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*Published in:*  
Australian Journal of Music Therapy

*Publication date:*  
2015

*Document Version*  
Publisher's PDF, also known as Version of record

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*  
Ridder, H. M. O., & Gummesen, E. (2015). The use of extemporizing in music therapy to facilitate communication in a person with dementia: An explorative case study. *Australian Journal of Music Therapy*, 26(1), 6-29.

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## **Australian Journal of Music Therapy**

**Volume 26, 2015**

**Special Edition: *Music therapy and Ageing Well***

Ridder, H.M., & Gummesen, E. (2015). The use of extemporizing in music therapy to facilitate communication in a person with dementia: An explorative case study. *Australian Journal of Music Therapy*, 26, 6-29.

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# **The use of extemporizing in music therapy to facilitate communication in a person with dementia: An explorative case study**

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## **Abstract**

A person who has dementia may also have aphasia and severe communicative disabilities with the risk of this leading to social isolation. This study explored the music therapeutic process with a person with dementia and aphasia in order to understand how music therapy may facilitate communication and dialogue. In an explorative hermeneutic case study, new understandings to the music therapy process were added and led to the identification of the improvisation method known as extemporizing described by Tony Wigram. In a subsequent literature review extemporization was explored and is suggested as a valuable method for providing a safe ground for the person with dementia. Extemporizing can thus facilitate engagement in communicative dialogues and thereby address psychosocial needs for people with dementia.

**Key words:** aphasia, communication, improvisation, extemporization, dementia, music therapy

## **Communication and dialogue**

According to pragmatic communication theory it is impossible for human beings not to communicate (Watzlawic et al., 1967). Even when silent or turning away (or reading this text) you are intentionally or non-intentionally communicating with others. In this

understanding, a condition like aphasia, is not equivalent with being non-communicative, although, in a highly verbal and visual (Western) culture, being unable to put thoughts into words may easily be considered as being non-communicative, and in worst case; non-existing.

The Latin word *communicatio* means message, and *communicare* to share. Sharing a statement, an expression or an act is a joint action and therefore being interactive. When communication is coupled with an emotional component, this combination is based on vitality dynamics between people (Stern, 2010). Hence, communication is essential to social bonding and is much more than a linguistic message in also including nonverbal and paralinguistic expression (Ridder, 2003). *Nonverbal expression* is communication through body language, gesture, mimic, and eye contact, for example, by nodding, pointing, or clapping. *Paralinguistics* is about vocal expression and non-speech sounds. These sounds may be described with a range of musical components such as pitch, volume, tempo, melodic contour, timing, dynamic, and intonation. In paralinguistics the concept of prosody is essential and reflects not *what* is said, but *how* it is said. The ancient Greek understanding of the word prosody is “song sung to music” which supports the importance of an intrinsic “communicative musicality”, a term proposed by Malloch (1999; Malloch & Trevarthen, 2009).

Active communicative acts are maintained in dialogues by components such as turn-organization, flow and timing. One communication partner may give turn-yielding and turn-maintaining cues with the other showing turn-requesting or turn-denying cues (Holck, 2004; Knapp, Hall & Horgan, 2014). Both communication partners are unconsciously timing their way of expressing themselves to each other, and mostly only when the flow is broken or disconnected, it becomes evident how critical timing is to maintaining communication. Such mis-synchronization is challenging, and it demands focus and abstract thinking to repair mis-synchronization and maintain dialogue. From a social-pragmatic viewpoint, the purpose of communicating is not only to convey a *logical* understanding of something, but also a *psychological* and *pragmatic* understanding. Therefore it is imperative to relate to paralinguistic and nonverbal expression in communication with people where the semantic meaning of language is afflicted, e.g. due to dementia and/or aphasia (Ridder, 2003).

Initiating and maintaining communication with others is a highly complex task, however vitally necessary. Children who are neglected and adults who are isolated show the same profound and devastating reactions to social deprivation. Social exclusion from taking part in cultural life and developing relationships makes it difficult to benchmark normality

and may lead to stigmatization and health risks (Hobcraft, 2002; Pettigrew, Donovan, Boldy, & Newton, 2014). People who are unable to engage in communicative interactions due to dementia or cognitive neurodegeneration may be critically exposed to social isolation, even if they are surrounded by other people.

### **Dementia and social isolation**

Dementia is a neurocognitive disorder caused by various brain illnesses that affect perception, cognition and motor function. This biomedical and psychological disability poses complex challenges to global health and economy (Moniz-Cook et al., 2011). The number of people living with dementia worldwide is currently about 47.5 million with 7.7 new cases every year (World Health Organisation, 2015). The *World Alzheimer Report 2014* estimated that the global societal economic cost of dementia exceeded 600 billion USD (Alzheimer's Disease International, 2014).

