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COMMUNICATION

ScIQ: an invitation and recommendations to combine science and Inuit Qaujimajatuqangit for meaningful engagement of Inuit communities in research[1]

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Abstract: Researchers wishing to conduct studies in Nunavut are asked by potential funders and licensing agencies to incorporate Inuit Qaujimajatuqangit (IQ) and meaningfully engage Inuit communities, but they must usually interpret for themselves what this means and how to do it in practice. As a group of Inuit youth from four Nunavut communities, we have developed a concept we call ScIQ (pronounced *sigh-cue*) to describe how science and IQ can be combined for more meaningful engagement to benefit both Inuit communities and scientific researchers. ScIQ is based on the understanding that IQ is not only knowledge that Inuit have gained over many generations; it is more holistic and includes Inuit values, customs and principles for living our lives. Incorporating IQ into research then, should be as much about how research is conducted as it is about data collected from Inuit and local knowledge used to conduct the research. Over a five-day Ikaarvik Youth ScIQ Summit in Cambridge Bay, Nunavut, we developed 45 recommendations for specific things researchers can do before, during, and after their research that, from our perspective, are examples of truly incorporating IQ and result in more meaningful engagement of Inuit communities. This paper presents the Ikaarvik ScIQ recommendations.

Qaujisaqtiit qaujisarniqarumajut Nunavummi apirijauvut kiinaujaqaqtiutuinnarialingni amma laisansitaaqtittijiujuni ilaliujjinirmut Inuit Qaujimajatuqanginni (IQ) amma tukiqattiaqtumi ilautittinirmi Inungni nunaliujuni, kisiani tukiliurijariaqaqput immingnut qanuq tukiqarningani ammalu qanuq pilirianguvangningani atuqtauninganut. Katinnganiulutik Inungni makkuktuni tisamani Nunavummi nunaliujuni, pivalliatittisimavugut isumagijautuinnarniujumi taijavut ScIQ (taijausuuq *sigh-cue*) unikkaarinirmi qanuq qaujisarniq amma Inuit Qaujimajatuqangit katitirijaujunnarningani tukiqattiarniqsaujumi ilautittiniujumi pivaallirutiqarniaqtumut tamakkini inungni nunaliujuni amma qaujisarnirmut

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qaujisaqtiujuni. ScIQ tunngaviqaqpuq tukisiumaniujumi Inuit Qaujimajatuqangit qaujimanituinnaunnginningani Inuit pisimajanginni arraagugasaalungnut, iluittuuniuvuq amma ilaqaqpuq Inuit pinnarijanginni, atuqpaktanginni amma tunngaviujuni inuunirmi inuusittinni. Ilaliujjiniq Inuit Qaujimajatuqanginni qaujisarnirmut asuilaak, ilaqalluaqpuq qanuq qaujisaqtauninga pilirianguvangningani ammalu qaujisaqtaunikuni titiraqsimajuni katiqsuqtaujuni Inungni amma nunalingni qaujimaniujunut atuqtauvaktuni pilirinirmut qaujisarniujumi. Tallimanut–ullunut, Ikaarvik Makkuktuni ScIQ Katimaniujumi Iqaluktuuttiaq, Nunavummi, pivalliatittilauqpugut 45-ni atuliqujaujuni nalunaiqtausimajunut kisutuinnanut qaujisaqtiit pilirijariaqaqtanginni sivuniani, taikani amma kinguniagut qaujisarninginni, isumagijattinni, uuktuutiuvut ilaliujjillaringningani Inuit Qaujimajatuqanginni amma pitittilluni tukiqarniqsaujumi ilautittiniujumi Inungni nunaliujunit. Una paippaaq tunisivuq Ikaarvik ScIQ atuqunajaqtanginni.

Key words: Ikaarvik, Indigenous Knowledge, Inuit, Nunavut, youth, ScIQ. Ikaarvik, Nunaqaqqaaqsimajunut Qaujimaniujumi, Inuit, Nunavummi, makkuktuq, ScIQ.

