Transcript – Interview 2022-03-10

HMP 1 and HMP 3

1. Introductory questions

- How many times were the objects used?
- How much time was spent exploring the different objects?
- Which object worked best/worst?
- Which object was preferred by most/least students?
- Which music did you use when testing?
- Did the vibrations provided by the objects enhance hearing? If so, how?

Author 1: [Showing pictures of the different HMPs, displaying 1,2, and 3]
Author 1: So we have two different questions that we would like to ask. So first we have some general questions about your experience overall using them [the HMPs]…and then we have a bit more kind of detailed questions about the functionality, and the accessibility aspects in the next slide.
Author 1: Without further ado I guess I will just start with some questions if it is fine for you.
Teacher: Yeah.
Author 1: So the first question that we have is how many times that you managed to test the objects basically, and how it went with that.
Teacher: I have tested the Chewbacca and the pillow two times. I haven't had the time yet to test the backpack. The first time, both with the Chewbacca and the pillow, the students were like, a bit, just looking at it and if it was too near, they would push it away.
Teacher: And the second time, both with Chewbacca and the pillow, I guess I tested the Chewbacca first and then I tested the pillow once, and twice and Chewbacca again, now on Tuesday…and both… yeah the first time they had tried the pillow they were pushing it away a bit. And after a while, they were trying putting the hands on, or laying the head on the pillow.
Teacher: And the next time they used the pillow they were a bit more…they weren't pushing it away as fast as the first time. And they were feeling it and we tried to play some instruments and feel how for example the drums feels on the pillow. And so forth.
Teacher: So that was more like, it felt like the students were more, exploring it and were more comfortable with it.
Teacher: And the last time now on Tuesday, I tested with Chewbacca with the music you have sent me. And the students were testing it and I have asked what body part they want to feel it, and then they were like, more exploring. One of the students were more exploring the hair, because that student likes hair, and how hair flies.
Teacher: But, the last, I have recorded [it] but I don't know if I will be able to share my screen, but otherwise I can show it to you when we meet. Because they were listening to much and it was super interesting. And they were really interested in the cables.
Author 1: Ah okay, so they seem to like it then?
Teacher: Yeah.
[Author 1 discusses sharing the screen in the light of the Ethics approval regulations for sharing data]
Author 1: Well good to hear that they seem to enjoy it.
Author 1: When they were pushing it away do you think that it was because it was new and scary or…is it just because it was the first time they saw it? Or what do you think it means?
Teacher: Its hard to say, I forgot completely to ask them if they like it or not. I can do it next time. But, it can be because it was the first time. I tried the second time both interfaces or haptic, yeah, so it can be because it was the first time, it can also be that maybe they don't want

to, wanted to, explore that day or they feel that it is scary, or unusual at least, because it is not so often that they feel vibrations.
Author 1: So was it the same for both of them, both the pillow and Chewbacca, the second time that it was generally working better, or was it…
Teacher: Yes.
Author 1: So for both of them, that's interesting. And then do you think that the music [that we sent] is working well or…?
Teacher: Yeah it felt like they, it, looked like they were listening and one of the students was really happy and showed that he was really excited. The other students were just quiet and listening, it felt like. I can, next time I try it I can also ask if they like it or not.
Author: Nice, so for the music it was, so for the first time with Chewbacca you used some other music. Did you try out different ones? You mentioned drumming.
Teacher: Yeah I tried, the first time I used Chewbacca I tried children music, what I generally know that our students like, generally. The second time I tried both music and, we have this application which is called GarageBand, and there you can play drums and electric guitar and I played the drums because I know that then the vibration will be bigger. And I tried some electric guitar as well.
Teacher: So when I played drum and they tested to play drum it was more, it seemed like they liked the drum. How drum sounds.
Author: So not only what you could actually feel but also the sounds that comes out of the object?
Teacher: Yeah. And the third time I also mixed both music and some instruments. And the fourth time I played the music that you have sent me. I played it two times after each other because they seemed to like it.
Author 1: So for the pillow you were also using GarageBand? Was it the same kind of music that you played?
Teacher: Yeah it was both music and GarageBand for the pillow.
Author 1: So you mentioned that they were exploring the objects. For how long do you think that they spent on exploring and touching them?
Teacher: Around 10 minutes I would say, give or take. The first time when I first first used Chewbacca, then it was like, I would say, five minutes at most. Because they all just pushed it away. And I left it on the table because I could feel the vibrations on the table as well. They did not need to interact with the object, but they could get to know the feeling on the table.
Teacher: And the next time with the pillow it was around ten minutes-ish, I would say, maybe seven. Around that. And the second time with the pillow was around ten minutes, it was a bit longer than the one before. And the last time now on Tuesday it was super interesting and good to see because it was ten minutes but it wasn't because the students showed that they don't want more it but because the lesson had ended.
Author 1: Ah you think that it could even have been a bit longer.
Teacher 1: Yeah. I would say so. I don't know how much longer, but I would say so. That session could have been a bit longer.
Author 1: So it wasn't that they lost attention or that they got…they were engaged the entire time basically.
Teacher: Yeah.
Author 1: And different students tried out both the pillow and Chewie, or was it more like one person was interested in trying out….
Teacher: No, all of the students that are in the group tried out the group, we have sent it around so that everyone got the chance. And I would say that not all the time but the last time all of the students were quiet interested. None of the students were pushing it away.