According to the World Health Organisation (2015), people with dementia are frequently denied the basic rights and freedoms available to others. For example, physical and chemical restraints are used extensively in aged-care facilities, which may be prevented with holistic efforts. There is a need for patient empowering psychosocial interventions to improve psychological and social functioning, increase well-being and cognition, and facilitate interpersonal relationships (Moniz-Cook et al., 2011).

Dementia, a syndrome caused by various diseases, shows different progress and symptoms. The main symptoms include the following cognitive symptoms (the 4 As of Alzheimer's): amnesia, apraxia, agnosia, and aphasia (Alzheimer's Foundation of America, 2015). *Amnesia* means *without memory* and is the inability to remember facts or events. Memory loss may take many different forms as the memory system is complex and may be damaged in various ways. *Apraxia* is a disorder of motor planning and the inability to do pre-programmed motor tasks, e.g. to perform activities of daily living such as brushing teeth and dressing. *Agnosia* is the inability to process sensory information, such as seeing or hearing. This makes it difficult to identify e.g. people, places, pain, sounds and music. Finally, *aphasia*, meaning *without speech*, is the inability to speak, write or understand words. "Although individuals may not understand words and grammar, they may still understand non-verbal behaviour, i.e., smiling." (Alzheimer's Foundation of America, 2015). Various types of aphasia are described; the most common are expressive or non-fluent aphasia known as Broca's aphasia, or receptive or sensory aphasia known as Wernicke's aphasia. With global aphasia the person shows problems in both *understanding* and *producing* language.

A person may have brain damage that only affects one of the four cognitive symptoms, thus, in dementia all symptoms may be present and affect each other. Most non-verbal cognitive disorders observed in aphasic patients are due to a preverbal conceptual disorder, which cannot be attributed to a loss of semantic representations but rather to a defect in the retrieval process (Gainotti, 2014). If aphasic patients suffer from underlying semantic processing impairments or deficits in processing audio-visual information, communication may be supported by multi-modal representation (Preisig et al., 2015).

The difficulties in initiating and maintaining communication for people with dementia are not only due to aphasia, but also due to the whole range of cognitive deficits that constantly affect each other. When communication is afflicted and becomes difficult, this often leads to losses in social relationships. Without possibilities to engage in a shared world with relatives and peers, the consequences may be expressed in Behavioural and Psychological Symptoms of Dementia (BPSD) such as depression or agitation. In a person-centred perspective, BPSD are explained as closely related to psychosocial needs (Brooker, 2007; Kitwood, 1997). Kitwood (1997) described a cluster of psychosocial needs that are grounded in our evolutionary past and are closely related to the nervous system. If psychosocial needs are met, the person “may be enabled to move out of fear, grief and anger, into the domain of positive experience” (p. 20).

### **Music, aphasia in dementia, and dialogue**

Music is often described as a form for language (Wigram, 2012), and music and language both have syntactic and semantic meaning (Bonde, 2009; Ruud, 1998). A melody in a song or a piece of music has many elements in common with the spoken language regarding pitch and phrasing, and the dialogue in improvised music may be seen as musical conversations (Wigram, 2012), developing between two players who “become integrated in a single musical narrative, on one beat and with organized changes of meter, rhythm, and mood” (Pavlicevic, Trevarthen & Duncan, 1994, p. 87).

Creating dialogue through music may be crucial to clients with communication disorders. The musical dialogue offers the client a possibility to express emotions or trauma that have not been dealt with and may be too difficult to express in words (Bruscia, 1987). Expressing oneself nonverbally in synchrony with another person is essential in creating a relationship; it is through relationship that one becomes a person (Kitwood 1997; Stern, 2010).

It is very complex to engage in verbal communication, but also highly complex to engage in non-verbal communication. Communicative cues may be subtle and difficult to precisely explain as they happen unconsciously. But they can also be intentionally expressed in a very clear way, turning directly towards a person and gesturing as to who has the turn. The Danish music therapy researcher, Ulla Holck (2004), has described how gesture, prosody and exaggerated expression in mimic and body language clearly underline the cues in the dialogue and help turn-taking taking place, even with client populations with severe communication deficits. By creating predictability and regularity and by clear turn giving communication, dialogues are more easily fostered in relationships where these have been hindered due to conditions such as depression (Jacobsen, 2012).

