



## **PASK: PIANISTS FOR ALTERNATIVELY SIZED KEYBOARDS**

An international movement committed to choice in piano keyboard size

### *FREQUENTLY ASKED QUESTIONS*

Here are some questions often heard from those who doubt the value of keyboards of a different size, or from those who simply resist change, and suggested answers.

#### **Q1: Wouldn't it be too difficult for pianists to adapt to a keyboard of a different size?**

A1: The experience of the majority of adult pianists, of all ages and abilities, who have played alternatively sized keyboards is that they adapt to the new size remarkably quickly – usually within an hour or even less. Children generally adapt almost immediately. As many adults now playing smaller keyboards still have to play the conventional keyboard from time to time, their experience is that once they have gone through the initial adjustment period, they can swap between the two sizes easily with a brief warm-up. Although their repertoire may always be more restricted on the conventional keyboard, this is exactly the situation they are in now. This flexibility can be compared with driving two different cars (perhaps one manual and one automatic), or violinists who also play the viola, or clarinetists who have to swap between different clarinets in the same performance. The adjustment between the conventional keyboard and the DS6.0®(15/16) is almost instantaneous for most people.

Contrary to common belief, playing a smaller keyboard does not make it harder to go back to the conventional keyboard when one has to. The reverse tends to be the case – playing a keyboard that better suits your hands gives the pianist an experience of greatly reduced tension, and this new knowledge helps to develop better habits and minimise tension on the larger keyboard.

See the video of Anna Arazi playing a DS6.0® in the Dallas Chamber Symphony International Piano Competition in 2015 after just ONE day of practice on this smaller size. ([www.youtube.com/watch?v=tj1RNLn8K6g](http://www.youtube.com/watch?v=tj1RNLn8K6g)). She went on to win third prize.

In July 2015, six Melbourne pianists with a range of hand spans played a Kawai GM12 with 6.06 inch octave keyboard (15/16) in a recital at the Australasian Piano Pedagogy Conference with very little or no prior practice! During the subsequent Q&A session, all reported on certain significant advantages associated with playing a keyboard with narrower keys than the conventional one. One of these pianists thought the adjustment to be no worse than switching to a forte piano, with its reduced key depth and lighter action.

#### **Q2: What about concert venues? Surely anyone aspiring to be a concert pianist would have to be able to play the 'standard' keyboard, so they just need to work hard and adapt to this size. Wouldn't it be impractical/too expensive to have two or more concert grand pianos in different sizes?**

A2: It is not necessary to have two pianos in a concert venue, but interchangeable keyboards/actions for the one grand piano. The cost of an additional keyboard is small compared with the cost of a concert instrument. The DS Standard Foundation Inc (formerly the Steinbuhler Company) makes retrofitted action/keyboards for grand pianos which can be interchanged with the conventional keyboard within minutes. Ultimately, there should be three standard sizes – the conventional keyboard with 6.5 inch octave (DS6.5), the DS5.5® and the intermediate 'Universal' DS6.0® size. See this short video showing a keyboard being

interchanged during the Dallas Chamber Symphony International Piano Competition, held annually in Dallas, Texas.

<https://www.youtube.com/watch?v=BAjXItVoPsY&list=PLHBn-VaaOCGcJDCI8f-BZx5VZS-IXcxDi&index=27>

**Q3: Although children may benefit from narrower keys, what is the point in their learning on one if they have to adapt to the conventional keyboard later?**

A3: Firstly, looking ahead to the future, piano keyboards in two or three sizes should become more widely available, so there should be no need for about half of the population to 'adapt'. For those who do need to adapt (because their hands grow, or until such time as alternatively sized keyboards are more widespread in the community), the adjustment period is remarkably quick (See Q1). Secondly, the benefits in terms of comfort, reduced risk of injury, encouraging good habits in relation to technique, reduced learning times, enjoyment and access to more repertoire, are significant for children as well as for many adults. Many children would not need to be 'held back' (or risk injury) waiting until their hands grow before attempting octaves. Other instruments are available in different sizes, for example, children are encouraged to play a violin that suits them ergonomically. (See also Q. 14.)