Teacher: One of the students didn't want to feel the object next to his body, but he was super happy when it was near him, and for the music especially.
Author 1: That's interesting. So if you, if you would, I guess, based on what they were showing and communicating, which one of the two objects do you think that most of the students preferred? Cause I guess they are a bit different, especially if you put them on the table, and can feel them through the table.
Teacher: If you would have asked me before Tuesday I would have said the pillow. But on Tuesday, after Tuesday, I would say the Chewbacca. But I also want to try…. Can I come back to you about that?
[Discussing that we can do additional interview follow-ups discussing this later]
Teacher: Yeah but it can happen that they thought that the music was so good, that that was what was shown through…on Tuesday with Chewbacca.
Author 1: It is difficult to know of course since it depends on what you play, if you play something that they like…the aural engagement.
Author 1: But do you think in general that the objects allowed the students to kind of, to experience, to enhance the listening experience so that it enhanced the hearing, what they could hear through the vibrations. Or was it more like, they were more interested in listening rather than touching?
Teacher: It is an interesting question. Maybe they were…they looked a bit more interested in listening and touching I would say. But it is hard to say. Sometimes they were exploring when you lift up the pillow and put it on your head. Then it was another sound, and we tried to explore that as well. But it seemed like it doesn't make a difference in this case. I mean the students either liked it more nor liked it less, it seemed like.
Author 1: Ah you lifted it and they didn't like it as much or…?
Teacher: No. But it is hard to say. We usually just listen to music and dance so it is another experience for them that there is something that vibrates to music. So sometimes they felt it with the hand. Sometimes they were also happy with listening to the music while the object went around. Then other students could feel the object. Yeah.
[Discussion about the student group constellation]
Author 1: Ok do you have any more questions that you would like to ask [regarding this section], Author 2?
Author 2: Maybe one thing that I think might be related to the next questions. [Teacher] you were mentioning something about that they were having fun, in relation to the cables, so I just wanted to know something related to what happened to the cables. But yeah, this is also related to something that could be asked after this. I was curious to know with the cables, what happened.
Teacher: It was, two students wanted to take the cables and play with them. But we put the cables away because we thought that maybe that is not as…it can be as much fun as the Chewbacca itself. But maybe it is better to feel the Chewbacca than the cables.
Author 1: That is interesting because we thought that it would be a huge problem with the cables and that maybe it would be better if there were no cables at all. So we tried to make it as robust as possible to you could touch it without the system breaking, so it is funny to hear that they [the cables] were actually interesting in themselves.
Teacher: Yeah the cables were interesting.
[moving on to the second part of the interview]

2. Functionality, Accessibility, and User experience

2.1 Functionality

Author 1: So we have categorized three themes that we would like to just ask more detailed questions about.

Author 1: And the first one relates to the overall functionality of the object. So how well they worked in terms of musical properties, so.
Authors 1: The first question is basically what worked well and what did not work well with them, if there were any particular things…
Teacher: I would say that the instructions were wonderfully made. I mean, great job. I would say that if I am thinking that for the first use, the pillows were faster to just use it. Cause you could just put it on. And then it was working. We had to connect with the Bluetooth, but otherwise it was just like on, and it was connecting and everything.
Author 1: Quicker to set up, basically, for the first time?
Teacher: Yeah. The Chewbacca was also quicker, the second time. Because the first time, we had tried it with [Author 2] the very very first time. Then when I used it in the lesson the next time and I clicked on the ON. And I didn't realize, because I tried to connect with the iPads Bluetooth. And I didn't realize that because my phone's Bluetooth was also ON, it wanted to connect with my phone instead of the iPad. It connects since then, with the Bluetooth of my phone. Which is not a problem, it just took time for me to realize the first time.
Teacher: But the next time, because I knew that, it was much faster. Yeah. The backpack I haven't checked out yet. But generally, I would say that the pillow is quicker to set up. Not with much time, I mean, the pillow takes 2 minutes and Chewbacca takes max 5 minutes.
Author 1: It was overall not too painful to get the things to start working, that is good to hear.
Teacher: No.
Author 1: Do you think that there are any functions, that you thought, like it would be nice if this object could do this. Or…that were lacking?
Teacher: No, I wouldn't say so. At least not that I can come up with right now.
Author 1: And then we were thinking about the audio quality. So basically, what you could hear. If you thought anything about that, if there was any difference between the two…if you generally thought it was like good quality or low quality, if you were thinking about the things, you could just hear from the object.
Teacher: I would say that both were good quality. I am not so good to decide about the music but music which comes out generally from a speaker so…but I haven't felt that the music was off key or not so good quality so I wouldn't say that I would change anything in the quality of the music that comes out from the object.
Author 1: Did you try because I think, correct me if I am wrong [Author 2], I think there was a like a filter knob for Chewbacca so you could pull it up a bit to change the vibrations that were coming out. Did you try that to see if you could hear any difference, or feel any difference, I guess.
Teacher : Yeah. I have tried it. And there was much difference. And there was also a difference when I sat, I had some music which was more like mellow is not a good word, but you know, a lot of guitar, and slow-ish. And when played some music which had more bass the more like, rhythm, and more rhythm instrument to it. So…and there was a difference when I tried to change this knob. Which changed the vibration.
Teacher: I haven't tried it on Tuesday because it was such a wonderful time and the students it seemed like the students were so calm and happy, so I felt that maybe I won't change it now because it felt really good, with the vibration and everything. But I can try next time I use the Chewbacca with the [music you sent] if it would make any difference for the students.
Author 1: It is great to hear that they seemed to get so engaged. I just mostly wanted to ask you if you think it was working because sometimes when I was trying it myself it was not super obvious if it made a big difference so it is just good to hear that it seemed like it actually affected the sound.

