p>The answer was for "preference" but all three methods are useful.</p> <p>It's good if including other formats in different levels.</p> <p>Yes, an international conference will widen people's cooperation and collaboration from different backgrounds and experiences. But regional and national ones face people from similar perspectives and experiences. Diversity will increase knowledge and skill transfer.</p> <p>All the formats were amazing &amp; great.</p>

	<p>May you put more than one choice.</p> <p>I would actually like all of these options to run independently.</p> <p>Both international and regional conferences are interesting for us, but a slight preference is given to the regional.</p> <p>The on-line workshop format worked really well for me last year as a participant, but this year as a presenter I found it really difficult to get feedback on my work, and the discussions I tried to have with other participants did not work out. In an ideal world we would have an on-line conference like this one to learn about each others' work, and then an additional in-person conference for more in depth discussions and conversations. I opted above for a regional conference because of carbon footprint.</p>
International	<p>When there are people of different countries and different continents enrich the experience.</p> <p><i>I would like a physical multi-day international conference. My country or region is not very active in AER, so I would like an international conference and I prefer physical conferences to online ones. Can you consider organizing something like that at least some of the times (maybe every other year)?</i></p> <p>I personally prefer to choose conferences/workshops/sessions etc on topic rather than location. An international setting is therefore the most useful.</p> <p>International conference: opportunities of practice sharing, new perspectives on teaching astronomy, a chance to take part in a workshop with native participants from [my country].</p> <p>Not only astronomy, but all physical education in my country remains at a relatively low level. Before the war, we had some progress in promoting science subjects, but the "bare" programming that can provide a large salary suppressed everything. So, to restore interest in the sciences, we really need to have strong international support, at least in the promotion of such sciences.</p> <p>It's important to know what is new in the field of astronomy and astrophysics education worldwide. I also enjoyed the [language specific] workshop because I found out about many more projects and activities that I can join in the future.</p> <p>The many countries option is better because I would like to find out what other people are doing in terms of Astronomy education in their homelands.</p> <p><i>An international conference with participants from many different countries is needed for face-to-face interactions in the days to come.</i></p> <p>Ver la diferencia en otras latitudes y experiencias a nivel mundial. [See the difference in other latitudes and experiences worldwide].</p>

	<p>Only reinforce and expand global participation and integrate experiences with representation of children or young people, who are the ones who finally receive the information and who guide us to outline the communication channel with them.</p>
In-person format	<p>Face-to-face interaction is a better format for future conferences.</p> <p>I will prefer in presence workshop for this reason I will prefer participants from countries neighbouring my own to increase the possibility for participants to be in presence.</p> <p>When face to face participants will be very effective.</p> <p>Try face to face conferences.</p> <p>Next year in person please!</p> <p>Shaw-IAU workshops are very good, but an international meeting would give the personal contact that virtuality can't provide.</p> <p>Face-to-face interaction is a better format for future conferences.</p> <p>The workshop was really very good but actually eager to mention that a brief more details with hand on session is required in certain topics as Astronomy research with students and other members. Can I organise next Shaw-IAU workshop at my university in [specific region and country] under the umbrella of IAU?</p> <p><i>I would like a physical multi-day international conference. My country or region is not very active in AER, so I would like an international conference and I prefer physical conferences to online ones. Can you consider organizing something like that at least some of the times (maybe every other year)?</i></p> <p><i>An international conference with participants from many different countries is needed for face-to-face interactions in the days to come.</i></p>
Online format	<p>Virtual workshop are effective. These are cost and time effective.</p> <p>The virtual format allows more people to attend without worrying about travel costs. I also appreciate that there is no registration fee because that means there are no costs involved as long as one has a computer and internet access.</p> <p>Online is better because of the costs.</p> <p>Thanks for keeping the virtual format. It makes things easier for us as teachers.</p> <p>No, me gustó y estuvo muy cómodo el formato usando. [No, I liked it and the format was very comfortable using].</p>

