Nuclear disarmament education and the experiences of Hiroshima and Nagasaki

Yumiko Nogami

526-6 Nabara Kabe-cho Asakita-ku, Hiroshima 731-0215, Japan;
yumiko@smilemoon.org

The communication of the experiences of Hiroshima and Nagasaki appears to be facing a real problem. This needs to be addressed urgently because the *hibakusha* (atomic bomb survivors) are aging rapidly, and when they die, they will take with them the only first-hand knowledge of the unspeakable horrors of nuclear destruction. We must consider new ways to teach children about war and the prospects for peace. We need new approaches which enable the next generation to feel connected to the tragedy in Hiroshima and Nagasaki. And at the same time, we need to feel empowered to take a stand for peace and make a difference in our lives and in the world. In this article, the importance of nuclear disarmament education in a wider context of peace education is stressed and suggestions are offered to improve current nuclear disarmament education in Japan, and elsewhere.

Nuclear weapons have been a crucial point of debate in international politics since their first use on Hiroshima and Nagasaki in August 1945. Due to their immense destructive power, nuclear weapons have played, and continue to play, a fundamental role in the evolution of a variety of conflicts: possible possession of 'weapons of mass destruction' (and, in particular, of nuclear weapons) was one of the original justifications for attacking Iraq in 2003; the North Korean nuclear development programme is likewise a cause of high tensions; and Iran's uranium-enrichment activity is receiving much attention due to the possibility of modifying the basic nuclear fuel-cycle technology for the production of nuclear weapons.

But despite its prominent position in the global spotlight, the nuclear issue no longer catches the attention of ordinary people. Only a few decades ago, during the height of the Cold War, people were aware of the serious likelihood of the use of nuclear weapons. But now, disinterest in the issue is widespread. The general public seems to believe that nuclear disarmament deals with a very fundamental element of national security and is therefore something that ordinary people cannot contribute to, so it is left up to politicians and diplomats to make decisions and take control.

It is within this setting that about 27,000 warheads remain in the hands of the world's nine nuclear-weapon states, the vast majority (97 percent) in the US or Russian stockpiles [1]. And

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although the Cold War ended, and the threat of a nuclear confrontation has faded in the minds of many citizens, about 12,500 of these warheads are considered operational – more than enough to kill all life on earth many times over. It seems as if the citizens of the world have grown to accept this outrageous situation; or perhaps they are simply 'numbed' and behaving as if this situation was something that lies beyond their control.

Insofar as people do not change their way of thinking about nuclear weapons, these diabolical 'instruments of genocide' will never be abolished from our world. Ordinary people must therefore become aware of the consequences of this weapon – after all, they are the ones who will be affected – and must play an active role in the decision-making processes. It is thus imperative that nuclear-disarmament educators encourage citizen participation in the decision-making process by teaching about the effects of the use of nuclear weapons and by involving young people in the movement for nuclear disarmament.

The experiences of Hiroshima and Nagasaki, widely documented in the historical literature, should be a lesson on the destructive effects that nuclear weapons have on both humans and the environment. They should not be, as is often the case, a mere anecdotal incident in the larger narration of the US victory in the Pacific during the Second World War. Rather, they must be heralded as paradigmatic examples of the consequences that nuclear weapons have on the lives and future of ordinary citizens and, in this sense, of the dangers they pose to all of humankind.

Nevertheless, with more than 60 years of distance from these events, the memories of Hiroshima and Nagasaki have started to fall into oblivion, even within Japan. Traditionally, the experience of the *hibakusha* (survivors of the atomic bombing) had been the main pillar of peace education in Japanese schools. Teachers who experienced the effects of the atomic bomb were particularly enthusiastic about recounting their experience and teaching students about the importance of peace. But as the average age of the *hibakusha* increases (it currently stands at 73 years), there is a smaller number of *hibakusha* teachers who remain active at schools, making it increasingly difficult to convey their message to the next generation.

Nuclear issues today

The immediate history of nuclear weapons dates back to the early 1940s, when three nuclear bombs were developed under the Manhattan Project as part of the US wartime efforts. As is well-known, the production of nuclear weapons did not end with the hostilities of the Second World War; rather it was exacerbated by the post-war political arrangement, which confronted the United States and the Soviet Union in a hectic arms race. During this Cold War period, the search for an even larger deterrent capability led the nuclear nations to produce and stockpile more than 70,000 nuclear warheads. By the 1980s, humans were living with the realistic threat of total annihilation.

