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## **Role, role categories and role aspects – in using process drama for learning processes in mathematics**

### **1. Introduction**

The concept and importance of role is basic to Drama-in-Education (DIE), and to the genre of DIE that after the 1990's is named 'process drama'. During this decade, the concept 'process drama' was referred to and used by drama scholars like John O'Toole (1992), Cecily O'Neill (O'Neill) and Gavin Bolton (1998) correspondingly to what in Scandinavia was called 'drama pedagogy'. The concept 'process drama' was introduced in an article by Brad Haseman (1991, p. 19), attributing the conception of the term to O'Toole<sup>1</sup>, who defines it as "the distinctive form of improvisation which has emerged from schools", one of the characteristics being that the improvised drama was structured to arouse an artistic response from the participants. According to O'Neill (1995, p. xiii), process drama proceeds without a script, its outcome is unpredictable, it lacks a separate audience, and the experience is impossible to replicate exactly.

In line with this development, the concept of role has been used quite differently in DIE than in classical theatre, or in social science. A complicating factor is that 'role' and 'character' sometimes are used as synonyms, sometimes as contrasts. A clarification of these concepts is therefore needed.

In process drama, the approach to role is often based on a dynamic between immersion and distance to the role (Bolton, 1984; Eriksson, 2009). However, according to David Davis (2014), 'distancing' is a dominantly rational dimension, alien to process drama, which in his view is primarily characterised by a 'living-through' quality of emotional engagement in the drama event. He connects the latter dimension to the early practice of the British pioneer Dorothy Heathcote and to most of Bolton's work, whilst the former is seen as influenced by Bertolt Brecht. Davies criticizes the influence from Brecht, and especially the idea of distance to acting in process drama (Davis, 2014, pp. 30-32).

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<sup>1</sup> In a focus paper at the NADIE Conference in Sydney, 1990.

Even though we find much of Davis' drama pedagogy useful in our approach to applying process drama in mathematics, we do not find his polarisation of Brecht versus Heathcote, nor distancing versus living-through very fruitful or relevant. We will argue for a balance between immersion and distancing in our approach to role and role-play, i.e., to look for a constructive balance between felt experience and reflection, which in our opinion characterises process drama at its best.

### **Theatre in mathematics**

Our perspective in exploring role, role categories and role aspects, is based on our work in the European project 'Theatre in Mathematics', financed through Erasmus+ and with participating institutions from Italy, Greece, Portugal and Norway. The project aims at providing a new methodology to teach mathematics, using theatre workshops (Mathemart)<sup>2</sup> and process drama, to face main obstacles in teaching and learning mathematics in Europe – summarised in the statement: 'The fear of mathematics'. With the aim of changing and improving learning processes in mathematics using theatre and drama, we also explore a possible connection between role categories and life skills. In doing this, an additional aim of the TIM project is to improve the life skills of the students. It is related to how the World Health Organisation (2020, p. 17) defines and regards the significance of these skills for teaching and learning:

Life skills learning extends traditional methods of teaching about health, which tend to be knowledge-based and didactic in approach. It utilises student-centred and participatory methodologies, giving participants the opportunity to explore and acquire health-promoting knowledge, attitudes and values and to practice the life skills they need to avoid ill-health. (...) Life skills teaching also needs to provide some level of basic and accurate information for students, in order to equip them with the essential knowledge needed to assess health risks and avoid health risk-associated behaviours.  
(WHO, 2020, p. 29)

Although mathematics traditionally has been a cornerstone in modern education, the teaching of this subject seems to have a common challenge in many countries, creating fear and distress in many students. According to the national service for special needs education in Norway, *Statped*

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<sup>2</sup> <http://www.socialcommunitytheatre.com/en/projects/mathemart/>

(2021), the fear of mathematics is widespread, referring to research indicating that as much as  $\frac{1}{4}$  of adults are affected by such fear. This situation creates negative feelings like fear, distress, and stress in encounters with mathematics. It is one reason why teachers and researchers within the field of mathematics have found interest in drama, to explore if adapting drama and fictional role-work may improve learning and communication processes in mathematics.

While methodology usually is a concept expressing an overall perspective to specific approaches to research, i.e., the theoretical framework for research methods and the use of these methods (Ackroyd, 2006, p. X; Grady, 2006, p. 84), the European project ‘Theatre in Mathematics’ (TIM), to which we refer here, uses the concept of methodology in a more pedagogic way. It is, however, still necessary to include an overall theoretical foundation, and thus one aim for this article is to explore a theoretical framework for a TIM methodology.