Pros and cons of different formats	<p>The online format makes more difficult to talk to other researchers, but it is also more flexible (you don't have to travel and so on), so I think it is positive.</p> <p>Regional conferences are more convenient for the offline version, but international conferences are better in terms of exchange experience on a larger scale.</p> <p>Regional would be more time-zone friendly, though it would limit connection opportunities.</p> <p>All formats have their pros and cons. I'd be happy to take part in any of those formats.</p>
Regional	<p>It is better to have some common exposures on how culture and tradition can help. An international platform will not be of great use here.</p> <p>Besides is important make regional conferences too.</p> <p>Additionally, I would also prefer to indulge regional participants, back home, for better approach in outreach activities.</p> <p>It would be nice for people like us from such country to engage in such activities.</p>

## APPENDIX 2: ALL OPEN-TEXT RESPONSES TO THE QUESTION: 'HOW COULD YOUR EXPERIENCE OF THE SHAW-IAU WORKSHOP HAVE BEEN IMPROVED?'

Area for Improvement	Responses
Dates and times of workshop and sessions	<p>Certain sessions of same interests could be given different timings and along with would like to suggest to kindly take into consideration the timing of participating or collaborating regions/countries.</p> <p>I think the fully online workshop is great, also the repeated sessions. However, if you want to try to see all of the different sessions, it does become rather intense in a 3-day period. I wonder if it would be worth looking at spreading the workshop out over a whole week and having a less dense format. Still having sessions repeat, and the same number of sessions as now, but over more days. This could also give more time to e.g. browse the posters and arrange some more networking sessions.</p> <p>Since this is online, there is no need for parallel sessions. I missed a few from the other sessions.</p> <p>I would prefer to have more free time and not overlap with the already very busy schedule.</p>



	<p>Alocarea unui interval orar mai mare pentru a valorifica experientele celor care prezintă. [Allocating a larger time slot to capitalise on the experiences of those presenting].</p> <p>Sería excelente un día más de duración del evento. [An extra day of event duration would be excellent].</p> <p>By making spaces at least a day after the completion of one session.</p> <p>Using Hopin's platform and interactive workshop. There are a lot of choices for me to select sessions and attend. But I missed many sessions because of other commitments at my workplace.</p>
Interaction with attendees	<p>I would have liked to be able to interact with the presenters and other participants in a live video discussion after their presentations, please.</p> <p>I do love the format, but missed having more in-depth discussions.</p> <p>By getting to know other educators and other methods of astronomical education in my country.</p> <p>By sharing experience from other teachers.</p> <p>By allowing us to speak during the talk and talk about our experiences of Astronomy education on the spot.</p> <p>Increase diversity of participants and provide even more opportunities for networking and collaboration after finishing the workshop.</p> <p>Establish resources that allow greater interactivity.</p> <p>I do love the format, but missed having more in-depth discussions.</p> <p>I could use the chat/messages more, so that I could come in contact with more people.</p>
Resource sharing	<p>As a teacher, it was very helpful for me to learn all new tools to make my astronomy teaching better. I could connect with people. but I feel we lack a platform where we can go upload our resources and get other people resources.</p> <p>Possibility to download a small presentation with essential information about every talk I attended to.</p> <p><i>Also, a complete list of participants and contacts of attendees and participants can be shared with us to contact them even after the workshop, when required. However, it was a great workshop and keeping agenda clear.</i></p> <p>I would like to have all this materials (videos, posters) later, after workshop.</p> <p>Shared activities.</p>