The rationale for including music in interactions with people with dementia is well researched; music is uniquely preserved in some persons with Alzheimer's disease, though other cognitive functions have deteriorated (Cuddy et al., 2012; Koelsch, 2014). Singing and music stimulate language functioning (Moussard et al., 2012), memory function (Finke et al., 2012), reduce anxiety (Koelsch & Stegemann, 2012; Ueda et al., 2013), pain (Garza-Villarreal et al., 2014; Korhan et al., 2014) and increase positive emotions (Särkämö et al., 2013). Music reminiscence in dementia positively effects mood and language (Ashida, 2000; Brotons & Koger, 2000), and finally, music therapy for people with dementia is effective in decreasing agitation (Livingston et al., 2014; McDermott, Crellin, Ridder, & Orrell, 2013; Ridder, Stige, Qvale, & Gold, 2013). Music offers a means of communication other than verbal language (McDermott, Orrell, & Ridder, 2014), however, there is a lack of knowledge in how to describe music therapy processes in depth and identify those factors, methods, and techniques that are meaningful.

### **Improvisational music therapy**

In music therapy, improvised music plays a distinctive role in nonverbal communication. The musical expression may take place as a serene communication between two partners, unfolding step by step in time and space. Or it may be an intense, loud and highly dynamic quarrel. Late music therapy professor Tony Wigram described music as a marvellous medium for engaging in dialogue. Dialoguing is a process where therapist and client communicate through their musical play in two different forms. In *turn-taking dialogues* the one part waits until the other has finished playing and hereby gives the turn to the other. This requires pauses in the play, giving space to each other (2004, p. 98). The other form is *continuous free-floating dialogue*, where the two parts play simultaneously. Both

partners hear and respond to the other but without turn-yielding pauses in the musical process. The way expressions are heard and reflected upon is less structured and more unpredictable than in turn-taking dialogues (Wigram, 2004, 2012). Like in verbal language, cues are important for creating flow in the dialogue and Wigram emphasised the following *musical cues*: harmonic, rhythmic, melodic and dynamic. In addition he described gestural cues. These are clear signals in the turn-taking dialogues such as nodding the head, raising the hand, or seeking eye contact (2004).

*Figure 1.* Musical closeness in mirroring (Wigram, 2004, p. 83) Reproduced by permission of Jessica Kingsley Publishers [Figure removed from the online version of the article].

Wigram described three basic therapeutic methods in his handbook on improvisation (2004): mirroring, matching and empathic improvisation. *Mirroring* is when the therapist in synchrony with the client does exactly what he/she is doing musically, expressively, and through body language (p. 82). In order to illustrate this as a rather symbiotic relationship where client and therapist become fused and undivided, Wigram illustrated mirroring with two overlapping circles (see Figure 1). Mirroring is a way of fine-tuning interpersonal interactions, and synchronisation of two people's behaviours (Stern, 2010, p. 51). Interactional synchrony is coined in the idea of "communicative musicality" by Stephen Malloch and Colwyn Trevarthen (2009).

*Matching* was noted by Wigram to be one of the most valuable of all improvisational methods to be applied in therapy. Matching is not about playing identically, but to match style and quality. Therefore there will be individual differences that show emerging separateness which Wigram illustrates with two separated circles sharing a space in-between (see Figure 2).

*Figure 2.* Musical connections in matching (Wigram, 2004, p.84). Reproduced by permission of Jessica Kingsley Publishers [\[Figure removed from the online version of the article\]](#)..

If mirroring and matching may be characterised as more technical ways of creating response, *empathic improvisation* is more connected to the emotional state of the client. It is a reflection on the clients ‘way of being’ at a feeling level, which in practice means taking into account the client’s body posture, facial expression, attitude, and personality. Wigram explains that if a client enters the therapy room agitated and upset, this mood can be incorporated into an empathic improvisation, with the therapist not trying to ameliorate or reduce the degree of distress, but merely playing it back as a supportive and empathic confirmation. This is clearly illustrated by two separate circles, representing two separate identities (see Figure 3).

*Figure 3.* Separate musical identities reflected via emotional empathy (Wigram, 2004, p. 89). Reproduced by permission of Jessica Kingsley Publishers [\[Figure removed from the online version of the article\]](#)..

