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## The Visualized Employment Contract. An Exploratory Study on the Use of Comic Strips in Danish Employment Contracts

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The essence of any employment contract should be a clear and understandable communication of the employment relationship. Using comics as a medium for employment contracts can help in achieving this goal. This article provides an exploratory case study in the context of Danish labour contracts. In the first part, it is assessed whether an employment contract that contains comic strips would meet the formal requirements of Danish and EU labour law. In the second part, the textual and comic versions of an employment contract of a Danish leisure sport organization are tested on two volunteer groups in an experiment. In this experiment the participants first had to report on their impression of the contract received (textual or comic) and then, secondly, had to explain two legal terms and solve two cases based on their recollections of the contractual clauses. The results show that both the personal utility and actionable knowledge of the users of comic contracts increased significantly compared to the users of the textual version of the contract. This provides initial evidence that contract visualization with the help of comic strips can be an important component in ongoing reforms of labour law aiming at providing workers with more transparency and predictability about their employment relationship.

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## Introduction

Clear communication of the content of an employment relationship should be the essence of any employment contract. It is fundamental to ensure the protection of employees. This has been stressed regularly by national and international labour organizations and has also triggered some of the latest legislative developments in EU labour law. In June 2019, the EU adopted Directive 2019/1152 on transparent and predictable working conditions in the EU. This Directive is of procedural nature and aims at providing more protection to employees by obliging employers to provide more information about the employment relationship, especially in the case of atypical employment. As an example, the Directive demands in the case of entirely or mostly unpredictable work patterns that the employer provides clear information on the number of guaranteed paid hours, the reference hours and days within which the worker may be required to work and the deadline for cancellation of work (Article 4(2)(m)). The Directive is thereby not granting new rights to workers, such as a minimum wage, but instead aims at providing at least more transparency and predictability to workers when they enter an employment relationship. Employees' access to information is being improved by the Directive, which in itself can be viewed as a means of empowerment. An example of this empowerment is the improved ability to plan work and thereby organize work between different jobs, which is of significant value to employees working with unpredictable work patterns.

The provisions of the Directive mainly concern the *content* of employment contracts, but not the *form* or *medium* of employment contracts. This article is mainly concerned with the latter. In this article, we explore how altering the form of the employment contract through the use of comics might be a natural step towards supporting the purpose of the New EU Labour Law Directive in promoting transparent and predictable working conditions.

Research in contract visualization has shown that the form of a contract can be just as important as its content if the aim is to achieve good communication and understanding of contractual conditions between the parties. Contract visualization is an emerging discipline within the proactive approach to law (Berger-Walliser and Østergaard, 2012) and contends that the visual design of a contract can have a significant impact on the understanding of contractual conditions by the addressees of contracts. In a range of theoretical, applied, and empirical studies, the use of visual elements, ranging from simply using text-structuring features to using icons, flowcharts and other graphics, have been used by researchers to show the benefits of contract visualization (Mitchell, 2018). The use of visual elements increases the readers' understanding of the content of the contract, increases the likelihood for the reader to later be able to act in compliance

with the contract, and improves the attitude of the reader towards the contract in general. In other words, contract visualization has proved to make a contract more accessible to its reader.

This article starts with the recognition that contract visualization can be used to improve the communication between contractual parties, and that it can feed into the ambition of EU labour law to further foster a clear communication of the content of an employment relationship to the employee. Specifically, this article engages with the question of whether the use of comic contracts is compliant with the formal requirements of EU labour law and whether this form of contract visualization can actually help in making the law more effective. We attempt to answer this question with the help of a case study in which we use an experimental research design. We test a textual and a comic version of an employment contract with the employees of affiliated units of a large Danish leisure sport organization (*Danske Gymnastik- & Idrætsforeninger – DGI*).

This article is structured as follows. It starts with a literature review of contract visualization scholarship and comics as a communication medium for legal information. We then assess the question of the legality of comic employment contracts. Subsequently, we provide an overview of the experimental setup and the results of testing comic employment contracts and their textual counterparts with volunteers from associations affiliated with DGI. In particular we test for differences between the two test groups (textual vs comic contract) in relation to (i) personal utility derived from the visual impression and (ii) for actionable knowledge, i.e. how well participants can act on the information provided in the contract. Finally, we discuss the implications of the legal analysis and results of the study.