	<p>If the presenters are welcome to shared the resources or their project website. will it be post in the workshop web/ YouTube description?</p> <p>Offering post-workshop support or resources, such as follow-up emails, access to an online community, or additional materials.</p> <p>Dezvoltarea de resurse pe plan national. [Development of national resources].</p>
Workshop content / session topics	<p>I think the workshop was excellent. I think that we could use a job opportunity session, that would be very helpful.</p> <p>With a better evaluation of the contributions about Astronomy Education Research to be presented in the workshop.</p> <p>I would like this virtual format of the astronomy education workshop to continue. Further, I also would like to suggest inclusion of exclusive session on the role of the astronomy education through development of customised planetarium shows.</p> <p>Through the good practice examples of the participants.</p> <p>More information about Astronomy.</p> <p>The workshop is very nice and very informative. By adding a new research with the new terminology.</p> <p>New things to find out and to learn.</p>
In-person format	<p>I would have liked the conference to be in a physical, face-to-face format.</p> <p>By having an in-person workshop! I'm tired of on-line meetings... They are so ineffective.</p> <p>I don't prefer any remotely workshop (via internet).</p> <p>Face to face workshop.</p> <p>Attending international astronomical conferences and visiting astronomical observatories.</p> <p>By organizing it in offline mode and the participants will be called there for presentation on the basis of funding.</p>

Platform usability	<p>Would suggest for the first sessions to repeat how these will work, in particular that the talks are recorded and questions will be at the end. Also emphasize where to put the questions. Explain more how the posters will work. That was slightly confusing to me.</p> <p>Make the platform more user friendly and make the connection more stable.</p> <p>The name of the sessions should be embodied in the title - so instead of "Parallel Session 14" it would say "Planetary Climate". Or combine the two, like Parallel Session 14: Planetary Climate.." I found the way it was now somewhat inconvenient.</p> <p>By making the different session of the same theme clearer. I missed some sessions because I thought I had already attended and only discovered in the end there was various different sessions under same theme: astronomy beyond the classroom.</p>
Technical / connectivity issues	<p>There were some issues with playing the videos, but they were not very important.</p> <p>It was confusing when the internet connection went down. Otherwise it was super!</p> <p>Conectividad de Internet. [Internet connectivity].</p> <p>Electrical connection in the optimal living area.</p> <p>Software glitch could be improved. I personally felt difficult concentrating to listen online lectures with freezing of hopin environment. <i>Also, a complete list of participants and contacts of attendees and participants can be shared with us to contact them even after the workshop, when required. However, it was a great workshop and keeping agenda clear.</i></p> <p>If I had better internet connection, the challenge was from my side.</p>
Early communication around SIW	<p>If I had more information beforehand on what each session was about, in order to make a preliminary schedule of what I would be able to attend.</p> <p>Before individuals enter, a guidebook should be provided on how to use this platform.</p> <p>Better (and earlier) communication like in previous years.</p> <p>I totally understand that there's an overwhelming number of attendees, but closing the applications for talks 3 months in advance... isn't it too early?</p>

Schedule format / presentation of schedule	<p>I would have liked a short format PDF program/schedule or a schedule that is easier to read. The one on the website was a bit confusing in that I couldn't always easily know whether the presented was associated with the abstract above or below their name. I also couldn't easily tell which talks were happening when in parallel sessions to be able to move back and forth those parallel sessions.</p> <p>The schedule has to be in another format. It is quite difficult to check the titles of the talks in every parallel session, you need to navigate a bit before finding that info. Having the abstracts mixed with different dates and times makes it difficult to find out what is happening at each moment. I think this is definitely something to improve for the future.</p> <p>The entity of the schedule was not very clear to me, but it is probably my fault.</p>
More representation of different languages	<p>Opción a otros idiomas [Option for other languages]</p> <p>Traducción al español [Translation to Spanish]</p> <p>Varieties of foreigner practices.</p>
Interaction with posters	<p>More free time for the posters or alternatively let the posters authors to have a slot of 2-3min each to explain their work at the end of each of the sessions.</p> <p>I don't know how to fix this but the posters seem like they could be more interactive. It wasn't clear if you should comment in the Q&amp;A or the chat section. It didn't look like a lot of people were commenting in there. But also, maybe people need better instructions on how to create a poster that will engage an audience like this. Maybe provide some examples. And then sessions could provide more reminders of *how* to interact (not just what the poster titles are).</p>

### APPENDIX 3: ALL POSITIVE OPEN-TEXT RESPONSES

Positive area	Responses
General	<p>Very good experience.</p> <p>Very interesting, useful and inspiring!</p> <p>Everything was perfect.</p> <p>I think they are good as they are now.</p> <p>Este ok asa. [it's okay like this].</p> <p>The best experience!</p> <p>A fost bine, felicitari! [It was good, congratulations!]</p>

It was complete.