### **Case Study Method**

In order to create an understanding of communication at an in-depth level, we will use this study to *explore* communication in music therapy, rather than to *explain* the efficacy of music therapy. In an explorative case study methodology we strive to get an understanding of the single case from an idiographic perspective, rather than at a nomothetic, generalising perspective (Ridder & Bonde, 2014). In the understanding of research, one may distinguish

between three different types of knowledge or scientific ideals; exploratory, descriptive or explanatory (Yin, 1981, 2012). We see an exploratory approach applied in a case study methodology as relevant to increase an understanding of music and communication in a population with communication deficits. In this study, a hermeneutic epistemology is applied using an inductive approach to seek knowledge about human processes and actions. Aiming to explore the research from various perspectives, a hermeneutic understanding is used (Gadamer, 1960/2004). This process is comprehensive and it is not possible within this article to unfold our pre-understanding, and how it changed by integrating new understandings in a hermeneutic circle progression. The process and the details of the analysis are described in the research master's thesis by Gummesen (2014) and here presented in a condensed form.

In the case study, data is based on a series of music therapy sessions with a person named Knud (his real name and all identifiable data are excluded). Knud suffers from moderate/severe dementia and global aphasia. The case material consists of:

- Video recordings of 14 music therapy sessions.
- Music therapist's log, written down immediately after the sessions, with the therapist's descriptions, ideas, thoughts and comments related to the process.
- Music therapist's pre-assessment report.
- Session transcripts based on the video material noticing details (actions, interactions, music interventions, music titles, verbal conversation) on a timeline.
- Session descriptions with an overall summary of each session made after the end of the course of therapy.

For the analysis, various methods of data display were used: mind maps, models, tables, quantification (count of sentences and events), timelines, graphical notations of each session (Bergstrøm, 1993) and music scores.

The hermeneutic approach leads to a certain structure of the dissemination. Classically, research is disseminated in three steps: theoretical framework/literature review, method/analysis, and discussion/conclusion. We followed a structure seen in hermeneutics, where renewed literature searches or analyses may take place. Our pre-understanding was challenged, new understandings emerged expanding our knowledge horizon, and adding new perspectives. This was integrated in a circle (or spiral) process from detail to the whole, and led to a further need to deepen our understanding on the improvisation method termed extemporizing, and back to understand the music therapy processes in a new light. Instead of

presenting this knowledge in the beginning, we present the new knowledge and our renewed literature search *after* the analysis, in order to reflect the succession of the hermeneutic process.

In the following section we present the case, and use the case material to explore communication in the therapeutic process with a person suffering from dementia and aphasia.

## **Case analysis**

### **The participant, “Knud”**

Knud was 64 years and a friendly looking man who was often smiling. During the day he mostly walked about at the nursing home unit, walking with fast movements, or sometimes for longer periods, he stood still and looked intensively at peer residents or staff passing by. Not able to live alone in his house, Knud was moved to the nursing home with a special unit for people with dementia. His apartment here had a large and bright living room, a bathroom and a tiny kitchenette. He brought with him furniture, television, typewriter and other personal belongings.

### **Diagnosis**

Knud was diagnosed with “dementia” however without any specification. Some staff members suggested that he was an alcoholic, but very little was known about his former life and whether other conditions may have had an influence on his diagnosis. In contrast to people with Alzheimer’s disease where language may be preserved for several years, Knud’s language was clearly compromised, and global aphasia was a main symptom.

### **Communication**

Knud did not seem able to understand when asked verbally, and he used no other verbal language than his one sentence: “Well, it doesn’t matter”, that he repeated whenever questioned, or whenever making a comment on something. He mostly expressed the whole sentence, but sometimes also just parts. On a few occasions he used the words yes, yeah, yep, yes thanks, no, or no thanks, but apparently without the semantic meaning. His expression could be expressive and dynamic, and with prosody. Knud seemed to understand nonverbal communication, and showed preserved nonverbal cognitive functions to a certain degree.

### **Apraxia**

Knud was not able to carry out a sequence of actions, for example, taking a comb and doing his hair, or pouring coffee. Previously, he used to type his diary on his typewriter and make drawings but no longer showed interest in any activities.

## **Amnesia**

Due to global aphasia it was difficult to say how much Knud did remember. He mirrored a smiling face, when someone approached him; it was therefore difficult to say whether he recognised other people, or just showed interest in others.

## **BPSD**

For staff and other residents, Knud's behaviour was described as intimidating, as he would stand stiffly in the middle of the lounge or in the corridor and stare at people. If asked something he repeated; "Well, it doesn't matter", and would do this many times during the day. According to the Cohen-Mansfield Agitation Inventory he showed verbally and physically non-aggressive agitated behaviour (Cohen-Mansfield, 1996).