### **The Visual Turn in Contract Law**

The literature on the value of using illustrations in legal documents, especially in contracts, has been growing over the last decade. In a number of theoretical (e.g. Haapio and Hagan, 2016; Berger-Walliser et al., 2011) and empirical contributions (Rekola et al., 2011; Passera, 2015; Passera et al., 2017), scholars have shown that the use of visual components in contracts allows for much more effective legal communication. Users of legal documents often have problems in understanding and acting upon legal information because legal documents regularly suffer from being an impenetrable wall of text, replete with technical legal terms and phrases ('legalese') (Haapio et al., 2017). The use of visualizations, ranging from better structuring the text to the use of colors, icons and graphics has been shown to significantly improve the understanding of legal information by users of legal documents that are not trained in law (Passera 2018).

One of the most advanced forms of visualization of a legal document, in the sense that the text is almost entirely replaced by images, is the use of comics for conveying legal information. Comics make the relationship between words and pictures natural and can operate as a whole (Varnum and Gibbons, 2001). The epistemological expression of comics and their 'in-betweenness' makes them "a distinctly visual-verbal art form that operates at the boundary between rationality and aesthetics" (Giddens, 2012: 3). They have an underexplored potential for law, which is a discipline primarily concerned with "describing and managing the world through analysis, development, and application of ostensibly rational texts" (Giddens, 2012: 3). Adding aesthetic elements to the otherwise rational form of text-based contracts could potentially help in better representing the reality of a contractual relationship. It bears the potential of understanding the relationship in a multimodal fashion, not only at a purely rational level through interpreting the text but also at an emotional level, due to aesthetics added by the use and interpretation of pictures. In order to also communicate information at an emotional level, however, it is important that the creator of the comic is aware of the possible choices in the design of frames, speech bubbles, font, and body language of the characters in the light of experience and context of the audience of the comic (Eisner 1985: 13–14). Otherwise, no- or miscommunication might occur.

Comics can be considered and theorized as a form of (visual) language (e.g. Eisner 1985; McCloud 1994; Cohn 2012, 2014). The use of comics in contracts could thus allow for the creation of a new form of legal language – legal visual language. The question of if and how this fundamentally could impact underlying legal relationships would open interesting avenues for future research. In this piece, however, we limit ourselves to arguing that the use of comic strips in employment contracts improves the communication of the content of the contract that would otherwise only be intelligible to a specialist audience (the legal profession). The use of comic strips thus makes contracts more accessible to lay audiences.

The potential for comics to make legal texts more accessible to audiences outside of the legal profession has been tested on contracts before. The South African lawyer Robert De Rooy reported that the use of comic contracts as employment contracts for low-skilled workers in South Africa significantly improved the workers' understanding of the contractual terms, in particular in the case of illiterate workers (Vitasek, 2017). **Figure 1** shows an example of how De Rooy visualized one of the terms regarding a 3-week probation period for fruit pickers hired by the company Indigo Fruit Ltd.

Andersen and Keating (2019) have subjected a range of their comic contracts to empirical testing to measure and quantify the improvements in perception, understanding, and engagement in subjects with comic contracts compared to their