In developing Theatre in Mathematics (TIM) as a new methodology, we include the genre of process drama, to which the art-pedagogical mode Teacher-in-Role (TIR) has become a major approach. TIM includes a combination of Mathemart, developed at the Social Community Theatre Centre in Turin, and an approach to process drama using role, role categories and role aspects, developed by researchers in drama and mathematics at Western Norway University of Applied Sciences in Bergen and the University of Tromsø. In this article we discuss a theoretical framework for TIM with reference to process drama, and do not consider aspects of the Mathemart part.

In process drama, TIR enables the teacher to switch between roles, and thus influence the drama from both inside and outside the fictitious event, i.e., both in dramatic role(s) and as the teacher. Heathcote & Bolton (1995, p. 189) underline that it is exactly “the *mixture* of teacher/roles, including the normal teacher register, that makes for authenticity, (...) and (...) it is this ambiguity that ‘disturbs into learning’”.<sup>3</sup> To describe this mixture of roles, some drama theorists use the notion of ‘role categories’. When a register of role categories, or equivalents to role categories, are used, it usually refers to different roles applied by the teacher when in role (Heathcote, 1985a, p. 58f; Heggstad, 2012, p. 84f; Kitson & Spiby, 1997, p. 56f; Morgan & Saxton, 1987, p. 41f).

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<sup>3</sup> Highlighted by Bolton.

The Norwegian drama educator and practitioner, Kari Mjaaland Heggstad (2012), presents four role categories of TIR: *The Leader* (authority role), for example the friendly king or queen; *The Opponent* (authority role), which will often create a unity among the students vis-a-vis the teacher; *The Mediator* (intermediate role), for example the messenger); and *The Suppressed* (low status role), for example the servant or someone in need of help.<sup>4</sup> While the roles as leader and opponent usually have high status, and thus a fair amount of teacher control, they will exhibit some differences in acting behaviour, which belongs to the idea of role aspect. The messenger has an intermediate status, which allows the teacher to choose between higher and lower status, and thus a flexibility in use of teacher control and acting behaviour. This category is often preferred for a TIR. The suppressed has low status, which may create a challenge in terms of power and control. But it may also generate a will among the participants to resistance and action for change, which is often an aim in process drama (Landy & Montgomery, 2012).

Role categories offer a dynamic potential of varying teaching strategies. The basic structure is that the students are afforded a collective role, such as villagers, and that the teacher approaches them with a challenge and an attitude corresponding to which role category and role aspect the teacher has chosen for the learning process: “The teacher’s task is to work within the drama framework and assist the children in focusing, defining, and structuring events. The teacher thus monitors the drama learning from within” (Booth, 1989, p. 46).

Using such process drama concepts as: role, role categories and role aspects in the TIM project, and thus introducing a new teaching register in teaching mathematics, we believe it can offer some new stimulating approaches to learning mathematics but to drama teaching as well. Guided by the following research question, we will discuss how different elements of this framework can be explained:

*How can the concepts of role, role categories and role aspects contribute to learning by applying process drama in mathematics?*

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<sup>4</sup> Heggstad uses Jonothan Neelands as her main source (1984). In turn, Neelands refers to Geoff Gillham as the originator of such role categories, but we have found no published document by Gillham in this respect. However, the originator of the Dorothy Heathcote archive, Sandra Hesten (1994), suggests in an e-mail to Eriksson that such role categories were used by Heathcote in her masters course as early as 1972-3 and that Gillham, who had a close connection with Heathcote’s work, may have developed them in cooperation with her (Hesten to Eriksson, May 26, 2021).

The discussion will comprise exemplifications from a process drama implemented in the TIM pilot in Chania, Crete, in 2019, based on the story *The Stone Soup* (Muth, 2003).<sup>5</sup>

## **Theoretical framework for a TIM methodology**

### **Process drama**

Process drama is a structured, improvised acting form where teachers and students agree to examine a fictional world together: “It is structured so that participants take on multiple roles, not just one character throughout the drama experience. It is framed this way to allow participants to consider multiple perspectives” (Landy & Montgomery, 2012, p. 19). Similarly, Heathcote defines educational drama “as being anything, which involves people in active role-taking situations in which attitudes, not characters, are the chief concern, lived at life-rate (that is discovery at this moment, not memory based) and obeying the natural laws of the medium” (Heathcote, 1985c, p. 61). In this way, process drama differs from other kinds of drama, such as basic role-plays and dramatisation.