## **Social network**

Knud used to live alone and at the nursing home he had no visitors and no close relatives. In his diary from before he moved in at the nursing home there were no descriptions of any highlights or visits. Mostly he wrote about the weather conditions, and a sentence that was often repeated in different versions was: "well, at least I got the time going for today."

## **Relation to music**

If music was played in the lounge room, Knud clearly listened. He would stop walking, turn in the direction of the loudspeaker, and move back and forth to the rhythm of the music, before he then continued walking. This would happen several times during the day, but only with melodic popular music (e.g. by the singer Jan Larsen who sings tunes from Danish film classics). Knud participated in sing-along activities by listening.

## **Referral to music therapy**

Knud was referred to music therapy by the interdisciplinary team due to social isolation and non-aggressive agitated behaviour. His repetition of the sentence "Well, it doesn't matter" gave the impression that he was indifferent, giving up and depressive. It was noticed that he liked music and related to music, and the team suggested Knud would benefit from positive one-to-one contact with the music therapist. Some staff members found Knud's ambulation and repetitive words disturbing, and anticipated music therapy would decrease this and improve his use of meaningful verbal language.

## **The music therapist**

When the therapy started, the music therapist, Elisabeth Gummesen, had completed her first four years studying music therapy. Her work as music therapist at the nursing home

was part of her final 5<sup>th</sup> year's training at Aalborg University, with a four month internship to be followed by writing a research MA thesis. Through the whole process she was supervised in peer and individual supervision with certified music therapy supervisors from Aalborg University.

## **Ethics**

The music therapist, the University, and the head of the nursing home signed consent in relation to all relevant ethical aspects for the music therapy internship. Knud was not able to sign consent, but his legal guardian signed consent that Knud participated in the course of music therapy and that written material from the case could be used for dissemination in a relevant vocational context and according to ethical considerations securing anonymity and privacy. The therapist and supervisors were obliged to follow the ethical principles defined by the Danish Music Therapy Association.

## **The music therapy sessions**

Music therapy took place in Knud's private living room at the nursing home with one weekly individual music therapy session in a period of 14 weeks. The aim of the therapy was to find ways to facilitate communication with Knud in order to meet his psychosocial needs. Due to symptoms of dementia and communication deficits, the interactions and communication was adjusted using clear, amodal, and non-verbal cues focusing on timing, flow and communicative regulative elements (see Ridder, 2011).

Most of the time Knud and the therapist were seated on Knud's sofa. The first session lasted 16 minutes, and the rest of the sessions lasted about 24-30 minutes. The 14 sessions could be divided into four overall phases describing the development of the therapy course; 1) Assessment, 2) Music listening and turn-taking, 3) Singing together, 4) Initiative and contact.

### **Sessions 1-2: Assessment**

The therapist regarded the first sessions as assessment sessions with focus on establishing a safe framework and identifying applicable techniques (life music, listening to music, playing instruments). She invited Knud without asking him or putting pressure on him. As an example, they listened to some well-known music. After having listened for a little while, the therapist started drawing to the music. In this way she invited Knud through her engagement and interest, but letting him take the initiative to take the crayons in front of him. He showed no interest in drawing, but engaged in music by smiling, humming, singing bits of the song text, tapping the beat with his hands on the backrest of the sofa, and

sometimes by rocking slightly to the rhythm. In session two, the therapist observed that Knud said “Tju-hey” from a cheerful Danish song. This was the first time the therapist heard Knud saying anything else than “Well, it doesn’t matter.” After this, they listened to a Danish evergreen song that was famous in the 1960s. Knud joined in singing – and sang part of the text slightly in advance.

### **Sessions 3-6: Music listening and turn-taking**

Listening to Knud’s favourite music became a major ingredient in the sessions, making Knud attentive and engaging. In the third session, the therapist accompanied the recorded music with electronic iPad drums (with the software Garageband). When directly offered the iPad, Knud started exploring the sounds, and for a short while he was engaged in rhythmically playing with the sounds. In the break that followed, he suddenly started whistling an old fiddler song. The therapist joined in singing and looked directly at Knud. He joined in, singing with the nonsense lyric which opens the song “Rits Rats filliong, gong, gong...”. For almost one minute following this, Knud played maracas in a rhythmic turn-taking pattern, with the therapist gently hitting his maracas with hers, and he gently hitting back – simultaneously with one of his favourite songs on the CD-player. In the coming sessions, longer periods of up to five minutes of turn-taking events happened when playing the drum or with Garageband, always simultaneously with his favourite music. In session 5 Knud joined in singing with the therapist who sang acapella. This was the first time they sang together for longer periods without CD play back.