**Q4: Wouldn't it be complicated in homes where there is more than one person playing the piano? They might need two or more different sizes which would add to the expense and space needed.**

A4: There are a number of scenarios here. In a home where young children are learning to play the piano and the adults do not play, it would make sense for the family to invest in a piano or keyboard with narrower keys (say the 5.5 inch, i.e. DS5.5®) initially. At the early stages of learning, an upright or digital piano would be appropriate as most families would not choose to invest in a grand piano until the child/children are at an advanced level and are keen to continue. At that stage, it would be clear which size is appropriate for the young person. It may be a little more complicated if there are two children (say a boy and a girl) who both become serious pianists and want different sizes, or if one or more adults in the house also play. There could be a range of solutions to this, such as having an upright and a grand in two different sizes, or just one DS6.0® (15/16) grand piano as the best compromise. Further, a child entering tertiary piano studies may choose to do most of their practice at the university where there would be access to the keyboard size of their choice. In order to keep costs down for grand pianos, it is important that a person ordering a new grand piano only has to choose one keyboard, not pay for two.

Apart from the pressing need for smaller sized keyboards for young children (see Q.3), it is important to remember that for pianists of all ages, piano keyboard size usually only becomes a real issue for those playing reasonably advanced repertoire. In a household where one or more people play infrequently and/or play relatively simple pieces, the keyboard size won't matter so much. Most males with average sized hands have little trouble playing a DS5.5® keyboard, just as most women currently 'make do' with the conventional keyboard. When you consider that some very famous pianists have had extremely large hands (maximum spans of more than 10 inches) and have no trouble with the conventional keyboard, it follows that an 'average' man should be able to play a smaller one. Many men who have tried the intermediate size, the DS6.0®, really enjoy the experience and find it increases access to repertoire they had always wanted to play. Most adult women would never need a size larger than the DS5.5®.

**Q5: Doesn't the smaller keyboard give an unfair advantage to those who have access to one?**

A5: Pianists with large hands currently have an unfair advantage! Nobody suggests that adjusting stool height or installing raised pedals is unfair, or that prominent pianists who have used, or use, smaller keyboards are 'cheating', or that Beethoven was 'cheating' because he played a keyboard that was smaller than today's! Until smaller keyboards become more widespread in the community, then those pianists with smaller hand spans will be

disadvantaged compared with others who do have access, but as more and more pianists get to try keyboards with narrower keys and become aware of the barriers they have faced all their lives, they will eventually generate the momentum to force change by the manufacturers.

**Q6: Surely the size of the piano keyboard has stood the test of time, as it hasn't changed for over a century. Wouldn't the manufacturers have chosen a size that suits the majority?**

A6: The keyboard size that became the current standard dates back to the late 1800s when pianos became bigger to suit large performance venues and a keyboard of this size was acceptable to European male virtuosos such as Anton Rubenstein and Franz Liszt. It did not take account of pianists with smaller hands – women, children and people of Asian descent. If the manufacturers were designing the piano today, one would expect that they would conduct careful studies of hand spans across the human population and relate this data to the demands of the piano repertoire. This would most likely lead to the conclusion that if only one size were to be provided it would be close to the DS6.0®. But what we have is a piano keyboard which is too small for practically no-one, but too big for many. It could be compared with ski manufacturers only providing a size which suits tall men – perhaps for reasons of 'tradition' – and expecting everyone to use that size.

Sometimes manufacturers say that there has been no demand for change. But people rarely express demand for innovation before they have experienced a new product. One only has to consider the constant innovation in the IT industry – anticipating what consumers may like, testing alternatives and then creating the demand. For nearly every pianist on the planet, they have only ever seen and experienced one piano keyboard size in their lives, so have difficulty imagining the implications of a different size.