It is currently common to use educational drama<sup>6</sup> and process drama as synonyms, although Heathcote did not seem to have approved the change of conception (Bolton, 1998, p. 231; 2003, p. 176). O’Neill remarks, however, that “the complexity in this approach, involving an absence of script, an episodic structure, an extended timeframe, and an integral audience, is best indicated by the term process drama” (1995, p. XVI f). We agree, but hasten to add that it is a constructive complexity that offers the process of teaching a repertoire of involving the whole class in explorative work:

Process drama is a genre of educational drama which focuses on collaborative investigation and problem-solving in an imaginary world. ... The entire group of participants are engaged in the same enterprise, and the teacher may function within the drama as playwright and participant (see teacher-in-role). A primary purpose of process drama is that the participants discover, explore, and articulate. /.../ In process drama there

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<sup>5</sup> In another article, the practical exploration, based on three years of implementation at Rothaugen secondary school in Bergen, Norway, is analyzed.

<sup>6</sup> Even DIE: drama-in-education is a frequently used term for drama as an educational genre.

is an intention to learn and understand, rather than to perform and entertain (DICE Consortium, 2010, p. 203).

Dramatic action is always a physical and concrete expression of a role. By playing a role, the participant transforms thoughts and feelings into form, which makes the action significant and symbolic (Schonmann, 2000). A process drama allows for the experience of being in someone else's shoes. Thus, the learning potential of drama is taking place in the interplay between the actual and the fictitious world, and the reflection about how the two worlds are related; sometimes mixed, sometimes clearly separated, and distinct, and sometimes the difference is blurred.

Participants will often be given a collective role (Bolton & Heathcote, 1999), as police officers, sailors, monks, or a group of friends facing a challenge of some sort. According to Howell & Heap, enabling the identification with a group role is a key task for the teacher in the planning of a process drama “not at least because it helps to focus all of the class on the issues and tasks of the drama” (2013, p. 40).

A collective role may, however, have some nuances. In a collective role as employees in a castle, as in a drama on *Snow White*, the participants have different social functions, such as servants, chefs, guards, stable boys, family members, crafts people, etc. (Heggstad, 2003; 2012, p. 94f). In the *Stone Soup* drama, the group identity as monks included a variety of occupations: scribe, paper maker, weaver, ink maker, etc.

### **Role – and character**

The concepts ‘role’ and ‘character’ denote the function of the actor in theatre, and, with some modification, the participant in process drama. The original meaning of the word ‘role’ in theatre was “the roll of parchment on which an actor's part was written (Van Ments, 1994, p. 17). In Greek and Roman theatre, this roll was made of “wood wound with a parchment bearing the text and instructions for performance” (Pavis, 1998, p. 317). The analogic meaning of role refers to the lines spoken, and the acting performed by an actor. From this perspective, the differences between roles are their different characteristics, and on this basis role and character are understood as synonyms.

Originally, in Greek theatre, 'character' was just a mask that referred to the actor's role, thus expressing the 'persona' of the role, its personality or character.<sup>7</sup> The character expression of the mask received gradually the meaning of a living figure and a person. Character was thus eventually developed to the illusion of being a living person (Pavis, 1998, p. 47).

Although role in a Western drama and theatre tradition is closely connected to immersion in character and situation, this is different in Asian theatre. "In certain forms of Asian theatre, the performer sings, dances or recites as him or herself and not in a fictional role (Balme, 2008, p. 18). A similar approach can be found in classroom role plays, with participants enrolled as 'themselves', and expected to behave as themselves in a fictitious context, or an imaginary situation. Richard Courtney adds that a dramatic act, primarily, is a performance in a role: "this can be unconscious, as in the drama of everyday life; or partially unconscious, as in children's play; or conscious, as in theatre (Courtney, 1990, p. 53).

Because important differences exist between cultures when it comes to role and character (Balme, 2008, p. 31), as well as in changes in how acting is perceived in late-modern theatre (Balme, 2008, p. 31f; Gladsoe et al., 2005, p. 178), we have seen a need to clarify the relationship between 'role' and 'character' in process drama.

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<sup>7</sup> "The term derives from the Latin persona, meaning an actor's mask, and is thus etymologically related to the term dramatis personae, designating the characters in a drama". <https://www.britannica.com/art/persona-literature>

### **Nuancing the concepts of role and character**

Heathcote was inspired by the sociologist Erving Goffman's (1969) linking of role to our different social functions in everyday life. When she in the 1980's was referring to complexities of role, it was not in the psychological sense, like a character with its certain characteristics and features. She rather referred to "a complexity which is to do with the varying ways in which we function in different social situations under so many different kinds of authority and power" (Heathcote, 1985b, p. 107).