Résumé : Les bailleurs de fonds potentiels et les organismes d'octroi de permis demandent aux chercheurs désireux de réaliser des études au Nunavut d'intégrer le Qaujimajatuqangit inuit (IQ) et de faire participer de manière significative les communautés inuites, mais ils doivent généralement interpréter par eux-mêmes ce que cela signifie et comment le faire en pratique. En tant que groupe de jeunes inuits de quatre communautés du Nunavut, les auteurs ont développé un concept qu'ils appellent le ScIQ (prononcer en anglais *sigh-cue*) pour décrire comment la science et le IQ peuvent être combinés pour un engagement plus significatif au bénéfice des communautés inuites et des chercheurs scientifiques. Le ScIQ repose sur la compréhension que le IQ ne consiste pas seulement en un savoir que les Inuits ont acquis sur de nombreuses générations ; il est plus holistique et inclut les valeurs, les coutumes et les principes inuits permettant de vivre leur vie. L'intégration du IQ dans la recherche doit donc porter autant sur la manière dont la recherche est menée que sur les données recueillies des Inuits et des savoirs locaux utilisés pour réaliser la recherche. Au cours d'un sommet de cinq jours de l'*Ikaarvik Youth ScIQ* à Cambridge Bay, Nunavut, ils ont formulé 45 recommandations à propos de gestes spécifiques que les chercheurs peuvent poser avant, pendant et après leur recherche et qui, de leur point de vue, constituent des exemples d'intégration véritable du IQ et aboutissent à un engagement plus significatif des communautés inuites. Cet article présente les recommandations du ScIQ Ikaarvik. [Traduit par la Rédaction]

Mots-clés : Ikaarvik, savoirs autochtones, Inuit, Nunavut, jeunes, ScIQ.

Introduction

Ikaarvik was created by Inuit youth in Pond Inlet, Nunavut, and is administered by Ocean Wise Conservation Association (See Supplementary Material S1[1], About Ikaarvik). The mission of Ikaarvik is to provide youth and their communities opportunities to identify and act on local research priorities. Through workshops in our home communities, we explore the strengths of local Indigenous Knowledge (in Nunavut, we call it Inuit Qaujimajatuqangit or IQ) and the strengths of science and how both can be combined in research. We then start with a simple question — if research was completely up to our generation and our communities, what would we focus on? We create a list of issues we feel are locally important priorities for research and share our ideas with our community to build consensus. With the support of Indigenous and non-Indigenous mentors, we develop and lead a project to address one of our research priorities through all the stages of research, from determining the research question and methods through to interpretation and communication of results. When a project requires resources that are not already in

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the community (e.g., a specific expertise, technology, or training), we are matched with research mentors who assist, provide training and advice, but allow us to fully own and run the project on behalf of our community. Ikaarvik's goal is to give Northern Indigenous youth the opportunity, confidence, and experience to create community-driven research and work effectively with researchers to meet the communities' local needs.

Ikaarvik has worked with youth in the Nunavut communities of Pond Inlet, Gjoa Haven, Cambridge Bay, Arctic Bay and Kugluktuk, the communities of Haines Junction and Burwash Landing in the Yukon, and in Salluit, Nunavik. Ikaarvik Mentors and Coordinators regularly travel from their home communities in Nunavut to work with Indigenous youth across the North. To date, Ikaarvik youth have worked with research mentors from many different universities, agencies and non-profit organizations and are supported by Indigenous mentors from across the North.

All of us have worked with researchers in our communities and have seen many others coming and going. We talk to people in our communities about their experiences with research (good and not so good) and while there are many examples of research that works very well with communities (e.g., Carter et al. 2019; Henri et al. 2019; Dawson et al. 2020; Wilson et al. 2020) we know that there are ways researchers and our communities could be working much better together. Our personal observations at the community level match those of regional, national, and international organizations who suggest that Arctic communities are often not meaningfully engaged, consulted, or informed regarding research in the North (ITK and NRI 2006; Truth and Reconciliation Commission of Canada 2015; ICC 2018, 2019; ITK 2018).

Through our work with Ikaarvik, we have learned about what researchers need to do to receive funding and conduct work in Nunavut (for example, in most cases, support for the project must be expressed in a letter from the local community's Hunters and Trappers Organization (HTO) or Hamlet, and university ethics boards must approve certain kinds of research). We understand that there are also expectations from major Arctic research agencies and funders, and from licensing bodies, that researchers working in Nunavut incorporate IQ and meaningfully engage local communities in all stages of the research (ACUNS 2003; ITK and NRI 2006; Polar Knowledge Canada 2019; Government of Canada 2020).

As we learned more about the requirements and expectations for how research is supposed to be done in Nunavut, we wondered why what we were often seeing at the community level did not match our understanding of the expectations and requirements. We have spoken with many researchers in Ikaarvik workshops, while working on our own research projects and at the annual ArcticNet conference, and have heard many times that while they are expected to incorporate IQ and work closely with our communities — and we saw that they truly want to do so, they were often frustrated that they had not received any guidance about what that *means* and what it can really look like in practice. What counts as meaningful engagement, what IQ actually is and effective incorporation of IQ into research is often left to individual researchers to interpret. We strongly believe this is one reason that these things are not occurring as well as they could despite the expectations of funders, licensing bodies, and ethics boards.