### **Sessions 7-10: Singing together**

In the following sessions Knud often joined in singing and tapping the beat on the sofa or on his legs. Singing together a capella became an important part of the sessions.

### **Sessions 11-14: Initiative and contact**

The sessions continued with music listening and singing. Knud generally smiled, laughed, and rocked from side to side to the rhythm. Turn-taking events occurred for example by alternately singing one stanza each, or by small teasing games with sounds and rhythms. This sometimes developed into short vocal improvisations or into singing a new song where Knud would tap the beat and sing with text. The music therapist noticed that in the last sessions, especially in session 13, Knud showed initiative on several occasions. In these moments there was contact between the two with joint attention on the music and sharing of emotions.

## **Changes in communication**

During the course of music therapy Knud steadily continued saying his sentence: “Well, it doesn’t matter”. Using the sentence about 40-50 times in the beginning, the number increased to 65-92 times in the last five sessions. In the first sessions the therapist reacted to the discouraging verbal message of the words, but increasingly realized the intact timing and turn-taking in the non-verbal and paralinguistic expressions. She understood not to focus on the semantic meaning, and instead saw Knud’s non-verbal communicative capabilities. She shared this reflection with the caregivers, and for both parties this seemed a turning point from not listening to the words, but listening to Knud’s tone of voice and observe his mimic and gestures. The moments with joint attention and sharing of expressions in the music therapy gave the therapist an insight in Knud’s communicative resources, rather than focussing on his deficits. Knud increasingly engaged by listening, engaging in turn-taking dialogues, joining in singing, singing with text, taking initiative and engaging in non-verbal interaction with the therapist.

## **Understanding the music therapy process**

The music therapist described a development through the 14 sessions showing an increase in initiative and contact. In the process she learned more about Knud and his preferences, and from observing those ways of being together, that made Knud attentive and engaged in a positive way, she was able to tailor the therapy according to Knud’s needs.

Despite Knud’s global aphasia, Knud would sing song texts, and the therapist noted several incidences of dialogue through turn-taking and described these interactions as important in her process of building up a therapeutic relation with Knud. Figure 4 is an example of a turn-taking dialogue with Knud. It does not reflect a free improvisation, but consists of pre-composed bits of a song where first the therapist contributed with humming a small fragment (G-clef scores), which was answered in a predictable way by Knud (F-clef scores) and continued with several well-defined turns, all framed by the well-known song. It is relevant to notice that twice Knud adds a “Jæ!” (Yep!). The analysis showed several of such small expressions from Knud, like the “Tju-hey” in the second session. The Jæ-expression was fully integrated in the song and the turn-taking dialogue, but at the same time broke the predictable structure making one see a small glimpse of the person Knud. Within this very safe and secure setting, he seemed to be able to express himself in short present moments. We found these moments essential for further analysis.



Figure 4. Turn-taking dialogue with Knud (F-clef scores) and the music therapist (G-clef scores; session 13).

Further essential moments for the analysis were the way Knud increasingly added small melodic fragments to the songs. Figure 5 shows Knud (F-clef) humming a small melodic fragment, singing the text; “as long as I will die”.

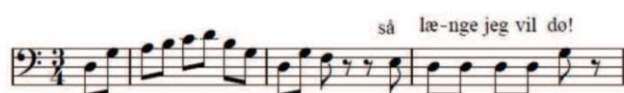


Figure 5. Knud humming, and then singing “as long as I will die”.

Figure 6 is an example of Knud and the music therapist singing simultaneously after which Knud added a melodic fragment. Again, for a short moment he expressed himself as a person. He shortly improvised, but within a structured and recognizable form.



Figure 6. Knud adding a melodic fragment to the singing.

### Improvising within a given form

From the very beginning of the therapy process, Knud responded to recorded music with gestures and mimicry, and by marking the beat. In these incidents he and the therapist

were in synchrony with the music. The predictable, safe and well-known music created a space for him to connect. Knud and the therapist could be described as two separate individuals, but for shorter periods the music brought them together. The music also fused them when both joined in singing. This may be illustrated with the two overlapping circles in Wigram's (2004) figure (see Figure 1), describing musical closeness in mirroring.

Although Wigram (2004) mainly described instrumental improvisation, this same process may illustrate the process for Knud. Singing together may well be a very effective way of marking a symbiotic relationship. This symbiotic closeness through the music seemed important for Knud in order to feel safe and confirmed. As stated by Wigram, mirroring "is a therapeutic strategy to help a client to be aware that musically you are echoing and confirming" (p. 83). Mirroring may be amodal; musically it may take place through playing or singing, but also through what the therapist is doing expressively and through body language. The therapist is feeling *with* Knud, suggesting *sympathy*, rather than feeling *in*, which may be described as *empathy* (Stern, 2010).