A historical retrospective may, however, help to clarify reasons for some of the different approaches to role and character. The actor in the ancient Greek theatre was clearly detached to the character, i.e., the mask. He was thus not an embodiment of the character, but one who presented a character (Pavis, 1998). This was changed in Western theatre with the development of bourgeois theatre from the middle of the 19<sup>th</sup> century when the character became more and more identified with the actor. Resembling other living human beings, the character became a psychological and moral figure, meant to create an emotional effect on the audience.

The above-mentioned development began to emerge with the beginnings of bourgeois individualism, in the Renaissance and the classical period ..., and peaked from 1750 until the end of the nineteenth century, when bourgeois dramaturgy saw in this rich individuality the typical representative for recognition of its central role in the production of goods and ideas (Pavis, 1998, p. 47).

The later attention to role, and not character, coincides to a large extent with developments in the bourgeois theatre after 1900. According to Torun Kjølnner, Henrik Ibsen had launched a new form of 'role play' in the bourgeois theatre, by removing the focus from telling a good story to what was said between the lines (Kjølnner, 2006). The dramatic point was that one could not be sure whether this character may have other sides that were hidden from the public (Kjølnner, 2006, p. 143), stowed away in an attic, like in Ibsen's *The Wild Duck* (Ibsen et al., 1907).

This also meant a breach with the idea that the actor's role is the character, i.e., a psychological composite personality. The idea of the character as a united person(ality), defined through individual, basic characteristics, was dissolved by Freud in psychology and by Brecht in theatre. Instead of performing to show a united identity of the role, the essence of it, Brecht



wanted to perform the individual qualities in a way that showed contradictions of the role. In the same way that an individual is composed by different qualities and contractionary forces, the epic theatre of Brecht is compiled by episodes (Allern, 2003, p. 237; Brecht, 1991, p. 198), in which we experience representations of role behaviour in given situations rather than a psychological life portrayal.

### **Concurrence of role and character**

During the 1990's, there is also a change in the 'role'-concept in educational drama theory. O'Toole seems to use role and character like synonyms, but in a rather new meaning of the concept 'character'. In the same way as in real life, behaviour in drama is not random, but a product of the tasks and obstacles with which any situation charges individuals. It is, among other things, linked to their abilities, limitations, and other personal characteristics. "This is the role of each character, and when participants 'take role', whether as actors upon a stage or as role-players in a drama in education, they are taking on those tasks, constraints and characteristics as they do in real life" (O'Toole, 1992, p. 17).

This connects process drama to late-modern forms of theatre, like performance theatre (Krøgholt, 2001). When major theorists like Bolton, Heathcote and O'Neill combine the concepts of role and character in their later works, it can in some way refer to the change of the understanding of character in later-modern theatre (Fuchs, 1996, p. 106; O'Neill, 1995, p. 71; Schechner & Brady, 2013, p. 226). Also, as pointed out by O'Neill, the genre of process drama can be seen as a development "from less complex and ambitious improvised activities and to locate it in a wider dramatic and theatrical context" (O'Neill, 1995, p. XV).

This tendency has a parallel in the change of conception in understanding role in theatre and sociology, as well. When reality and fiction are seen as oppositions, role in a sociological sense and in a theatrical sense are not the same. But as staging is often seen as a part of reality in late-modern societies, the concepts of role seen in a sociological and in a theatrical sense are getting closer (Kjølner, 2006, pp. 135, 147).

While we disagree with Davies (2014) in his criticism of distancing and the influence of Brecht in contemporary process drama, we agree that 'living-through drama' and 'existential

acting behaviour' (Bolton, 1984, 1992) are basic to process drama and its learning potential. However, we do not think that being in role excludes simultaneous distance to the role. As Vygotsky states, in play a child can suffer as patient, but rejoice as player (Vygotsky, 1985, p. 549). The double experience of 'This happens to me' and 'I am making this happen' do not exclude distancing in role (Eriksson, 2009); it rather points towards what Gregory Bateson names 'play behaviour', a way of communication what characterises play and art (Bateson, 1987, p. 137/470). To play, there is a need both to be aware of the fiction, and simultaneously believe that the fictitious event is something happening, here and now.

### **Role categories and role aspects**

The word 'category' comes from Greek, *kategoria*, originally meaning 'accusation' (Lübcke & Grøn, 1988), or 'statement',<sup>8</sup> later given the meaning 'predicate': that which says something about the subject, a 'trait' or 'feature'. In philosophy a category may have: 1. a logical meaning, such as basic concepts, or 2. an ontological meaning, like the basics of certain types of being, for example a basic genus (Lübcke & Grøn, 1988, p. 289). According to the *Dictionary of the Norwegian Academy*, category has two philosophical meanings: a) a basic term for knowing or thinking, a perspective from which everything can be seen, or b) a class, group (of persons, things, phenomena) arranged according to certain common characteristic features or abilities, types, or species.<sup>9</sup> This second meaning fits the context to which we use role categories.