What is IQ?

IQ is a way of knowing. IQ is more than "Traditional Knowledge" because it incorporates knowledge, customs, and values (Berkes 2012). It is a way of life (Karetak et al. 2017). It is as much about how we interact with one another, our attitudes and behaviours as it is about what information we know (Wenzel 2004; Karetak et al. 2017). The Government of

Fig. 1. Ikaarvik youth and mentors at the 2018 Ikaarvik ScIQ Summit in Cambridge Bay, Nunavut. Used with permission.

Nunavut recognizes and is guided by the eight Inuit Societal Values (Government of Nunavut 2020).

Our observation has been that researchers often think of IQ as simply the equivalent to knowledge about the land, weather, and wildlife or about the way things were done in the past. Therefore, incorporation of IQ into research frequently is taken to mean asking local Inuit questions about the land, weather, or wildlife to inform the research in some way (Wenzel 2004). We believe that there is much more to incorporating IQ in research than simply "mining" Inuit for data.

Ikaarvik youth would like to make it easier for researchers to understand what meaningful engagement and incorporation of IQ into research means at the community level in Nunavut. We are interested in improving relationships between researchers and northern communities and seeing more meaningful incorporation of Indigenous Knowledge into research across the North. We have been working on this for four years and came together in Cambridge Bay, Nunavut, 19–23 November 2018 to create recommendations for how researchers can meet these expectations through specific actions, behaviours, and attitudes in all phases of research (Fig. 1). These recommendations apply to any and all research disciplines, and we believe that there are many benefits to researchers when they work closely with Inuit communities and incorporate IQ into their work.

We are not university-trained scientists or scholars, and we have not all had the benefit of a strong education system, access to high-speed Internet and Google Scholar. But, we have all worked with research in our communities and know that research can be a powerful tool. Most important, we believe that better research can empower and benefit people in both the North and the South. With this paper, we are inviting the research community into our Inuit communities and culture and suggesting ways you can work more effectively with us. Formal peer-reviewed journals are not a part of our experience or culture as Inuit and are definitely not how we normally communicate, but since we are asking you to value and respect our culture and practices, and to communicate in ways that are meaningful and relevant in the North, we feel we should do the same for you.

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Fig. 2. Inuit Elder, Piita Irniq discusses Inuit Qaujimajatuqangit with ScIQ Summit participants. Used with permission.

Methods

Ikaarvik is about empowering northern Indigenous youth to identify and address their communities' own local environmental research and monitoring priorities with the support of Indigenous and non-Indigenous mentors. We consider youth to be people between 16 and 30 years old. Youth are invited to participate in Ikaarvik based on recommendations from community leaders and organizations such as the HTO, Hamlet, Youth Coordinators, teachers, and school administrators. The youth who participated in the Cambridge Bay ScIQ Summit and created these recommendations have been involved with Ikaarvik in our communities and were invited to be a part of the Summit because of our interest and involvement in developing the idea of ScIQ. Two Ikaarvik youth each from the Nunavut communities of Kugluktuk, Gjoa Haven, Cambridge Bay, and Pond Inlet (ages 19–30) participated in the Summit on 19–23 November 2018 along with Inuit mentors from Gjoa Haven, Iqaluit, Ottawa, and Naujaat, a research mentor from Calgary and Ikaarvik leads from Pond Inlet and Vancouver (See Supplementary Materials S2[1], S3[1], and S4[1] for the ScIQ Summit Report and summary of recommendations; Supplementary Material S5[1] contains the Inuinnaqtun translation of the Abstract, Key Words, and Acknowledgements of this paper).

Inuit Elder Piita Irniq, a respected advocate for Inuit culture and inclusion of IQ in decision-making, was invited to work with us for the first two days. During the five-day workshop, we used facilitated group discussions and small group work, recording our ideas on whiteboards and large paper sheets. Days one and two were led by Piita Irniq. We discussed IQ and its value and importance in the past and also today (Fig. 2). He inspired us to explore more deeply how IQ plays a role in all our lives and this prepared us for the three days of work.