**Q7: Aren't humans getting bigger, hence why the need for change?**

A7: There is evidence that this trend, attributed to improved nutrition, has levelled off in developed countries. However, while humans have indeed have been getting bigger, this applies to both genders and all races, as well as to children. The gender, age and racial differences remain however, and there is no evidence that many larger handed pianists are agitating for a larger keyboard. Men with 'fat' fingers may not necessarily have a large span, so providing even wider white keys to allow larger gaps between the black keys would reduce their maximum reach, hence the largest interval those pianists could play. So, when faced with this trade-off, they may not necessarily choose a larger keyboard. (Black key widths are not standardised and vary from one make to another. It is an area where innovative designs are being considered to minimise the 'fat finger' problem for a small proportion of men.)

It's also important to consider that piano keyboards were smaller prior to the 1880s when humans were smaller, and different sizes were available, including pianos designed specifically for 'ladies'. And prior to the Romantic period, the piano repertoire rarely contained intervals larger than an octave, nor long passages of fast octaves and thick chords. Since then, the demands in terms of hand span have increased with 20th century compositions. What is relevant is the variation in hand size among the population today, and how this relates to piano repertoire.

**Q8: Why not follow the example of most sports and hold separate piano competitions for men and women?**

A8: Although this did happen in the 19th century (Paris Conservatoire), and it may be fairer for many piano competitions while there is currently no choice of keyboard size, returning to those times is not advocated. Unlike most sports, the aim of piano playing is not purely physical, for example, finding out who can play the biggest chords as fast as possible! Although technical competence is essential, piano playing is about producing music for the enjoyment of performers and their audiences. Hence there is no musical or technological reason to create a

barrier that prevents many from reaching their musical potential by insisting on one size that is skewed towards the larger portion of the population.

**Q9: Surely if a small-handed pianist has superb technique, this will overcome any technical challenges they might encounter in the repertoire?**

A9: Although excellent technique is very important and can help overcome certain obstacles, a pianist with larger hand spans will advance to a higher level and will be able to play a larger repertoire than his/her small-handed counterpart, everything else being equal (including musical ability). The higher the level of excellence, the more this becomes apparent. The importance of an elite athlete having the best equipment and clothing when competing at the highest level is well understood, and this includes sports that have an artistic component (e.g. some winter sports). Overcoming many technical obstacles often leads a small-handed pianist to 'work-around' solutions which nearly always require more practice and/or produce an end result that is sub-optimal. Pianists who now play alternatively-sized keyboards have come to appreciate the far-reaching technical difficulties they used to face due to hand size, and how their previous need to focus on just 'getting the notes' prevented full musical expression. The view of some that 'hand size doesn't matter' is a supposition that is not based on evidence nor sound principles of ergonomics and biomechanics.

**Q10: Wouldn't an acoustic piano with narrower keys have an inferior or weaker sound?**

A10: The volume and quality of sound in an acoustic piano depends on the instrument itself including the size of the soundboard, strings and other components, not on the width of the keys. While the voicing of keys may produce a sound that is different to that of another keyboard, this is not a function of key width.

**Q11: What about exams – are these keyboards accepted by the authorities?**

A11: The use of alternatively sized piano keyboards for music examinations should be accepted without question, given the acceptance of different sizes in many other musical instruments. Choice of keyboard size will help to 'level the playing field' for pianists with smaller hand spans. Currently, pianists with larger hand spans have a clear advantage.

In August 2012, the New South Wales branch of the Australian Music Examinations Board (AMEB) stated that they had no objection in principle to the use of piano keyboards of different sizes for examinations. While most exam bodies do not specify key width in their regulations, there are currently practical impediments facing teachers and students given the lack of DS keyboards available in exam centres. The growing availability of online/video exams will help to break down this barrier. Any teacher wanting to challenge exam bodies on this issue would have strong evidence behind them.