It was totally great and got really amazing experience.

It was a holistic wonderful session.

Excelente me ayudaron mucho para seguir impartiendo las

ideas a los estudiantes. [Excellent, they helped me a lot to continue imparting the ideas to the students.]

Fantastic!

Good.

Everything was great and I would like to participate more.

Good.

Sure.

Excelent.

Excelente.

The workshop was great and no improvement is needed.

Very good.

There aren't. The experience was perfect.

Excellent

Excellent

Congratulations!

Thank you.

It's better than past events a little bit.

It is excellent.

Prin participarea mea la mai multe activități. [Through my participation in several activities].

Fue una experiencia muy interesante que servirá de mucho para mis estudios. [It was a very interesting experience that will be very useful for my studies].

Excelente muy acertados (Excellent very accurate).

Wonderful session

	<p>Keep them going!</p> <p>A fost interesant (it was interesting)</p> <p>I was experience wondfull thak you</p> <p>Congratulations, excellent workshop!</p> <p>Thank you for the oppportunity and for spreading interesting ideas!</p>
Learning	<p>First of all, I learnt some really great tricks, demonstrations, and techniques while teaching astronomy at school. This also applies to theme-based software. And it was also useful to hear about some methods that will help to better engage the auditory during public lectures.</p> <p>By participating in the event, I learned about many training opportunities, had access to various materials, which will have a beneficial effect on my work in the classroom.</p> <p>The meeting is very useful and a great effort from the Astronomy Education Office and its organizing committee. We thank you for all this support. The meeting achieves many goals, including: First: we teach ourselves through the exchange of contributions between specialists in astronomy, education, and teachers, and making this available to students will have a long-lasting impact, as these conversations will leave a huge library available and everyone can take what is useful from it, which in turn is reflected in making it available to communities indirectly through the Shaw's participants Second: Shaw allows acquaintance and communication; thus, it enables all to be in global networking for teaching astronomy on the globe. Third: I would also like to praise the special sessions that take care of those who speak one language, and I find them a tremendous opportunity to also communicate among themselves and exchange ideas. It is even possible to create joint projects. Fourth: Many of the speakers and conversations are very inspiring and very diverse. Even one topic is approached by two people differently and from multiple angles. Fifth: The posters were also important and allowed the presentation of many ideas and topics and were very interesting. Finally: The main advantage is that it holds virtually and there are parallel sessions that are repeated again. Later on, I will follow many conversations to learn from it.</p> <p>I learnt new things regarding astronomy.</p> <p>It was very educational.</p> <p>It helped me to improve my knowledge.</p> <p>A lot of shared experience and useful information.</p> <p>I learner many new things, which definitely going to help me.</p> <p>Learned a lot from the workshop.</p> <p>It helped me improving my knowledges.</p>

	<p>Was very useful, I found out many new things that can be applied in the classroom.</p> <p>I got a lot of knowledge and how to spread astronomy in my country.</p> <p>Yes, I gained new things.</p> <p>Very much informative and knowledgeable.</p> <p>I enjoyed new idea to teach astronomy or to make experiments for understanding astronomical phenomena.</p> <p>It enhanced my knowledge related to astronomy and provided a platform for great opportunity to improve the skills.</p> <p>I have learned a lot.</p> <p>Obtuve nuevos conocimientos. [I gained new knowledge].</p> <p>Learning new methods for education.</p> <p>Let me know a lot of activities carried out in different countries around the world.</p> <p>I believe it has already contributed various general aspects about some issues I hadn't thought of yet. I generally love mathematical aspects used in problems of astronomy and astrophysics or space techniques.</p> <p>Workshop was very informative</p>
Interactions with others	<p>I've met people eager to spread their experience and enjoy other opportunities in the field.</p> <p>I met some important people and projects. It was very inspiring.</p> <p>This is my first time. I am gone through the different topics used by the presenters. I am very happy to find presenters from India and neighbouring countries.</p> <p>The meeting is very useful and a great effort from the Astronomy Education Office and its organizing committee. We thank you for all this support. The meeting achieves many goals, including: First: we teach ourselves through the exchange of contributions between specialists in astronomy, education, and teachers, and making this available to students will have a long-lasting impact, as these conversations will leave a huge library available and everyone can take what is useful from it, which in turn is reflected in making it available to communities indirectly through the Shaw's participants Second: Shaw allows acquaintance and communication; thus, it enables all to be in global networking for teaching astronomy on the globe. Third: I would also like to praise the special sessions that take care of those who speak one language, and I find them a tremendous opportunity to also communicate among themselves and exchange ideas. It is even possible to create joint projects. Fourth: Many of the speakers and conversations are very inspiring</p>