On day 3, we explored the strengths of both IQ and science in small groups (Fig. 3) and regrouped to share and to combine our ideas. This allowed us to spend an afternoon identifying what each has in common and what each can contribute to research. We revisited this topic on day 4 to explore how the principles, customs, and values that are part of IQ could help us to understand how IQ could be truly incorporated into research and what the IQ

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Fig. 3. The ScIQ Summit included small-group work. Clockwise from the top: Authors Charlene Porter, Gibson Porter, Angulalik Pedersen, Candice Pedersen, Justin Milton, and Michael Milton. Used with permission.

principles can teach us about how researchers can work better with our communities (Fig. 4). During these discussions, we began to realize that using Inuit Knowledge in research is only one part of what incorporating IQ into research truly means. Truly incorporating IQ in research, at least to us, means also following the values and principles of IQ when considering how to work with Inuit communities. With that idea in mind, the afternoon of day 4 and most of day 5 were spent generating recommendations for things researchers can do before, during, and after their research that we feel match the values and principles of IQ and also lead to more meaningful involvement of our communities in research. We came up with 45 specific recommendations of actions that can be taken before, during, and after a research project.

Near the end of day 5, we had the opportunity to present the concept of ScIQ and our recommendations to leaders from Cambridge Bay and Gjoa Haven for feedback, as well as staff and scientists from the Canadian High Arctic Research Station (Fig. 5). Their feedback was useful and encouraging.

In December 2018, some of the authors attended the annual ArcticNet conference in Ottawa. We conducted a workshop with over 80 early career scientists and presented and discussed our draft recommendations. We also presented our draft ScIQ concept and recommendations in a conference session. Feedback helped us understand what these Arctic researchers felt were most useful about the recommendations and also confirmed that there are many Arctic researchers who want to work better with Inuit communities and use IQ in their research but feel there are no simple, inviting, and clear recommendations for what that can truly look like in practice. These ideas and recommendations were presented more formally in December 2019 at the ArcticNet conference in Halifax, Nova Scotia, and we were further encouraged by the feedback and interest they generated.

What is ScIQ?

ScIQ (pronounced *sigh-cue*) is a concept that was created by Ikaarvik youth researchers to describe a more functional middle ground between science and IQ. The term was created by Ikaarvik participant Jonathan Pitseolak of Pond Inlet, and the idea was born of using the IQ principles as a path for creating better science by helping researchers and communities to

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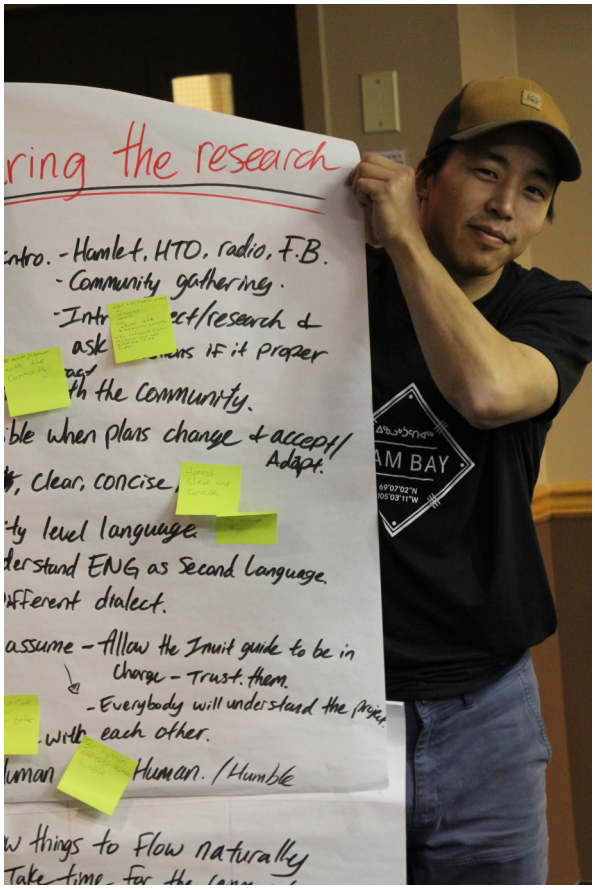
Fig. 4. Author Adrian Scott presents the results of group work on ScIQ recommendations. Used with permission.



work together. We see ScIQ as the balance between the tools, technologies and methods of science, and the knowledge, customs, and values of IQ. We created the recommendations that follow to help researchers and northern communities find that balance.