Author 1: So in general when it comes to the behaviour of the objects do you think that they were reliable did they, like, do what you thought they would do, or where there any cases when things happened that were unexpected?
Teacher: I wouldn't say so. Once when I tried the pillow, the next time, when I tried to connect the Bluetooth with the same iPad as I had used before, then there were some problems but it was solved quickly. So I would say that they were very reliable and they also had been moved from one [place] to another. So I would say that there wasn't any problem with them.
Author 1: So they didn't break either? So far they have been durable? That is also very good to hear. Cause we were thinking that maybe after five minutes they would be like, okay, its not working anymore. But so far nothing has broken?
Teacher: No and I told everyone that they were pretty durable so that you could throw them, but no one had thrown it, not once. So it was also interesting to see, that everyone was pushing away when they feeling that it was not for their taste, that day.
Author 1: So the pushing away could have been the music also? Or that they were not [interested] to do it at that particular moment.
Teacher: Or that it was new for them. So they felt that okay, I don't want this new, for now.
Author 1: Makes sense. [Author 2] so do you have any questions about the functionality overall?
[Author 2 said no, so moving on to the next theme]

2.2. Accessibility

Author 1: So the next theme is accessibility. [Talking about the Swedish term] This is an aspect that just an aspect that refers to if you can achieve an identified goal within a particular use context. So I guess in this context the goal is to listen to music and to feel the vibrations through the body.
Author 1: So we have a couple of questions about this aspect. The first question is if the objects allowed for equitable use. So this means if they managed to provide the same means of use for all different users. I don't know if that explains it in a clear way. Basically it is about if it worked equally well for different users or if it was any difference in that sense.
Teacher: No they worked equally well for different users. Both the Chewbacca and the pillow. The cool thing about the pillow was that it could be used by two persons at the same time. For example we could put on the table, like, through the table vertically - no horizontally – and the students who were sitting in front of each other, could both feel it with their hands or with their faces.
Author 1: Cause I guess if you put Chewbacca on the table it doesn't really distribute the vibration to the entire table.
Teacher: No and it is not as long as the [pillow].
Author 1: Yeah so you can only be one person maybe, at the time.
Teacher: Yeah. The pillow is a bit longer which makes it a bit more accessible for two people at the time, if they want it so.
Author 1: That is true.
Author 1: So the next question, it is kind of similar, it relates to flexibility, and for different body parts basically. So if there were any preferred bodily locations to use, with the different objects. You already mentioned it a bit but I am throwing it out there anyway.
Teacher: The…some students…it also comes with the film. Some students had shown with the, for example, they want to feel the vibrations on their hand, and then they felt like it okay, it is not for me, so they pushed it away directly afterwards. One of the students felt the pillow not last, but the one Tuesday before the holidays, with their feet. And it was…but then she felt it, three minutes, but it was more like, for my initiating, to more to show them, okay we can feel it with different body parts. And then she used this PODD, we call it PODD, it is a built

communication system, and she showed that she wants to feel it with her feet, the Chewbacca. Now, on Tuesday. And sat there with Chewbacca in her lap, quite a long time, one minute around that. So, it was super interesting.
Teacher: Some of the students, one of the students, liked to feel with her face, the vibrations. But mostly, they put their hand on it. Maybe also because it is easy to take away your hand if you don't want to feel it anymore.
Author 1: So that is the same maybe for the Chewbacca and the pillow, that the most easy way is to put your hand, and then you can, take it away.
Teacher: Yeah…but it was the same both for the pillow and Chewbacca, the body parts, they preferred, or they felt the vibration with. So I wouldn't say it's a big difference. The big difference for Chewbacca…with the student that is really interested in hair, felt of course more with their hand, on the Chewbacca. Because, it was, it was also a play.
Author 1: It was kind of encouraging to touch it, in a way?
Teacher 1: Yeah.
Author 1: So basically, they tried holding them in their lap, for both of the objects, and putting their hands, and the feet, and sometimes the face? Interesting.
Teacher: Yeah.
Author: The next question is about simple and intuitive use. So if it seemed like it was simple and intuitive for all of the students to use the objects, or if there was any difference there.
Teacher: Yeah, I would say so. Maybe more for the Chewbacca then the pillow. Because the Chewbacca looks more like a plush [toy]. So maybe I would say that Chewbacca was more intuitive, than the pillow. In the pillows case I was showing them more that oh, you can put your hand on it, or you can lie down on it. You can put it in your lap, or… And with Chewbacca I hadn't done this kind of showing. I just presented the Chewbacca and…so maybe because the Chewbacca was more playful, it was more intuitive also for the students.
Author 1: Then we have a question about the musical information that came out of the objects, depending on the sensory abilities of the users. So if you think there were any kind of a difference in what they could perceive depending on if they had different needs or sensory abilities. Maybe it is a difficult question maybe, it is very detailed.
Teacher: Yeah, it is a really difficult question.
Author 1: Do some of them have hearing loss?
Teacher: Not that I know of. But some of them were more interested when drum sounds came out of the speaker part of the vibration. I don't know if they liked the vibration … the drum … of the interfaces, or if they liked the sound of the drum.
Author 1: Yeah, it is hard to decouple the two things.
Teacher: Yeah if I would guess I would guess the sound of the drum. But it is just a guess.
Author 1: Like they got engaged and preferred that, what they could hear?
Teacher: Yeah. I believe that they reacted mostly on the music which that came out, than the vibration. I mean. Yeah. I would guess so.
Author 1: So just what from you could hear, the musical communication, or the musical information that came out, from what you could hear, was rather effective, in that sense?
Teacher: Yeah.
Author 1: Then we have a question about mistakes or errors, if there were any cases when something ended up wrong. Or, if there were any, mistakes basically. If anyone tried to use it, and then it didn't, something weird happened. Something didn't work, or something like that.
Teacher: It didn't really happen, any mistake. I mean, that the students weren't so interested in it, the first couple of times. When they got to know these two interfaces, then … that wasn't because one of the interfaces didn't vibrate, or, anything like that, I believe. It was, I believe, it was because, it was new for them.