	<p>and very diverse. Even one topic is approached by two people differently and from multiple angles. Fifth: The posters were also important and allowed the presentation of many ideas and topics and were very interesting. Finally: The main advantage is that it holds virtually and there are parallel sessions that are repeated again. Later on, I will follow many conversations to learn from it.</p> <p>Other cultures, therefore other types of good practices.</p> <p>Finding it as a great opportunity to network with eminent personalities in the field. This can provide a perfect platform to proliferate, provide mutual exchange of ideas and concepts in the realm of astronomical outreach and studies.</p> <p>I have greatly benefited from leveraging the experiences of others in the field of astronomy, which has equipped me to make significant contributions to the astronomy community in the future.</p>
Organisational	<p>It was well organized workshop.</p> <p>The workshop was well organized and worthwhile.</p> <p>The conference was extremely well-organized in terms of schedule thanks to the prerecorded videos.</p> <p>Since the workshop was during school hours, I was able to connect after my school lessons. So it was good that the sessions was repeated.</p> <p>The idea of taking a scientific area of research, in this case planetary atmospheres and focusing many of the outreach and educational talks around it was a good idea.</p> <p>Very nice with repeating some sessions and the youtube organised playlists.</p>
Language sessions	<p><i>The meeting is very useful and a great effort from the Astronomy Education Office and its organizing committee. We thank you for all this support. The meeting achieves many goals, including: First: we teach ourselves through the exchange of contributions between specialists in astronomy, education, and teachers, and making this available to students will have a long-lasting impact, as these conversations will leave a huge library available and everyone can take what is useful from it, which in turn is reflected in making it available to communities indirectly through the Shaw's participants Second: Shaw allows acquaintance and communication; thus, it enables all to be in global networking for teaching astronomy on the globe. Third: I would also like to praise the special sessions that take care of those who speak one language, and I find them a tremendous opportunity to also communicate among themselves and exchange ideas. It is even possible to create joint projects. Fourth: Many of the speakers and conversations are very inspiring and very diverse. Even one topic is approached by two people differently and from multiple angles. Fifth: The posters were also important and allowed the presentation of many ideas and topics and were very interesting. Finally: The main advantage is that it holds virtually and there are parallel sessions that are repeated again. Later on, I will follow many conversations to learn from it.</i></p>



**APPENDIX 4: MISCELLANEOUS OPEN-TEXT RESPONSES**

I highly recommend this toolkit on accessibility from Cooper-Hewitt:

<https://www.cooperhewitt.org/wp-content/uploads/2023/03/CH-Accessible-Virtual-Programming-Toolkit.pdf>

I think we can do a lot with Paxi.

In diferite forme. (in different forms)

It's my first time to attend such interesting conference. From now on I will try to participate not as attendees rather as presenter of ideas with perspective of my area.

Yes, I would like works with yours

Improved

By inviting more friends to attend, they might have the ability for application what they gain more than mine.

I would like to experience more different approaches of various points of view.

I would like to learn how to host something on similar lines from [country].

Conference for a specific subject of research. Like teaching tools only. And with some hand on sessions for the attendees to learn and the instructors to teach. Will be helpful in both way as the teaching tool can be experienced by many attendees and not only they will experience but can use for further process in future.