The aftermath of the Cold War brought, however, some encouraging progress, including steps by the US to remove tactical nuclear weapons from most overseas deployments and surface naval vessels; the indefinite extension of the Nuclear Non-proliferation Treaty (NPT); the negotiation of the Comprehensive Test-Ban-Treaty (CTBT); US-Russian cooperation on fissile materials control in the former Soviet Union; and efforts to promote detargeting and dealerting [2]. However, during the latter half of the last decade, progress towards nuclear non-proliferation and disarmament faltered, and enormous opportunities for progress towards

genuine nuclear disarmament were ultimately lost. Today, we face challenges that differ from those present at the height of the Cold War.

Nuclear proliferation

Nuclear proliferation is among the most pressing challenges of our days. During the 2004 US presidential campaign, President George W. Bush and Senator John Kerry agreed that nuclear proliferation was the top national security threat to the United States. This issue remains a great concern, not only for the US, but for the world at large.

Nuclear proliferation has, in this sense, many facets. In terms of horizontal proliferation (namely, proliferation between state or sub-state actors) there is an inherent risk that new groups may obtain access to nuclear weapons. The causes of this are varied. There is, for instance, the danger of former nuclear scientists selling their skills to the highest bidder – as in the recent case of Dr. A. Q. Khan of Pakistan. Likewise, there is the serious threat of proliferation due to the diversion of fissile materials. The transfer of either the fissile materials or of the nuclear weapons themselves to terrorist organisations is, in this sense, a realistic threat in today's security scenario. Thousands of so-called 'tactical' nuclear weapons – some of which are small enough to be transported by a person – are stored in poorly secured locations. Russia is an example of a country with a large number of such locations. Nuclear materials that can be used to make nuclear weapons (such as highly enriched uranium) are even more poorly secured and widely dispersed throughout the world. In this context, old strategies, such as 'nuclear deterrence' (which prevented the use of nuclear weapons between nations) will not be able to cope with the emerging risks of proliferation.

A different form of proliferation (namely, vertical proliferation, whereby the stockpiles of a nuclear country are increased) is also a feasible future scenario. The 9/11 attacks on the United States embroiled the world in a 'war against terrorism' that has as one of its possible components the development of a new generation of nuclear arsenals. In particular, this so-called war gave the Bush administration a reason to pursue the development of a new and more usable nuclear warhead. In the US Nuclear Posture Review of 2002, the Bush administration called for modifying existing nuclear weapons and developing new and smaller versions that would be able to destroy hardened underground targets, neutralise stockpiles of chemical or biological weapons, and 'reduce collateral damage' from nuclear detonations [3]. Arms-control advocates fear that renewed US development of nuclear weapons will spark similar actions by other nuclear nations and damage long-standing efforts to prevent the further (horizontal) proliferation of nuclear weapons. In addition, critics charge that mini-nukes (as these tactical weapons are called) blur the distinction between conventional and full-blown nuclear war and make the eventual use of nuclear weapons more likely [4]. While the weapons may be smaller, the effect of radiation remains an important element of risk.

The importance of nuclear disarmament education

For over two decades, the United Nations has acknowledged the importance of educating people about disarmament issues. The tenth special session of the General Assembly in 1978 was the first session devoted to disarmament and the first international forum to declare that disarmament education was urgent. The Final Document of the Tenth Special Session emphasised the importance of two aspects of education – teaching and research – in shaping

the future of disarmament. It urged governmental, non-governmental and international institutions, in particular the United Nations Educational, Scientific and Cultural Organisation (UNESCO), 'to take steps to develop programmes of education for disarmament and peace studies at all levels' [5]. The final document of the World Congress on Disarmament Education, held in Paris in June 1980, stated that disarmament education forms an integral part of peace education and that it has essential links with human rights and development education. In particular, the United Nations Study on Disarmament and Non-Proliferation Education mentioned that [6]:

> The relationship of disarmament to economic and political realities is a fundamental guideline for the development of content in disarmament education […] [That is,] disarmament education should be related to the lives and concerns of the learners and to the political realities within which disarmament is sought […] Disarmament education should also provide insights into the political, economic and social factors on which the security of peoples could be based. Therefore what a school-age child in a refugee camp needs to know about peace and disarmament is not the same as what is required for a security guard or a teacher or a politician […] A combination of traditional and innovative teaching techniques is needed to convey information and enhance analytical thinking in order to facilitate a change in mindsets.