The word 'aspect' comes from Latin, *aspectus*, i.e., to look, meaning 'appearance', 'point of view' (Lübcke & Grøn, 1988, p. 45); having its etymological origin in Latin *aspicere* 'to look at', from *ad* and *specere*, 'to look'.<sup>10</sup> According to the *Dictionary of the Norwegian Academy*, the literary meaning is 'viewpoint', 'quality', or 'circumstance'.<sup>11</sup>

Aspects and categories thus seem to have quite different meanings, which is illustrated by their different synonyms. In our interpretation, a category refers to a division of something, like the concept 'role', while an aspect refers to different details of something, like the details you must know about a 'role' to be able to enact according to the role. So far, it is possible to state

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<sup>8</sup> <https://www.lexico.com/definition/category>

<sup>9</sup> Translated by the authors. <https://naob.no/ordbok/kategori>

<sup>10</sup> <https://www.lexico.com/definition/aspect>

<sup>11</sup> Translated by the authors. <https://naob.no/ordbok/aspekt>

that ‘aspects’ and ‘categories’ refer to different levels of meanings of the concept ‘role’. Consequently, role categories are classifications of roles, or types of roles, i.e., a possible division of roles into subcategories, while role aspects refer to the ingredients or dimensions of a role, for example its ‘attitude’ or stance’. This distinction between role categories and role aspects will be developed in more detail below.

In the TIM project, we chose four role categories: the sceptic, the curious, the mediator and the democratic leader (positive authority). This selection was based on both general classroom experience in education, i.e., what kind of behaviour seems to promote positive energy among students to learning, and observation of teaching in Grade 9, where it was observed more than tens of possible categories. Other role categories can be used as well, like the helper and the fixer, and there are no criteria in TIM methodology to stick to the four categories mentioned above as the main or basic ingredients. However, based on several try-outs, we have found these four to be both useful and understandable for the participants as a way into enacting roles. In the following sections, we will look more closely at the qualities and differences between categories and aspects in relation to educational drama theory and their implementation in TIM classroom practice.

### **Role categories in the educational field literature**

Heathcote refers to the changes of register a teacher needs to be able to handle when different circumstances occur in a class. Among others, she can take the role as opposer (of common views), arbiter (authority) in argument, supporter (of leadership), or the deliberate obtuse one, “who requires to be informed, and the one that believes that children can do it” (Heathcote, 1985a, p. 58f). She underlines the importance of having authority from within the drama frame, rather than from just teacher authority: “The role authority gives me shifting power and a variety of register to be at the service of the class” (Heathcote, 1985c, p. 69). In this she links to what she calls a further facet of the authority spectrum, “that of status and stature” (Heathcote, 1985c, p. 69), or in our conception: a link between role category and role aspect.

Norah Morgan and Juliana Saxton (1987, p. 41f), Neil Kitson and Ian Spiby (1997, p. 56f)<sup>12</sup> make a similar list of role categories for the use as Teacher in-role, referring to the leader, second in charge, opposer, intermediary (mediator), and using different kinds of status to label the role categories (high status, low status, intermediary, low status opposer, etc). Heggstad (2012, p. 85f) applies similar classifications and usefully discusses both advantages and challenges using the categories.

In our experience of using role categories, there is a potential of dynamic understandings to be gained from playing a role. Enabling the participants to create a role from a perspective, with a viewpoint, discovering possible status aspects of role, and stance, makes for richer possibilities of experience and learning than the mere social function that role commonly suggests. A fairly simple way of assisting a more dynamic role experience is to make the participants aware of the relation between first and second dimension of role (Davis, 2014, p. 96-97). The first dimension is the role itself, such as a firefighter, the second dimension is with what qualities the firefighter is endowed.

In explaining the second dimension of role, Davies argues that it is not possible to just be in role as a (general) firefighter, but it is possible to find a way into being in role as an ‘unexperienced’ firefighter new to the job (Davis, 2014, p. 97). We will add that while the idea of second dimension is useful to get into the role, we do not think that there should be any restriction for the participant to adjust and change role category and role aspects during the enactment. If not, it is difficult to see how the drama can be experienced as ‘a play for the participant’ and a way of investigating a topic from different perspectives. That being said, we are aware of challenges for the participants in changing perspectives in process drama, and that there are different ways of doing it in a group (Allern & Drageset, 2017).