Recommendations for incorporating IQ in research

We have seen that many are under the false impression that incorporating IQ into research only means using Indigenous Knowledge as data or in planning, hiring a guide, or bear monitor. But because IQ is also about how we act and how we treat each other, we believe that researchers should take more time to understand what "incorporating IQ into their research" means to us. We believe that incorporating IQ into research means conducting research in a way that is guided by the principles of IQ, not simply using Inuit Knowledge as data or to inform one's research in some way. A researcher is incorporating IQ into their research when they come to the community with certain attitude, behave in certain ways, and take certain actions before, during, and after their research. These are our recommendations for how researchers can incorporate IQ throughout the entire research process.

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Fig. 5. Author Ivan Koonoo presents the Ikaarvik youth's perspectives on the strengths of science and the strengths of IQ to Elders and leaders from Cambridge Bay and Gjoa Haven, Nunavut. Used with permission.

Before starting your research

- Get community buy-in and feedback from the beginning — Contact the Hamlet, HTO, Heritage Societies or others in the community to ensure your research will be welcomed and relevant.
- When writing funding proposals, ask for additional funds to visit and work with the community as you develop your research questions and methods.
- Talk to as many organizations as you can in the community about meaningful ways to get the right local people involved in your work, and how best to inform and engage the community as a whole in your research.
- Take the time to do some research on where you are going — history, customs, culture, and language.
- Remember that English may be a second language for many community members and plan accordingly for interpretation and translation services.
- Have all your documents translated into the correct dialect of Inuktut for the community or communities that you are intending to work with.
- If you need a letter of support from Hamlets and HTOs, ask for it well in advance as they are often overwhelmed with requests.
- Be flexible when planning your research. There are many variables out of your control in the Arctic (weather, delayed flights, and hotel room shortages) and things can change quickly. Learn when good times to visit the community are and when is best not to come. There are times of year when many people will be out of the community and on the land. For example, May through August are a popular time for Inuit to be "on the land" and out of the communities.
- If your work involves interviews or mapping, find out what work has already been done in the community to avoid repeating questions already asked of community members.
- If you are planning a long field camp or have a large group going into the field, please consider bringing your own food as smaller communities are prone to food shortages.

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All fresh produce is shipped via air cargo, and the supplies are almost always limited. Buying your groceries in town may appear to benefit the community, but groceries are limited in town and you could leave the community without foods they need.

During your research

- Be a human first and a researcher second. Introduce yourself as a person, not as a set of credentials. You can explain the reason why you are in Nunavut, but also let people know where you are from, share your hobbies, and ask about the person you are talking to as well.
- First, make yourself known to the community — as soon as you arrive, visit, and introduce yourself to the Hamlet, HTO, local radio. Go on the local Facebook page to let people know you are in town and participate in any community gatherings. Look for opportunities to be active in the community.
- Next, make your project known to the community — have a table at the local grocery stores and talk to people, do a presentation at the Community Hall, go on local radio and Facebook to introduce what you are working on. This is a great opportunity to include community members that you are working with.
- Remember that English is a second language in many communities. Do not use jargon.
- Do not assume that people will understand why you are doing what you are doing or that they will care. Be prepared to explain why it matters and have a conversation with people to learn how your research is relevant to the community.
- Know that not everyone can speak on behalf of the community. Different people have different experiences and expertise. Take the time to find out who the right people to talk to are for the questions you wish to ask.
- Do not just ask the community to help you; ask how you can help the community.
- Plan to give back to the community — volunteer, do a public presentation, host a feast, etc.
- Become a teacher and a student — pass on your knowledge and learn from the community equally.
- Look for opportunities to work with the local schools or college — you can help inspire the next generation of Inuit researchers by sharing your knowledge and skills.
- Be prepared to bring cash for payment of stipends and honoraria. Cash is a much more reliable form of payment compared to other methods in Nunavut due to the limited access of internet and card-accepting infrastructures. It's a good idea to contact the local Hamlet or HTO offices for the expected community rates of pay and other norms in the community.
- Be flexible when plans change. Accept and adapt to changes due to weather, community events (festivals, funerals, etc.) or equipment failures.
- Understand that there are many different dialects of Inuktut and know which dialect people use before you hire an interpreter or have documents translated.
- Allow your Inuit guide to be in charge. When on the land, they call the shots. Trust that they have your best interests and safety in mind.
- We understand that you have timelines, deadlines, and budgets, but it is important to be flexible enough to work with the flow of the community. Otherwise, your project may not fit with the pulse of the community, and people that are busy taking care of family, jobs, and their own needs.
- Involve the community in interpretation of results. A results workshop with community members can help determine the local relevance, identify concerns, answer questions and help come up with the best ways to communicate the results to the rest of the community.
- Be thankful for your guides, assistants, and local co-researchers, and let them know how much you respect and appreciate them.