An example of the manner in which this view of disarmament and non-proliferation education can be achieved is visible in the case of Dr. Kathleen Sullivan, a nuclear disarmament educator who teaches nuclear awareness classes in public high schools of New York City [7]. Her classes contain various interactive demonstrations. In one such demonstration, she first drops a single metal pellet in a tin can and explains to students that the sound represents all of the fire power used during Second World War, including the two atomic bombs that were dropped on Hiroshima and Nagasaki. In order to explain the nuclear power that exists today, she then pours in 2,667 metal pellets into a tin, representing the firepower of 32,000 nuclear weapons, with each pellet equivalent to 3 megatons of explosive power. Many students feel overwhelmed by the sound which seems to last forever. As Albert Einstein once said, 'Imagination is more important than knowledge.' Because it is difficult to comprehend the destructive potential of nuclear weapons, this demonstration helps students imagine the power of the nuclear threat through sound.

There is also the 'ribbon demonstration,' which helps students visualise how much of the US federal budget is spent on different areas. Different lengths of ribbon are provided for the military, social welfare, education, and so on. Students are usually surprised by how little is spent on their education or welfare in comparison to the budget for war and nuclear weapons. This is a very good visual demonstration to understand the distribution of abstract concepts, such as the billions of dollars in a federal budget. By revealing these facts that are usually not discussed among young people, students are encouraged to think critically and are given the opportunity to speak out about how they feel. The purpose of nuclear disarmament education is to teach young people to think critically about the dangers of nuclear weapons, what is being done to counter their use and proliferation and how they could support efforts for global nuclear disarmament.

Peace education in Japan: the case of Hiroshima

Betty Reardon, renowned peace educator and Director of the Peace Education Programme at the Teacher's College of Columbia University, defines peace education, a worldwide movement, as a diverse and continually changing field, responding to developments in world society and, to some extent, to the advancing knowledge and insights of peace research. Furthermore, the methodology of peace education encourages critical thinking and prepares students to act on their convictions.

As practiced in elementary and secondary schools, and as presented in university programmes that prepare classroom teachers, peace education goes by various names: conflict resolution, multicultural education, development education, world-order studies, and more recently, environmental education [8]. In this sense, disarmament education forms an integral part of the peace-education curricula.

In particular, peace education in Japan is informed by pacifism and an anti-nuclear ideal. Such components of Japanese peace education derive from the bitter experiences of the Second World War, including the nuclear attacks on Hiroshima and Nagasaki. In this sense, Japanese peace education serves as a reaction to the militarily-oriented education that pervaded Japan before and during Second World War.

Problems in teaching at schools about the Hiroshima and Nagasaki experiences

In 1969, teachers from Hiroshima who had experienced the nuclear attack on their city started an association called *Hiroshima-ken Genbaku Hibaku Kyoshi no Kai* (Hiroshima Prefecture Atomic Bomb Survivors Teacher's Association). Behind the creation of this group was the realisation that, even in Hiroshima, students were unaware of the history of the atomic attacks of 1945. In a 1968 survey on atomic awareness by the Hiroshima prefecture, only 12.1 percent of 5th grade students and 37.7 percent of 8th grade students acknowledged that they learned about the atomic bomb at school. This was a shocking finding for the teachers of Hiroshima, who consequently felt a strong need to promote nuclear awareness education within their classrooms: first-hand knowledge of the experience was deemed as irreplaceable.

Such need for nuclear awareness education derived from first-hand knowledge was also affected by other factors. After the end of the Second World War, a Press Code was instituted throughout Japan, strictly prohibiting the disclosure of facts on Hiroshima and Nagasaki until the San Francisco Peace Treaty of 1952 went into effect. The media, in all its forms, was effectively controlled by the Press Code – ordered by the General Headquarters, Supreme Commander for the Allied Powers – so the histories of the atomic bombs, as narrated by the individual participants of the event, did not propagate among the citizens of Japan or the world. The Press Code thus achieved its purpose: to keep the story of nuclear weapons secret and hide their cruelty in order to prevent anti-American feelings from mounting among the public, both in Japan and the rest of the world.