Haseman and O’Toole (2017) claim that you do not need to be a skilled actor to play a role. We all play roles in our social lives, in the sociological sense of the word role, they clarify, referring to the specialised capacity or function we have in our social lives as fathers, mothers, teachers, artists, drivers, nurses, trainers, etc. But this is not enough to describe the meaning of a role in drama. The roles in a dramatic play are a part of a relation. Acting the role means to

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<sup>12</sup> These two authors use both the concepts ‘role type’ and ‘role categories for what we call ‘role categories’ (1997, 56f.

represent a viewpoint (Haseman & O'Toole, 2017, p. 3), and to represent viewpoint you do not need costumes, props, change your voice or create funny ways of walking. To pretend to be a role is to identify with the values and attitudes defined to the role, and they might very well be quite different from your own values and attitudes.

### **Role aspects in the educational field literature**

We have not found much source material in the educational drama literature specifically allocated to discussions of *role aspects* as such.<sup>13</sup> However, in the TIM project, we have found it expedient to apply the idea of role aspects as building blocks for creating and playing roles, linking it to similar concepts found in the field literature, like the above mentioned 'second dimension' of role (Davis, 2014, pp. 96-97; Heggstad, 2012, p. 148). This is where we can bring into the role-playing feelings and attitudes and use own life experiences to draw upon in communication with other roles. Heathcote uses 'attitude' as a significant element in her definition of educational drama (Heathcote, 1985c, p. 61), and she regards attitude as a support dimension in role work in the classroom - for the teacher as well as for the participants: "My belief in my attitudes supports their belief in theirs" (Heathcote, 1985c, p. 61). Furthermore, she regards attitude as an aspect of role that promotes the ability of solving problems: "[In educational drama] we create an opportunity for a collection of attitudes to relate together in problem-solving" (Heathcote, 1985c, p. 71)

The main aspects of role according to O'Neill and Heathcote are spontaneity, demonstrative and illustrative qualities, and performativity. Referring to Jacob Moreno, O'Neill (1995, p. 79) describes what she calls 'two aspects of role': role taking (the enactment of a situation in a totally predetermined manner), and role creating, "which involves a spontaneous response appropriate to the given circumstances". This spontaneity is central to the roles that evolve in improvised drama. According to O'Neill (1995, p. 80), Heathcote, like Moreno, believes that spontaneity is the most important aspect of taking on a role. Children should not be asked to act in the "stage actor sense", but rather take up attitudes and perspectives, and for a time operate within them. "This is close to the demonstrative and illustrative quality expected of

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<sup>13</sup> O'Neill presents a brief section on 'aspects of role' in her formative text *Drama Worlds – a framework for process drama* (1995, pp. 79-80).

a Brechtian actor” (O'Neill, 1995, p. 80). Finally, O'Neill (1995, p. 80) mentions that some kind of performing is one of the basic aspects of role taking: there must be a public dimension even in the simplest functional role play, and something that goes beyond the actual here and now.

Haseman & O'Toole (2017, p. 4) present a way to develop the role further from representation of an attitude and perspective: “There are three basic aspects of role to take into account when improvising: purpose, status and attitude”. To be able to act in role, you need to know: 1) the purpose for the action in the situation (the intention of the role), 2) how the role views itself and its relationships to other roles (status), 3) the role's attitude to the situation in which it acts. According to Haseman & O'Toole (2017) all relationships have an element of power, i.e., one person may have some hold over another, some special knowledge, or a higher position. These are all role aspects that can be productively applied in process drama communication – by the teacher as well as by the participants.

### **Connection to life skills**

The approach of using role categories as a way of taking on a role, and using role aspects as a second dimension to a role category, suggests a foundation for the TIM-methodology, and how it can be related to a wider educational context which include life skills, as they are formulated by WHO: “Life skills are abilities for adaptive and positive behaviour, that enable individuals to deal effectively with the demands and challenges of everyday life”.<sup>14</sup> To this approach we also underline the need to learn varying status, and to be able to experience possible consequences of attitudes, status, and intentions by putting yourself in someone else's shoes, and reflect on this in and out of role. According to Helen Schwarzman (1979), children are often concerned about issues related to control, manipulation, and dominance, and she argues that play is a reflection about such issues and a comment upon their own ability to control their ways of interaction. It may be a challenge for a student to take on a role that is quite different from the usual status in class. Thus, a clarification of role categories and role aspects may help to create the necessary dynamic between immersion and distance to the role.