Author 1: And there was no case of, like, unplugging the cables, and you had to put them back? So that worked well?
Teacher: Yeah. I mean, there wasn't any case that they tried to unplug the cables. But also we tried to put the cables away, so that they were super interested in it, so that it didn't happen. Maybe in this case it would be different if we would have tried it, during a, play time, or a – I mean – not on a lesson.
Author 1: Okay so the interaction is different then, cause in the play time, they are more free to do, basically, whatever they want?
Teacher: Yeah, and maybe we, we are not so near them then. I mean, we are maybe a bit away. And then they could have, unplugged, the cable.
Author 1: So we have two more questions for this category/theme. The first one is about physical effort, basically it is about how comfortable it is to use the objects, and if you think that they got like tired, or fatigued by interacting with them.
Teacher: I wouldn't say so, I mean, they looked like they lost interest the first free time. But it doesn't have to be cause they got fatigued, the objects, but more just that they simply lost interest, more of the music, or of the activity itself. The last time I would say they definitely didn't got fatigued. They seemed to not lose interest either. So no…it seemed quite easy for the use. Both the pillow and the Chewbacca. And they did not seem to be fatigued about them, because of them.
Author 1: So regarding the size you mentioned that the pillow was a bit bigger so it could be used by two people. What were your thoughts of the weights of the objects, would it have been better if they were bigger or smaller, or if they were heavy enough, too heavy.
Teacher: I wouldn't say that they need to be bigger or smaller. I believe it is good that they are different sizes, because it is a positive thing that two people can use the pillow. But if want person wanted to have it on their lap, or on their feet, or on their stomach. Then its quite big, if I compare that to the Chewbacca, which is more easy, because it is smaller. It is more easy to put on the stomach or the feet. But it is not a big difference. But I would say that it is good that there is a variety of the sizes. So, we can, or the people who use it, can use it for their purpose. [Moving on to the last theme]

2.3 User Experience
Author 1: So the last theme is about the kind of experience, so this relates more to, the kind of emotional reactions of the students. So we just have a couple of questions about that. And I think we have touched a lot on these topics already, but…
Author 1: The first term that we would like to discuss is the attractiveness of the object, so the touch and feel of the objects, and if they liked the sensation of touching them and what they looked like, basically.
Teacher: I ask the students themselves for the next time. Because I can't just guess right now, out of how they acted. The first time I would say that no one was quite interested of either of the objects, when they first tried it. On the second try, I would say that maybe, Chewbacca, how Chewbacca looks like was more interesting that how the pillow looks like. Chewbacca has also strong colors, fur, so it…I would guess that the texture and the color makes it more interesting than the pillow, since the pillow is beige, or, and has quite a smooth texture. Yeah.
Author 1: Then the next question is about the, how easy it was to get familiar with the objects, and to get to use them. [Using Swedish term] Was it easy to just look at the objects and learn how to use them, how to feel the music through them?
Teacher: I believe so. I can ask. It is hard because I read the instructions, so its from the instructions, it was obvious. The Chewbacca will function like this. And the pillow will function like that. Yeah.

Teacher: I don't know if, I had been a person that hadn't read the instructions, then maybe I would have found the Chewbacca a bit harder. On the other hand, the pillow has only one button. And it was tricky to connect the Bluetooth the first time. Because it was kind of tricky to know how long I needed to press to have the Bluetooth connection ready.
Teacher: Meanwhile the Chewbacca is more obvious, in that part. Also it made it a lot easier with Chewbacca that it says…that you need to put bass to bass and treble to treble. So that you make it easier to use it. But maybe because Chewbacca has a lot of different parts, it makes it more scary if someone uses it for the first time.
Author 1: Like it can look a bit intimidating to set up since there are so many different parts?
Teacher: Yeah.
Author 1: Do you think that the behavior of the objects kind of met the students expectations? Do you think that they were predictable for them? From what you saw do you think that there was anything that was not predictable?
Teacher: No, not after the first time. The first time, maybe, they didn't know what it is. Or what it will be used for. So the second time I would say that they. It is hard to say, but then they didn't push it away as fast. I would guess that it was more like, that they knew, that okay this will vibrate. Or were prepared for that, at least. But not the first time. But it is not so, strange, since, we haven't used anything similar to this.
Author 1: Do you think that they felt secured the second time they used them? So then they had seen them before, they knew what would happen? So there was this, maybe, sensation of that they could expect what was going on?
Teacher: Yeah, I would say so.
Author 1: We just have two more questions. And the first one is about emotions, and if there were any emotions that you could maybe see or pinpoint among the students, for example if you could see if it was fun, to use any of the objects. Or maybe there was a negative emotion that you could [identify].
Teacher: The first time, since the students were pushing both of the objects away, it was kind of clear that they. It was a kind of clear emotion, if it was an emotion, or if that was just a will, that I don't want to use this. And, yeah, one of the students took their hand in, but that also can mean that that student didn't want to feel the vibration on their hand.
Teacher: The second time, and especially on Tuesday, one of the students was clearly super happy, but I would say that it was mostly the music. I would believe that the student felt that it was exciting and good.
Teacher: One of the students was really interested in the hair of the Chewbacca but I wouldn't say that there were any extra positive emotions which I could read or they showed with their body, and they didn't want to tell any emotions with their AEC either.
Author 1: So the last question is about kind of novelty and innovation, so if you think that the objects were kind of creatively designed and caught the interest of the students. I guess you already touched upon this with Chewbacca and the hair, but, if you have any final thoughts about the design of the objects.
Teacher: I would say that the Chewbacca, and also the backpack, I don't know what the students would think, but I think that they both are really creative. And I got the feedback from other teachers that Chewbacca looks really fun. And that's a really good name for it, which you found.
Teacher: The pillow, I mean it is creative that you can lay down and listen to music and feel some vibration, on that sense. If I compare the pillow with Chewbacca, I would say that the pillow's design is not as creative as Chewbacca's design. So it depends on what you compare it to.
[Author 1 asking if Author 2 has some more questions]

Author 2: Maybe just to, to just few words more about the thing you said just before, this last question, about the overall emotions. Just for me to be sure that, so as far as I have understood it seems like they were, like especially in the beginning, not maybe scared but to get maybe used a little bit, to these new tools. So you think was more something like, okay this is something new, lets see, or more like, it is a bit scary, I don't want it know. Maybe it is a bit hard to tell, but just to know.
Teacher: It is a bit hard to tell. I would say that they were like more, skeptical, in English. In Swedish I would say "avvaktande"; it was okay when it was there, in a distance. And it was okay when we showed how we use these objects. But they themselves were not so keen on, to use them.
Author 2: Yes. And with a bit of time, in the other sessions, then it happened all the things that you described earlier.
Teacher: Yes exactly.