Mirroring was helpful in creating a safe ground for Knud, and this further was a requisite for him to be able to engage in turn-taking dialogues with the therapist, as illustrated in Figure 4. Turn-taking requires two people to give turns to each other. According to Wigram (2004) conceptually there are two separate identities, together but with individual differences. This shows emerging separateness. Wigram used two overlapping circles to illustrate this (Figure 2). It is essential in understanding the therapy process to highlight that Knud, despite dementia and global aphasia, managed to separate himself in a joint communicative act. Finally, not only was Knud able to separate himself; in small glimpses he also showed the ability to act separated and communicatively engage with the therapist with his own musical identity. However, he was not fully separated and independent. He was reliant on predictable, familiar music that he *listened* to together with the therapist, or by *singing* together with the therapist. This analysis showed that the small incidences with "Tju-hey", "Jæ" and musical fragments were essential to the therapeutic process. We therefore further needed to explore how to conceptualise Knud's musical dialogues.

The analysis evolved through an inductive analytic process. But the answer came as an epiphany to the music therapist. Being trained by Tony Wigram in 2009 at Aalborg University in clinical improvisation, it did not occur to her until now that he recommended a certain technique in the work with people with dementia; *extemporizing*. Wigram's definition of extemporizing gave a clear picture of a way of merging the use of pre-composed musical material with improvisation:

“Extemporization: Improvising on some given musical material, or as a pastiche of a style of composition, maintaining the musical and dynamic characteristics of the style” (Wigram, 2004, p. 114).

Extemporizing is described as an advanced therapeutic method, and even though the therapist and supervisors were familiar with Wigram’s improvisation methods, extemporizing was not brought into the understanding of the therapeutic process. In the following section we will explore whether extemporizing may contribute to explain those essential incidents with musical communication between Knud and the therapist.

### **Discussion: extemporizing as a communicative approach**

In the case study it was described how the music therapist assessed different ways of engaging with the client, Knud, who had moderate/severe dementia and global aphasia. The therapist tailored her interactions in ways where Knud became increasingly engaged and communicative. It became clear that Knud was most engaged when he was offered a clear framework that he could relate to through well-known music. After having listened together to music or after having sung familiar favourite songs together a capella, Knud “stayed” with the music, and would initiate interaction with the therapist adding his own personal expressions and small melodic fragments.

### **Literature on extemporizing**

The analysis in this inductive hermeneutic research process brought us to the concept extemporization. We needed to deepen our knowledge on extemporizing and gain a new understanding, and therefore did a search of the existing literature. In a preliminary broad literature search, several references gave an explanation of extemporization. These were related to the professional training of musicians, sometimes used interchangeably with the term improvisation. In her book on organ improvisation, Johansson (2012) describes instrumental extemporization as a well-known feature of keyboard concertizing until the early 20th-century. Extemporizing was practiced by e.g. Franz Liszt, Felix Mendelssohn and Anton Rubinstein to introduce pieces of music or to link different pieces together. Improvisation is an expansive approach to written music, distinguishing between a reproductive and an explorative approach (Johansson, 2012). The way organists play may bridge *interpretation* and *improvisation* that we usually would see as two separated concepts. In bridging these terms, *edition* is described as closest to *interpretation*, followed by

*extemporization*. Closest to improvisation in the continuum is *instant composition*. For organists, extemporization is a type of liturgical improvisation where they develop musical structures or harmonic progressions based on a hymn or piece of music (Johansson, 2012).

With this useful broad understanding of extemporization, we were interested in research on the topic and did a search on the term extemporizing (extemporising, extemporize, extemporise, ekstemporering) in the Scopus database. This revealed research articles on earworms, human-machine improvisation, psycholinguistic and microcomputers. Interestingly, extemporization can even be imaginary. Most people may have experienced involuntary musical imagery which is an everyday phenomenon, also called earworms; it is possible to experience an auditory imagery extemporization where your brain further improvises on your inner tune (Williamson & Jilka, 2014).

Finally, we narrowed our focus on clinical research literature on music therapy and extemporizing. We now did a search in 14 different databases and in Danish and English refereed music therapy journals. This only revealed 45 hits in Google Scholar, and no results in databases such as Medline, PsycINFO or Scopus. We reviewed all hits, and from this we identified five publications (Aldridge & Aldridge, 2008; Eyre, 2007; Pavlicevic, Trevarthen & Duncan, 1994; Wigram, 2004, 2012).