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[https://apps.who.int/iris/bitstream/handle/10665/63552/WHO\\_MNH\\_PSF\\_93.7A\\_Rev.2.pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/63552/WHO_MNH_PSF_93.7A_Rev.2.pdf?sequence=1&isAllowed=y) (Accessed 11.10.19)

Role, role categories and role aspects are dynamic means of expression, both in our daily lives and in imagined worlds, i.e., in fictions. The importance of fictions is that role models, patterns of communication and means of expression can be explored, experienced, and reflected on, thus having the potential of strengthening the life skills of the participants. Fictions can give the participants a moral experience, because the fictions point at a meaning beyond what has been told here and now.

## **2. Role, role categories and role aspects exemplified in the TIM-methodology**

In the pilot of our process drama approach to ‘Theatre in Mathematics’, based on the story *The Stone Soup*, we framed the participants as villagers, introduced role categories to set up productive tensions between the villagers, and used role aspects as supportive measures for enacting the different roles. While role categories establish differences in how the participants are framed into the action, i.e., from which perspective they act, the role aspects give reasons why and how they act from this perspective.

It is difficult for a student participant in a process drama just to be a villager, but it is possible to find a way to be a villager with an added quality, such as being sceptic or curious to the chosen topic. Being sceptic or curious are qualities that most participants know and may thus adapt to be in role. This way of getting into a role through an additional second dimension, creating some distance to one’s own self, may give some protection in role as well, which is often necessary to feel comfortable to participate in a process drama. It represents a way into the role and the dramatic fiction as ”external” dimension i.e., from being a participant in a drama in a “village”, with fellow “villagers”, and not being asked to act a character emphasising a psychological, inner motivation.

In the TIM pilot, we explored if the experience of role categories, such as the sceptic, the curious, the leader (authority) and the mediator can help the participant to act and reflect in role, and even more, to contribute to a more engaging student involvement in mathematics. The aim

was to contribute to a change of the traditional pattern of mathematics communication in classrooms.

### **Changing patterns of communication in teaching mathematics**

Traditionally, the IRE pattern (Initiative-Response-Evaluation) is dominating in mathematics classrooms (Cazden, 1988; Mehan, 1979). In this pattern, the teacher asks the questions (initiative), the students answers (response), and the teacher evaluates the answer (evaluation). This is a limited pattern in many ways, as the students only participates with answers, while the teacher takes all the initiatives and sits with all the authority to evaluate. Alternative patterns focus on more actively participating students who initiates and evaluates more than just answering. One method that is developed to include students as active participants is inquiry-based learning, which is often described as a process in three steps (Haavold & Blomhøj, 2019).

The first step is setting the stage, where the teacher presents a task or challenge in ways that motivates the students to search for a solution. The second step is the work phase, where the students work in groups to find solutions, often using several lessons. The third step is presenting different solutions and to develop and connect these. Inquiry-based learning can usefully be combined with process drama, as setting the stage could frame the activity through story and roles to be played within the story, which would give a new dimension to this method.

However, to diminish the risk of teacher domination of the classroom discourse – through the questions asked, hints given or evaluations – there is a need to be aware of teacher responses and positions (Drageset, 2021). The position of facilitator and sharer, which can be realised through teacher-in-role strategies, belongs to the pedagogic repertoire of process drama, and give room for student initiatives and exploration.

### **Role, role categories, role aspects and life skills**

In its program on Mental Health, WHO argues that “life skills are innumerable, and the nature and definition of life skills are likely to differ across cultures and settings”. It is stated, however, that “analysis of the life skills field suggests that there is a core set of skills that are at the heart of



skills-based initiatives for the promotion of the health and well-being of children and adolescents”. WHO’s list of life skills includes decision making, problem solving, creative thinking, critical thinking, effective communication, interpersonal relationship skills, self-awareness, empathy, coping with emotions, and coping with stress.<sup>15</sup> In our understanding of life skills, we envisage there is a possible connection to the role categories we promote in our account of process drama and apply in the teaching of mathematics.

<b>Role category</b>	<b>Life skill</b>
The democratic leader (positive authority)	Decision making – problem solving – effective communication - interpersonal relationship skills – coping with emotions – coping with stress – self-awareness.
The sceptic – the opponent	Critical thinking – effective communication – self-awareness - effective communication
The curious	Creative thinking – empathy – coping with stress – interpersonal relationship skills
The mediator	Problem solving – empathy – interpersonal relationship skills – coping with emotions.

As one will see from the table, life skills can be linked to several of the suggested role categories, but the role categories nevertheless differ in the pattern of life skills connected. In the same way that roles can have similarities, role categories may have similarities, too – as well as changes in their uses of role aspects. The table should not be understood in a strict and limited way, but as a probability for a framed activity in role. We do not argue that the roles should stick just to one of the role categories, and one set of life skills. Attitudes may change, and it should be possible to develop the role and adjust it, according to how the dramatic event develops. The possibility for adjusting and changing the role, the role category and role aspects (status, attitudes, intention), creates opportunities for developing ‘a play for the teacher’ to ‘a play for the class’, i.e., making the drama ‘a play for the participants’.