Transcript – Interview 2022-03-25

HMP1 and HMP2 – which did not work
HMP3 is also mentioned in terms of what worked best so far

1. Introductory questions

Author 1: So I guess will just kind of ask the questions again, how many times have had the chance to try the backpack, and or if you tried the other things, and how many times.
Teacher: Both the backpack and the HUMU pillow, I could try once each. And the time frame was around the same for both. Sadly for the pillow we discussed, I didn't play the music that you had sent [description about problems with iPad that had the file]. So I played other music.
Teacher: The pillow you had asked last time if there were any mishaps. And for the pillow it was really strange, for it played the music, quite okay, and one of the students especially felt, seemed to think that it was fun, and was taking it to his, their face and to their mouth and after that, it was sounding strange. I mean the music that came out of the pillow sounded like it would have been a gap. It might have been that way, but, it was like – I don't know how you say it in English but it was like really choppy music.
Author 1: [Asking if the music was cut off, in Swedish]
Teacher: Yes.
Author 1: Oh okay. That was only for this time, cause you tried it another time, and then – before too – and that time, it was working better the other time, I guess?
Teacher: Yeah, and that, after that I was accidentally playing some music on it, because I hadn't turned it off. And then it wasn't the same problem, so just for that song or that moment of the song, yeah.
Author 1: Mhmm. Could have been the connection maybe, I don't know.
Teacher: Yeah we were thinking about it.
Author 1: So now that you have had the chance to try out all of the three objects, which one would you say was the best versus the worst.
Teacher: I don't know if it was because of the headphones, I don't know if the headphones worked, so it might be because the headphones were not working, which caused that the bear didn't work either. But it was connecting to the Bluetooth, but when I was playing music, then the sound wouldn't come out from the headphones and it wouldn't vibrate.
Author 1: Ah okay. So basically it was looking like it was on, but then nothing really happened?
Teacher: Yeah.
Author 1: Yeah, it is a bit more tricky with the setup because it has the headphone, connected to it. I don't know if would be better, to have it, attached to a speaker or something?

Teacher: Yeah and I also thought about bringing in one of my headphones from home, which I know that works. Like, if that was the problem.
Author 1: Yeah so I guess you did not get to feel how it [HMP 2] felt then, because it was actually not vibrating at all.
Teacher: Yeah, exactly.
Teacher: The students were interested in the bear itself. We had showed around, so they could see at least, what I was, what it was. Yeah.
Author 1: So like, visually, it was somehow appealing to them, even though it was not working, they got interested in the…in just the way it looked I guess.
Teacher: Yes, I guess so.
Teacher: The best I would say, so far, is the Chewbacca. So far, it seems like, even though the cables can be a challenge, to many. But, it was interesting, it seemed to be interesting to the students, it seemed to be, to be inviting to play, with.
Teacher: The pillow was much more faster, to setup. And then…maybe the overall best would be the Chewbacca outside on the pillow. Because it would be as fast as…but it would be more play-like.
Author 1: So you mean like, if the Chewbaccca would work like the pillow, in the sense that you could set it up [more quickly], or do you mean them being attached together, working, at the same time?
Teacher: No I mean exactly that, if for Chewbacca I could just press a button. And it would magically work. But it wasn't a big difference. But I would say the best…is Chewbacca.
Author 1: Yeah it is a bit of a hassle with the cables and everything, and the amplifier.

2. Functionality, Accessibility, and User experience

[Skipping a lot of questions about the functionality of HMP 2 since it did not work]
Author 1: So basically with the backpack, the students got to hold the backpack in their hands, to touch it, but then they couldn't do anything or feel anything, I guess because it was not on?
Author 1: What do you think in general about the headphones, do you think it is a bad idea in general to have something like that, like that they are not connected to a speaker so that the sound comes from the object, but that there is a cable to a headphone, and that there is something external. Is that complicated? As opposed to having the sound coming from the object, as is the case of Chewbacca?
Teacher: I would say that it is less likely to go wrong with the Chewbacca or the pillow, where the music comes out of the, their speaker, because its an extra thing on the backpack, it can cause… Now I saw that if the headphone goes wrong then affects the working of the interface itself. So maybe it is better, when it is not a headphone, or an extra headphone, in the system.
Author: Yeah I guess the problem with the backpack, or the bear, is that you don't know if it is not working. I guess. Which is easier for the other ones cause you know that if there is audio it works. For the bear maybe it is decoupled, so you don't know if it is on, is it off. Cause you have to have the audio coming out of the headphones and maybe it is not maybe, as intuitive.
Teacher: Yeah. And also, I think it depends on the, in which environment is the interface is planned to be used in. I mean if it is a school then maybe its better to have a speaker, cause then more of the students could at least take part of listening to the music. While if it is at home then maybe, no one wants to listen to the same music, so it is better with the headphone.
Author 1: Yeah. So maybe for a group setting it is not as flexible, because in a group at the school only one person can hear.
Author 1: So maybe about the instruction, for the backpack. If you have any thoughts about what worked or what didn't work and where it was unclear. How that could be improved, maybe?