Aldridge & Aldridge (2008) saw extemporizing as a way of “being out of time – ex tempo” (p. 45) which is also understood in the word *kairos*. *Kairos* is a decisive time in the moment, in contrast to the mechanical time of *chronos*. Aldridge & Aldridge define the ability to extemporize as the same as being able to improvise; speaking or communicating spontaneously without preparation.

Based on a case with Curtis, a man in his thirties with schizophrenia, who participated in a three year program of music therapy with Mary Priestley, Eyre (2007) defined these improvisations as “the extemporization of sound or music while playing or singing.” (p. 2)

Pavlicevic, Trevarthen & Duncan (1994) explored the use of improvisation to establish one-to-one interactions between two players. In a study of 41 day hospital attenders with schizophrenia, the musical improvisations were assessed using the Music Improvisation Rating for Schizophrenia, MIR(S), evaluating nine levels of musical engagement. The scale begins at level 1) with *no musical contact* and continues with 2) *is unresponsive*, 3) *non-musical response*, 4) *self-directed musical response*, 5) *tenuous musically directed response*, 6) *sustained musically directed response*, 7) *tenuous mutual contact*, 8) *sustained mutual contact*, and finally shows the highest level of engagement at level 9) *musical partnership*. For level 9 the authors describe that patient and therapist ...

“take turns to lead in a fully mutual musical partnership. This approaches an improvisation in jazz, where the musical material is constantly tossed between the two players, who then extemporize, using the forms they have created together” (Pavlicevic et al., 1994, p.93).

The authors used the term extemporize in order to explain advanced musical improvisation that is not fully ‘free’ but consists of the creation of musical material and musical forms that are exchanged between the two. From this study the authors concluded that the essential communicative ingredients are musical, and that precisely these musical-communicative ingredients are elicited in music therapy improvisation, and may be useful in the rehabilitation of chronic schizophrenic patients (p.102).

Extemporizing can be quite simple, but can also be complex and skilful. When using tonal music, the practitioner needs to have a good understanding and facility regarding modulation and transposition, and an understanding of choral structure and tonal sequences. As a consequence, many musicians and practitioners may find extemporizing a greater challenge to their musical (and therapeutic) skills than free improvising – in which one retains the freedom to invent and create music (Wigram, 2012). This advanced level of improvising is thoroughly described in a comprehensive workbook by Colin Lee and Marc Houde (2011), however without using the concept extemporizing, but defining “Improvising in styles” which is the title of the book.

It is important to underline that Wigram (2004) emphasised extemporization for people with dementia. He suggested that atonal improvisations might be “inappropriate (perhaps even contraindicated)” (p.114) as the atonal music might be too difficult a medium in severe dementia. He suggested that...:

“the ability to extemporize in a certain style, giving a starting point, is a very useful skill and technique for music therapists because it also offers the possibility to develop or make a transition from a known song or a piece of music into something more improvised and perhaps more personally expressive” (p.114).

In a short case description, Wigram (2012) explained how a 64-year-old lady with learning disabilities and dementia was left confused and unable to play or sing using free improvisation, especially atonal improvisation without a clear rhythmic structure or tempo.

“For Joan, music-making involved singing her most favourite songs ... extemporizing provided her with a familiar extension to the style of music-making she could engage with, while allowing her to explore a creative way of increasing and extending her capacity for expression” (p.439).

In the therapy process with Knud, extemporization was key to facilitate communication. For him favourite songs, either played on CD or singing together with the therapist, allowed him to engage and express his identity for short moments. The therapist did not use *em-pathic* improvisation (see Figure 3) that demands two separate identities, but rather used mirroring and matching through *sym-pathic* extemporization. This allowed Knud to express himself as a person and engage in communicative dialogues.

### Conclusion

Communication is essential for human beings. For people with dementia who may also suffer from aphasia, nonverbal communication may play an important role in sharing statements, expressions or acts. Music is powerful when it comes to facilitating recognizable forms and to engage in mutual interaction. Musical improvisation may enhance free expression, and the improvisation technique extemporization may be specifically important in people with moderate/severe dementia and aphasia, as it takes a starting point in preferred musical material and well-known musical forms. Extemporization provides a safe ground for engaging in communicative dialogues. The use of extemporization as an advanced music therapeutic improvisational method is sparsely described in the literature regarding persons with dementia, and is not integrated as a key concept in music therapy research.

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