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[https://apps.who.int/iris/bitstream/handle/10665/63552/WHO\\_MNH\\_PSF\\_93.7A\\_Rev.2.pdf?sequence=1&isAllowed=y](https://apps.who.int/iris/bitstream/handle/10665/63552/WHO_MNH_PSF_93.7A_Rev.2.pdf?sequence=1&isAllowed=y)

In the pilot of TIM, implemented in Chania in 2019, we chose the democratic leader,<sup>16</sup> the sceptic, the curious and the mediator as role categories in the process drama, ‘The Stone Soup’ (Muth, 2003). The table below shows how role aspects (status, attitudes, intention) can be linked to role and role categories in this process drama, which is composed as a classical drama, starting from a society/village in balance. When a draught threatens the lives of the families, this threat is increased when a poor stranger enters the village, asking for food and water. This creates a dilemma for the villagers (who in the drama are divided into three to four family groups). The mayor (TIR) asks them to be careful with helping the stranger (and his family). The resulting refusal to help is increased through discussions in the families, who have been framed with different standpoints based on role categories and role aspects. A new meeting with the mayor is called for. The stranger can stay for the night. But he has still no support for his family. During the night, he gets an idea from a dream of making a stone soup: through advice from the participants framed for a short while as his fellow travellers (Neelands & Goode, 1990, p. 54). The next morning, the foreigner asks the curious from each family who visit him the next day, to see if they can bring just a few contributions, (and then some more, etc.). If they do, they may share half of the soup, he promises, i.e., what is left after bringing the other half to his family. This offer is accepted, the stranger leaves and the village celebrate their new harmony with a dance and bid farewell to the stranger. The village discuss how to share - an ethical and mathematical challenge - what is a fair way of sharing?

1. Shall they share according to the amount of contribution?
2. Shall they share according to their needs?
3. Shall they share according to the number in each family group?
4. Shall the divide their share in four?
5. Other suggestions or ways of solving the challenge?

When a fair way of sharing is decided, each family calculate how 11 litres left<sup>17</sup> can be shared, still using role categories and role aspects.

Role	Role category	Role aspects
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<sup>16</sup> In this article, we have chosen to slightly adjust the denominations of categories, compared to the pilot of TIM, implemented in Chania in 2019.

<sup>17</sup> It is suggested by the narrator that the share of all families is 11 litres.

The mayor	Democratic leader	<u>Attitude</u> : We have nothing to share with foreigners. <u>Status</u> : High. <u>Intention</u> : concerned about the safety of the society but may still listen to arguments.
The stranger	The suppressed	<u>Attitude</u> : in desperate need of help. <u>Status</u> : Low. <u>Intention</u> : Find someone who might accept to share.
Uncle A	The sceptic	<u>Attitude</u> : Do not rely on a foreigner. <u>Status</u> : Middle. <u>Intention</u> : Prevent actions that can threaten the society.
Child A	The curious	<u>Attitude</u> : Share with those who are in need. <u>Status</u> : Low. <u>Intention</u> : Help the foreigner.
Father/mother	The mediator	<u>Attitude</u> : There are always possibilities of a solution if we listen to each other. <u>Status</u> : Middle. <u>Intention</u> : Avoid or delay conflicts.

The roles may change status when the situation is changed; for example, in a meeting with the mayor, the father/mother will probably have a lower status than in the family on its own. Who is sceptic, curious and mediator might change, and the status may change during the improvisation. Such changes are a challenge, but not a problem. They should be reflected on in the class, however, to manifest the event as a learning experience.

### 3. Summing up

The purpose of this approach, using role and role categories, is to draw attention to the importance of:

- asking new and unaccustomed questions to create real arguments
- challenging traditional 'truth' and demanding better explanations
- considering knowledge and evaluating information
- moderating and reconciling, which would stimulate contributions and not just conflicts
- listening to several others to decide the relative strength of arguments.

For the participants, we emphasise that it is information and arguments that should govern their approach to their roles, not a rigid adaption of the role categories or role aspects. Therefore, the students should not restrict themselves to the role categories alone. They should rather be open to

be convinced and adjust their roles only if they discover arguments that improve their understanding of the question or the situation. Emphasising arguments, considering issues from different perspectives and being able to change perceptions if the arguments indicate it, create the conditions for an active contribution to a more equitable society (Nicholson, 2014, p. 27) in which every voice matters.

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