Teacher: Yeah I think the instructions were really good, but yeah, I mean. If I wouldn't have any clue about any technical object, even then I would have understood. How to use it. So the instructions were really good. And it was really good that you have put, troubleshooting.
Author 2: Like a debugging section.
Teacher: That part was very good. Because when it didn't work I could just open it and just look through it. Like the red light is on, okay. It's not blinking. So I could check everything and come to the conclusion that maybe it's something else.
Author 1: And regarding the size of the backpack and the bear, do you think that it was an OK size. Was it heavy enough, was it too heavy? Do you think that it would work in terms of its dimensions?
Teacher: I think it is a good size. It wasn't heavy at all, I would say. It was not as heavy, I mean the students had it as a plush [toy]. So it didn't look like that they think that it is too heavy, and it wasn't heavy for us either.
Author 1: Do you think that the straps are long enough to hang on the body? Or more like, it looks like a toy, you would handle it as a toy. Or do you think someone would also hang it on the body, like a backpack?
Teacher: Its hard to say, I haven't thought about it that you could do that.
Author 1: Yeah I guess when it doesn't play some music it doesn't maybe make so much sense [to hang it on the body], I don't know. It doesn't make sense to put it on different parts of the body if it is not playing anything.
Teacher: Yeah. I don't know, I am not sure.
Author 1: [Asking question about understanding how the object worked, which doesn't make much sense considering that HMP 2 did not work] … was it like when you just looked at it you really had to read all of the instructions to understand how it would work?
Teacher: I understood how it was gonna act, and it was…the pairing with the Bluetooth was, I felt that I had to read it before I paired it with my phone. Or with any other Bluetooth devices. Because even though there was a Bluetooth sign next to the on sign, then I…when I pushed the ON button, for too short time, it was first searching for a device. And when I started to count, then started it to blink. So for the pairing I needed to read, the instructions, but afterwards I wouldn't say that it would be necessary.
Author 1: What did you think about, since it it s a backpack, and you have to open this zip to access the vibrating thing…was that complicated, or was that like, messy with the cables, or…did you find it intuitive?
Teacher: I found it intuitive. I mean there is a box inside in which you can put the tool in, so it is kind of self-explanatory. And then you can put the cotton on. It would, its also, hard cause I know exactly how you were thinking when you were – I mean not exactly but I can guess how you were thinking when you were putting it together. I don't know if it would be as easy for someone who haven't been in our meetings, and haven't understood the purpose of the cotton, on the top.
Author 1: Yes. We were trying to pad it quite a lot cause we were thinking that if they don't like it they will throw it away. So just to make sure that it wouldn't break if anyone did throw it.
Author 1: So were there any cases in which people threw it? Cause I guess it is also interesting to know. If the padding worked, or maybe it was just so nice to touch, so that it was fine.
Teacher: To my…I was surprised that none of the interfaces, none of the students were throwing it away. More like, one of the students were, I don't know how to say, hugged it to their body. Like, petted it, or hit it with their hand, and, felt with the mouth. It was with the pillow. But none of them threw it away any of the objects. So I don't know if they would break it.
[Author 1 asking if Author 2 has anymore questions]

Author 2: Just to make sure about this last thing that you said, when they were hugging the, we are talking about the bagpack, righ? And in that case we are still talking about the backpack but without the vibration because it was not working, right, so it was not…it was just the plush toy?
Teacher: No sorry I was unclear then, it was with the pillow.
Author 2: Ah sorry I didn't get it.
Teacher: No the bag they were just playing a bit, with.
Author 1: Do you think that if we would somehow build, if we would fix the Woojer strap that is inside of the backpack, that if we attach a little speaker to it, that is inside of the backpack, that that would be better?
Teacher: It is a hard question. I don't know. Maybe or maybe its fine for the students to have it with the headphones. I am not completely sure about it. I feel like I need to try while it is working. So I might. Cause if I have a headphone that can go into the ear, I might get, just try to put it in the backpack. And then maybe it is not any music that is audible, but the vibration will be. So it might be work, that way also.
Author 1: But in general for all of the objects, I guess the best would be to just have one button on the outside, and you turn it on, and then you know immediately if it works or not, if it is connected.
Teacher: Yeah. If was thinking about using them during the play activities. But as I said, they are, it is like a, they are good as they are, but it is like an even better version.

Transcript – Interview 2022-06-03

HMP 2 mostly

[Discussion about slides showing questions]

2. Functionality, Accessibility, and User experience

2.1 Functionality

Author 1: So we just wanted to know, if it worked, and what were your thoughts, and basically. And I will ask some questions maybe about these themes that we discussed in the previous sessions, about accessibility and functionality, and such things.
Author 1: Did it work? [HMP 2]
Teacher: Yeah. It worked, and it was much smoother. Thank you for the update. If…the only thing is that this [zip] lock…is broken. So I have just taken it on the middle so it doesn't fall out, if it flies away.
Author 1: Yes I was guessing that that would happen, cause I had some issues with it too. [Discussing the zipper]
Author 1: So the little speaker was okay, you could hear the music from it?
Teacher: It was really good and I was wondering if I would need to pair that also with the iPad, via Bluetooth, but in the end I haven't, I didn't need it. So it was super easy, to put everything together. And it was really good that you had marked everything with the same color of the ribbon. So I knew where to put what.
Author 1: Oh that's good. Yeah I realized last minute that maybe this is confusing cause there are multiple cables. So [Author 2] since you did not see it, now the speaker is not a Bluetooth speaker, it is just a jack that goes into the Woojer. So you just have to pair with the vibrating thing. And if it is on you can basically hear sound.
Author 1: So do you think that it sounded okay? How did it sound when it was in the…cause when it is all wrapped up in the teddybear it gets a bit muffled I guess. But was it okay?