Within Hiroshima, however, the constant work of groups such as the *hibakusha* – survivors of the atomic explosion – and the Teacher's Association allowed students to better understand the dire consequences of the use of nuclear weapons and thus shaped, to a considerable extent, the public perception on nuclear issues for a number of years. Peace education was thus built around the experiences of the men and women who saw the deadly effects of nuclear explosions and their residual radiation.

In recent times, however, a considerable decline in this type of nuclear awareness education in Hiroshima can be observed. The reasons for this are outlined below.

Firstly, the decline can be explained in terms of the disappearance from schools of teachers who experienced the atomic blasts of 1945. Today there are essentially no teachers at schools with first-hand experience of either war or the atomic attack. In this sense, information is only derived from textbooks and official sources and does not convey the human suffering implicit in the use of nuclear weapons. To some degree, this translates into fewer teachers who feel compelled to teach students about the intricacies and personal meanings of peace and of the individual responsibilities one has to have towards nuclear weapons; teachers are rather caught up in paperwork and in keeping with a tight official curriculum. Without the strong motivation that was behind the original members of the Hiroshima Prefecture Atomic Bomb Survivors Teacher's Association, the students will learn only the official discourse. According to the latest survey by the Hiroshima City Education Centre, when the results for the year 1995 and 2000 are compared, the percentage of the elementary school students in Hiroshima who said they heard about the atomic bomb from their school teachers increased by 6 percent – 80 percent of both elementary and middle school students replied they heard about it from school teachers [9]. On the other hand, the percentage who said they heard about it from family members or the *hibakusha* has decreased. As time passes, they will have even fewer opportunities to learn or hear about the atomic bomb at home, and the role of school education to teach about this experience in a sophisticated manner becomes more important.

Secondly, confrontation between the government and the Teachers' Union has become an increasingly complicated issue. The Japanese government once supported peace education: in 1947, the Ministry of Education published a reader called 'Stories About the New Constitution' for middle school students, and in the chapter on 'Abandonment of war: the Article 9', there was a very moving explanation [10]:

> War is over and we never want to experience such a horrible thing again. What did Japan gain from this war? Nothing. Japan decided two things in order not to enter a war again. One is that we will not have anything related to a war such as a military, warship or warplane. It is called abandonment of force. Abandonment means 'to get rid of,' but you need not to worry. Japan has done the right thing before other countries do. There is nothing stronger than doing the right thing. Another thing is that we will never rely on war when there is a dispute with other countries. We will negotiate instead, because starting a war will lead to a fall of our country eventually. We will never threaten other countries either. This is called abandonment of war. Japan will flourish if we try to become good friends with other countries. Let's try not to repeat the horrible war again.

The turning point for the Japanese government probably came at the time of the Korean War in 1950 [11]. Although the General Headquarters, Supreme Commander for the Allied Powers (GHQ) had made a new constitution for Japan which did not provide the country the right to develop any military power, the United States changed its political strategy when it realised the need for military power for the Korean War. The United States decided to position Japan as an ally and strongly insisted on Japan to be armed. Japan, still under the occupation of the GHQ at that time, had to concede, even if it was against its principles.

The change of policy towards armament in support of the Korean War represented a strong contradiction with peace education, which the Japanese Government had originally endorsed. Since this drastic change of policy towards war and armament, peace education has been something that the Japanese government does not want to promote because it lies in direct contradiction to the nation's security policy [12].

Despite the official stance, teachers in Hiroshima, who had regrets and feelings of betrayal towards the militaristic education of the Pacific War, did not support the Japan-US Security Treaty and continued to teach students pacifism.

Such independence, however, is limited. Since the Prefectural Board of Education is under the control of the Ministry of Education, Culture, Sports, Science and Technology, the Ministry is in capable of issuing teaching guidelines that specify what can or cannot be taught. For example, it can decide whether to amend the Basic Education Law as to include patriotism in the curricula (which is, in Japan, a controversial issue). Its inclusion would make it more difficult for teachers to discuss the Japanese invasion of Asia (which started in 1931 and lasted until the end of the war in 1945). It would also become more difficult to discuss why some Japanese people do not want to stand up during the hoisting of the national flag and the singing of the national anthem at certain events, directly confronting freedom of speech.