**Q12: But didn't some very famous pianists have small hands, for example, Alicia de Larrocha?**

A12: In most cases, people making these claims do not know the exact hand span of the pianist mentioned and it is unlikely they have an accurate concept of an 'average hand span' or any appreciation of the variation in actual hand spans across the community, including gender and ethnic differences. A relatively bony hand with narrow fingers may be deemed to be 'small' when in fact its reach (i.e. hand span) may be surprisingly large. A hand that may be deemed to be 'small' for a concert pianist might in fact be above average considering the population as a whole. Often, male pianists who say they have 'small hands' really mean 'small for a man' but in fact they are large compared to most adult women. A world famous pianist might say his

hands are 'small' when he is only comparing himself to the very large hands of other top pianists. Alicia de Larrocha is a pianist often mentioned as having had 'small hands', an assumption based solely on her height. But she herself said that she could reach a 10<sup>th</sup> in her heyday – a task beyond the capability of more than 80% of adult women.

**Q13: But surely only a small proportion of adults have 'small hands', so wouldn't the market for alternatively sized keyboards be very limited?**

A13: Recent peer-reviewed research shows that around 87% of women and 24% of men have hand spans that are too small for the current 'standard' keyboard, assuming they wish to play a wide range of advanced repertoire. A recent survey of piano students in an American university found that 75% wished they had larger hands. Playing a keyboard with narrower keys effectively gives the pianist 'larger hands'. Currently, children are forced to learn on an instrument designed for men with large hands. Providing choice would lead to an expanded market overall, as those who start learning the piano would be less likely to give up in frustration or due to injury, and so would be more likely to continue playing into old age. (Refer to the documents: 'An opportunity for the piano industry' and 'One page summary for industry' uploaded here: <http://paskpiano.org/resources-and-links/>)

**Q14: Given children only play elementary to intermediate repertoire and should not be attempting octaves while their hands are still small, why do they need to learn on a keyboard with narrower keys?**

A14: Firstly, children grow at different rates and their hand spans vary greatly. Many ten-year old boys have spans larger than an 'average' adult woman. These children (mainly boys) have a big advantage as the talented ones can progress quickly into advanced repertoire. Other talented children have to wait and hope that their hands grow. And much intermediate repertoire does contain octaves. In addition:-

- The ideal playing position for the hand is anatomically neutral as much as possible. As children are growing, those who practice a lot may develop bad habits and end up with deformed hands with the bridge not developing properly. Just playing sixths, legato passages and arpeggios can involve excessive stretching for a very small hand.
- Peer-reviewed research has shown that children (as well as adults) are at risk of injury – especially from playing octaves and large chords.
- Children with access to narrower keys enjoy their playing more.

If keyboard size is not an issue for children, then why has a famous conservatory in China encouraged children to stretch their fingers with chopsticks or even recommended hand surgery? Why are children encouraged to use small violins?

**Q15: But I have seen many small-handed pianists play very well. Surely as long as they can reach the octaves and chords, that's all that matters? One can simply roll 10ths.**

A15. Just because a pianist can 'reach' octaves and certain chords doesn't mean that they are playing within a healthful range of motion. Muscles and joints repeatedly operating at their extremes will wear out over time, leading to pain and injury resulting from overuse. Having a span large enough to play extended passages of octaves without a build-up of tension is especially important for any pianist that does not wish to be restricted to baroque and early classical repertoire. Excessive stretching and tension also impede musicality – including lack of

power and control over dynamic range, rhythm and speed. Pianists who experience pain are also often reluctant to speak out! The mentality of 'no pain, no gain' is still persistent.

### **FURTHER INFORMATION**

<http://smallpianokeyboards.org>

<http://paskpiano.org>

<http://dsstandardfoundation.org>

YouTube: <https://www.youtube.com/channel/UCdiQ0iwCWFsGjZ1QI41KSBg/playlists>

For several hand-out documents (including this one) that can be downloaded and printed, go to: <http://paskpiano.org/resources-and-links/>