Teacher: Yeah I would say it was okay. I mean, I don't think that the students had…I mean I have heard that it was a bit, muffled, but its …. It wasn't something that was like disturbing or which would make it hard to listen to the music. It wasn't a problem I would say.
Teacher: I have tried that once. With the students. And they were…yeah…mildly impressed, I would say. [inaudible]
Teacher: It looked like it was confusing that it's a teddy bear, and its something that sounds also at the same time.
Author 1: Ahhh, okay. Cause you are not expecting it to sound, I guess. So it's a teddy bear so you jus think it is going to be a plush toy to play with, but then it makes sounds?
Teacher: I would think that. I am not sure, but they looked like….but when they looked at it their faces were like…ahh [questioning].
Author 2: Sorry I was thinking here. Do you think it was sounding even without them doing anything? Because if you have a plush toy with maybe some kind of honk, inside, if you squeeze it, it sounds. And this object [HMP 2] actually can sound without squeezing? So maybe…I don't know, what do you think?
Teacher: It can affect. I haven't tried with those students at least, if a plush toy, and you squeeze it. But maybe it is more, it is something that is more, they know more because it is more common to have like, as you said, plush toys so that you can squeeze the sound. Also, there are plush toys that, where you can, push a button and it speaks.

2.2 Accessibility

Author 1: Yeah maybe that makes more sense. So they basically held it in their hands? And they didn't really like it.
Teacher: Some of them have had it in the hands, but some pushed it away directly.
Author 1: So they didn't wear it on a backpack or anything. It was more like they were, okay it's a plush toy to hold in your hands.
Teacher: Yeah no. We didn't try to put it on them because, yeah, we wanted to try for them to feel with the hands first.
Author 1: Makes sense.
Author 1: So do you think that they felt they got to feel the vibrations? Or was it more that they they saw it and they touched it in the they heard the music? And then it was pretty quickly that they didn't want to engage so much with it?
Teacher : It was quite quickly, I would say that it wasn't…they could, because we took it near them. And they tried loosely, like just to have that thing there near them. So they could feel the vibration as well.
Teacher: But it's hard to say if they pushed it away because of the vibration or they pushed it away because of of of the unusuality of the sounding plush toy.
Author 1: Do you think that they got a bit surprised, that if they would have more time? Maybe they will be used to it? Or is it if the more that okay, it was not popular? So maybe it's just doesn't make sense that it just sounds without you doing anything or pushing a button?
Teacher: It's possible that they've if they could try it more times several times, then they will be able to… to get used to that. Okay, this sounds.
Teacher: Sadly, the last lesson was this week, and it was shorter. So I didn't really have the the time to try it out. Sometimes they…because you said that it was okay. So one of the assistants have asked me if they can use them during the free free time. [Swedish: fritids]
Author 1: Yeah, like yes, absolutely. Yeah, they can feel free to just go ahead and use the objects as you want because we don't really need them at this point.
Teacher: Um, but she…She haven't tried the teddy bear. Otherwise I could ask her to try with those students who are with in the experiment, experiment.

Teacher: One thing I have thought is not for the teddy bear but the the pillow you have asked me if if you can throw it away one of the students has pushed away and it fell down the table and it's working.
Author 1: Okay. Good to know. Yeah, because that one seems to work pretty well. Right? Overall. Maybe Maybe it makes more sense because it doesn't look like something else and maybe you don't have Yeah, maybe it's it's not confusing in the same sense as the teddy bear then.
Teacher: Yeah, and then maybe maybe [Author 2] as onto something because the Chewbacca has …it also was popular if I remember correctly and it has like a button ish add to the the sound.
Author 1: Yeah the hole for this for the yeah like the mouth screen okay so you think they were maybe interacting with it in a way? Yeah I guess it's yeah there's clearly something coming out of the mouth so maybe it's it makes more sense. It's very it's very closed [the teddybear] I guess the teddy bear so maybe it's it's not as intuitive.
Author 1: But did it did it hold or did it break?
Teacher: It hold beside the [zip lock] but it holds they haven't break.
Author 1: Right so I guess then from just looking at the questions I asked the other times…so I guess then everyone had the did all of the kids had the same kind of similar reactions or was it more that there was different that some reacted differently or?
Teacher: I would say that the most time there was [student initials] who have played more with the teddy bear but every other students have have pushed it away quite directly. He has played with it a bit and then he pushed it away.
Author 1: So I'm guessing it was not so…I have a question about intuitiveness I guess he was not so intuitive then…
Author 1: What kind of music did you did you play through [it]?
Teacher: I believe it was like some some children's music and…it was some children's music and now when we talk about music, it came to my mind after I believe we have talked last [time] I use the Chewbacca with animal sounds because some of the students likes animal sounds. And I used bears sound because it looks a bit like a bear yes yeah.
Teacher: But but it was that students who really likes the animal sounds was really happy about the animal sound, but then he didn't…he was wasn't feeling on Chewbacca it didn't made him play with it more, but it was also like interesting. Some of the students just looked at it and was like leaning a bit forward trying to feel it with the play with it with with the chin… it was interesting to try animal sounds so may maybe a good thing to try the bear with with some animal sounds, maybe it's it's more easy that's okay it's a bear and it it's it sounds like a bear.
Author 1: Yeah, that makes that makes sense. I think yeah in one way maybe it's weird that it comes music from it because it's you expected it maybe you look at it and you expect it to be some kind of animal that will make that will communicate somehow and then if you play I don't know like a song through it maybe it's a bit confusing but….but that's really interesting.
Author 1: What do you think now if you think about all three of them, like three objects if you would now decide like which one is the you think has worked the best if you pick one, which is it? Which one do you think worked overall? The best?
Teacher: Oh, I think with the improvements the bear is is also quite working quite good oh it's so really hard to say.
Teacher: Based on that one time the pillow had some like Bluetooth issues maybe? Yeah I would say that in the either the Chewbacca or the bear were most reliable. On the same time I know that in in fritids [free time] they used mostly the pillow. So comparing to how many times it is used and I haven't heard that it had some problems comparing to how many time it was used…maybe the pillow…it's it's hard to say. I would say that the most engagement from the students I felt was maybe from the so far maybe from the Chewbacca, I would say so far.