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- Communicate to the community about the research throughout, not just at the beginning and end. Stay in touch with social media (i.e., each Nunavut community usually has a Facebook news group), to keep the community in the loop while you are continuing your work.
- Follow local, regional, and federal rules and regulations regarding archaeological and cultural resources. Do not pick up or take artifacts from the land.

After your research

- Pass on skills and knowledge so the community can continue the research after you have left.
- Credit and acknowledge the Inuit who worked with you and also their community, not only in citations but also in the body of your work and presentations.
- Celebrate with the community by hosting a feast, presentation in the Community Hall or other activities.
- Make sure anything that is left behind is translated into the appropriate Inuktut dialect.
- Help other researchers to understand the community and how to engage them in a meaningful way.
- Share the beauty and history of the Arctic with the South. You are now a critical link between the North and South, and your experiences can help the rest of the country develop a better understanding and appreciation of this amazing place!

Things that can make your research easier

As Ikaarvik youth, we are often asked for advice and have seen many ways that researchers' time in the North can be made easier. These are some things that have come up in the past, and we think would be helpful for you to think about in advance (Fig. 6):

- Be aware of permit and license requirements and get them well in advance.
- Send equipment beforehand. Do not assume the airlines will get your gear up on time.
- Get to know who you will be working with. Learn about them as a person.
- Invest in proper clothing. It may save your life. If you are not sure what proper clothing is, do not be shy to ask! Often, the more traditional locally made clothing is warmer than the commercial products available. There are usually many local seamstresses that sell authentic and effective winter clothing.
- Make sure your host knows when you arrive and how long you will be staying.
- Get a tour of the community.
- Know the emergency numbers for the community.
- Consider getting wilderness first aid training.
- Learn about the kind of foods available in the communities. Foods are limited in the stores, and you may need to bring your own food if you have allergies or specific food preferences (e.g., vegetarian).
- Be open minded to traditional meals. We are proud of our "country foods" and invite you to try them!

The benefits of incorporating IQ in research

- You will spend less time because your research will be more efficient if it is conducted together with the community.
- You will spend less money because you will be much more efficient.
- You will be safer out on the land.
- You will be able to draw on generations of knowledge that can help make your research and results better.
- Your research will be more relevant and useful.

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Fig. 6. Authors Gibson Porter and Michael Milton present the Ikaarvik youth's perspectives on ways researchers could make their research easier and more effective to Elders and leaders from Cambridge Bay and Gjoa Haven, Nunavut. Used with permission.

- You will have a more meaningful experience in Nunavut.
- You will have a holistic understanding of how your work affects and is affected by environment and culture.
- The process may reveal new ideas and approaches that you might not have otherwise thought about.
- And, of course, you will be meeting your obligations for funding, permitting, and licensing in Nunavut.

Conclusions

Inuit youth in Nunavut have a lot to contribute to Arctic research: we are smart, passionate, have great ideas and are eager to learn and build our skills. We believe that research in Nunavut is necessary and a powerful way to understand our changing world. We created these ScIQ recommendations because we strongly believe that there is a need for researchers to understand what our communities need and expect from research. We know that our communities have a lot to offer that can make the research even better, more relevant, and benefit Inuit communities as well as the scientific community. We also know that researchers are often asked to use and incorporate IQ in research but might not know how to do this. We believe youth are in the perfect position to help researchers interpret IQ and give you solid ways to understand and follow IQ because we have a foot in both ways of knowing. We know our communities and our people and also have a good sense of what people in the South need to know. We can interpret for our Elders and researchers, so there is better understanding between the two. And, we can send these messages out in a way that is not too political and right to the point.

We hope the concept of ScIQ helps you see how IQ can be incorporated into your work, gives you a better understanding of what the communities want from research, and what you can do to meaningfully involve our communities in your work. Please know that we are interested in what you are researching and can make incredible contributions to it. But also remember that if you are asking for things from our community, we think it is fair to have expectations for you. Most of all, we want these recommendations to give you

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confidence, to not be scared to come up to communities where you may not know anyone. We know this can be intimidating, so we hope ScIQ can give you a sense of excitement and security knowing how to work with our communities. We hope that by following our recommendations, you can do amazing work and build lasting friendships!

Inuit are the original Arctic scientists and have a lot of knowledge of our land, the environment, the animals, and life in the north. We invite you to bring your knowledge and your research North. You can help our communities, and we can help you. This is the Inuit Way.

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