Thirdly, the contents of the peace/atomic bomb education may have to be re-examined. The experience of the atomic bomb never changes, but the world has changed drastically over the last 60 years and the way this experience is taught could be improved. Traditionally, classes are conducted rather passively in Japan. When students learn about the atomic bomb in Hiroshima, some schools invite *hibakusha* to their schools and hear the testimony; some schools show videos; some read different articles and literary pieces about the atomic bomb. These are powerful methods, but inviting *hibakusha* is not something you can do indefinitely; it is also a fact that some students feel tired of the same style of peace education repeated every summer for almost 10 years of their school education. Even though it can be quite overwhelming to hear such stories and they may feel helpless, it is important that students feel motivated to do something to promote peace at the end.

According to a United Nations study on disarmament and non-proliferation education, the objectives of contemporary disarmament and non-proliferation education and training should be [13]:

- To learn how to think rather than what to think about issues;
- To develop critical thinking skills in an informed citizenry;
- To deepen understanding of the multiple factors at the local, national, regional and global levels that either foster or undermine peace;
- To encourage attitudes and actions which promote peace;
- To convey relevant information on, and to foster a responsive attitude to, current and future security challenges through the development and widespread availability of improved methodologies and research techniques;
- To bridge political, regional and technological divides by bringing together ideas, concepts, people, groups and institutions to promote concerted international efforts towards disarmament, non-proliferation and a peaceful and non-violent world;
- To project at all levels the values of peace, tolerance, non-violence, dialogue and consultation as the basis for interaction among peoples, countries and civilisations.

Traditional atomic bomb education focuses on the impact of the use of nuclear weapons and human suffering. This is an effective way to engender empathy for what happened in Hiroshima and Nagasaki, and it makes students feel that it should never be repeated. However, this is not enough to stimulate the realisation that nuclear threats still exist or the importance of understanding the nuclear issues in a global context. When high school students learn about Hiroshima and Nagasaki, they should also be encouraged to consider further issues such as nuclear proliferation and have discussions about why the current situation is dangerous; why more states are trying to develop their own nuclear weapons and why some states are neglecting their disarmament obligations. Similarly, the problem of nuclear waste is something to deal with in the context of environmental issues.

There are more nuclear related issues that could be discussed in class, and students should be exposed to different issues and perspectives. The more students are exposed to various issues and trained how to think, the more they will realise all the issues are connected to each other and to human security.

Of course, appropriate topics should be given to each age group. Nuclear deterrence may not be an appropriate topic for elementary school students, although they could well pursue the question of why people feel fear of different nationalities, races or cultures, as it is something they can find out from their everyday life.

Peace education can continue to nurture the value of tolerance, non-violence and hope, and it should be started at a young age. Therefore, peace education in Hiroshima does not necessarily have to focus on the experience of the atomic bomb all the time: it can be expanded into other, more contemporary topics, leading to a deeper understanding of human suffering from violence and war.

Conclusion

These days, the communication of the experiences of Hiroshima and Nagasaki appears to be facing a real problem. This needs to be addressed urgently because the *hibakusha* are aging rapidly, and when they die, they will take with them the only first-hand knowledge of the unspeakable horrors of nuclear destruction. We must consider new ways to teach children about war and the prospects for peace. We need new approaches which enable the next generation to feel connected to the tragedy in Hiroshima and Nagasaki. And at the same time, we need to feel empowered to take a stand for peace and make a difference in our lives and in the world.

A possible approach would be to combine participatory-style nuclear disarmament education with existing peace education. Japanese students have been taught that nuclear weapons are evil, but it is also important to think deeper about why that is so. Students must consider how much money is spent on the military and how this expenditure is affecting their everyday lives. They must question whether Japan should have its own military forces and be able to send troops to foreign war zones. These issues may seem rather difficult for students to digest, but high schools students are old enough to understand and think about these important matters, which affect them directly. Peace education should train students to learn how to think rather than what to think about the critical issues that we face at this time.

In remembering Hiroshima and Nagasaki, it is important to remind all human beings what nuclear weapons have done to both cities and their people. The effects last for many years,

even after the war, and may not be fully known. The scientific effect of nuclear weapons and what *hibakusha* had to go through afterwards should be more widely taught and known, not only in Japan but also in other parts of the world. When people forget about the lessons of Hiroshima and Nagasaki, nuclear weapons may be used again. Peace education should help us to live peacefully, without the threat of destroying life on our shared planet.

Notes

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