Author 1: Yeah, maybe maybe the pillow is easier to set up. Because it's just literally the pillow you turn it on and you can if you connect it to Bluetooth, it's working and with Chewbacca, there's also a lot of other things and the cables and the and the amplifier so maybe for ease of use it's easier to set up the pillow but maybe the Chewbacca looks a bit more interesting, I don't know.
Teacher: Yeah. Yeah, yeah maybe.
Author 1: But great, it's really really interesting to hear that you've managed to use them so many times and in several locations and that really interesting to hear what what would be the kids, you know, interact with it and what was not interesting at all from our perspective
Author 1: And so let me see if I had any other things [questions] about accessibility. I guess there were no obvious errors with the teddy bear then, because there was not much engagement maybe where it could end up in something going wrong. And it was nothing else…

2.3 User Experience
Author 1: So yeah, maybe what they experienced and like so they were they were touching it and with their hands. So it seemed but then quite quickly, it was like okay, this is not interesting.
Teacher: Yeah, exactly. I know one student who is not in this study, but who had the chance to try I think every one of them besides Chewbacca, and who said that who have said via PODD that that he likes all of them.
Author 1: Nice That's great.
Teacher: Yeah.
Author 1: And yeah, I guess like the only remaining question I was about like I guess the emotions then when using the Teddy bear…they were not so positive then just because I have a question here about if you managed to identify if there were any particular emotions that you could you could see when they were using them, but I guess since they didn't like it, it was mostly…disinterest then maybe?
Teacher: Yeah, I would put it that way. Yeah.
Author 1: Yeah. I don't know if you have any questions [Author 2], about the teddy bear or?
Author 2: No, no, not really.
Author 1: Maybe, so just to summarize, for all three of them. So basically, they've been you've tested them several times, all of them and then you use different music, and also animal sounds then…and it's a bit difficult to say which one was, which was the preferred one maybe because some of them might work better than others, for different children.
Teacher: Yeah, exactly. And the teddy bear I managed to use just once so far yeah, exactly.
Teacher: But I would say all of them were working good and and were reliable and…yeah, after a short learning process easy to start.
Author 1: And were there any cases when…because we try to pad them a lot so that they would be you will have to throw them away and they wouldn't break, where there any instances where they were throwing quite like far or or maybe thath didn't happen?
Author 1: But they fell… as you said with the pillow, maybe you didn't…
Teacher: Yeah, this you… it was one of the students has tested the cables once… Yeah. And then they were in, I mean he he managed to pull quite a long time before we could try to engage him with another toy so I was really impressed.
Author 1: That's good. Yeah, that's great to hear because we tried to attach them in a way that will make sense and I was a bit worried that it would…because I did pull them myself and then sometimes they fell out and then we put more glue so hopefully that would last … Yeah, I think that's about it, unless you have any other questions [Author 2], is there anything else you would like to ask?
Author 2: I was just I wasn't just curious to know which kind of music and also which animal … so if I was…if you managed to like just recover or pick the sound files or the videos that

you played? And then you can send it…it would just be nice to have any idea what was played with for example the animal sounds to get an idea, or the other music, just for us to get an idea of what were the sounds.
Teacher: Yeah.
Author 2: But I mean if you remember that if your time is not…
Author 1: The bear sound you mean?
Author 2 : Yeah, yeah. Yeah.
Teacher: They have listened to bear [and] whale…those two animals mainly, they have listened to Babblarna. I don't know I don't remember which song but something from Babblarna. And they have listened to that soundtrack which you have done. Which you have sent me for the [installation] once and that is on the recording, I believe. And oh…
Author 1: Oh, sorry. You were meaning specifically the bear sound? Is that what you were [referring to]?
Author 2: In general and also especially I was just curious about the bear sound… I was trying to kind of having a picture of the situation which make up playing maybe a growling or something. So I was just curious to…[inaudible] but yeah, especially the animal sound.
Teacher: But yeah, sorry. I misunderstood you. It was fighting bears. So they were growling
Author 2: Oh, it was pretty okay. Intense I guess.
Author 1: Nice. Okay, I think that's cool.
Teacher: Yeah, because otherwise…bear I don't know. I haven't found any YouTube video they're there just like it was […] and sound something and so it was it was an intense one. Yeah.
Author 1: That's true. Probably they're pretty quiet unless they are interacting with each other. Just yeah, it's not a situation where you find yourself in very often.
Author 1: Whale sounds is also…you tried whale sounds too, that's that beautiful sound. But But did that work too? Or was that maybe weird for them? Because it doesn't look like a whale? Or?
Teacher: That was a bit, I believe, then they were…yeah, that seemed a bit off. It was some whale songs so it was not always…. and in the first one I don't remember what was the name, but it wasn't all the way some whale sounds, just some time, and then I found the video which called whale songs or something like that. And that was sounding more, and I believe the first video was a bit…then the students showed that this is not something that they think is fun to listen to. But some were a bit better, but it was also, ueah, I haven't think about that earlier before you asked. Um, but but it seemed that they were more engaged when it was the bear fighting than the whale…
Author 2: Do you think it was vibrating more with one sound rather than another? And so maybe this could be affected?
Teacher: It can be. I have always…
Author 2: No sorry, sorry, go on.
Teacher: I have always searched for music or sound which has a deep voice because I felt that then they they…then then it's vibrating a bit more.
Author 2: Definitely a good strategy.
Teacher: And those so which had the clear…drums or something which had a clear like bass, so it was…
Author 1: So out of curiosity, when when Chewbacca was playing the bear fight? Was it standing on the table then? Or was it? Did they hold it?
Teacher: It was it was standing on the table and we have moved it around for students from student to student. So everyone could have a chance to yeah, either interact with it or push it away if they wish to.