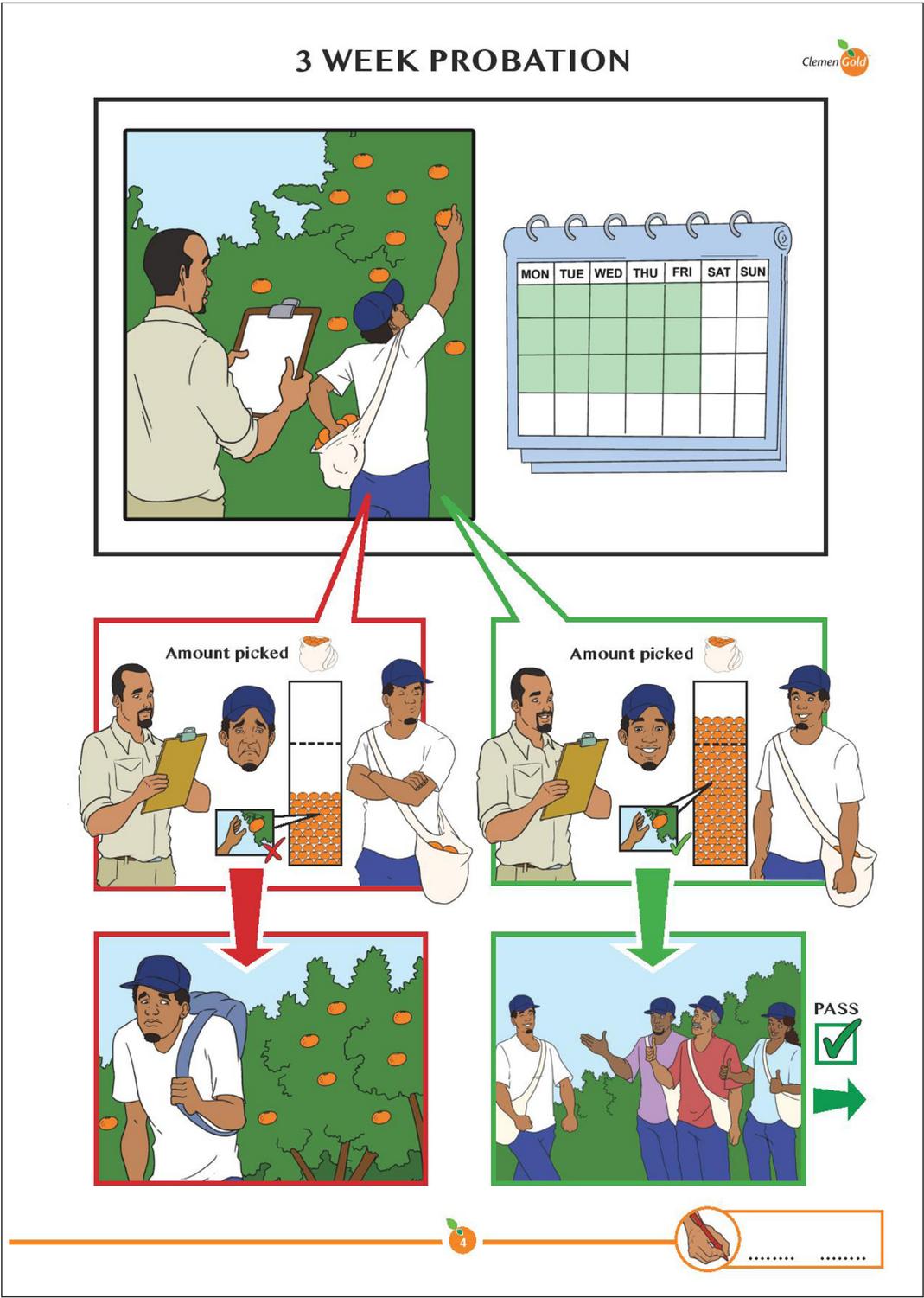
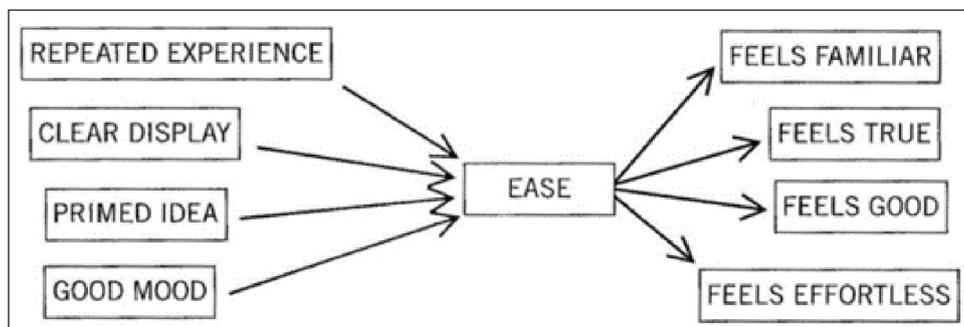


Figure 1: Indigo Fruit (Pty) Ltd. employment contract for fruit pickers. Visualization of the 3-week probation. © Robert De Rooy, 2017.

textual counterparts. They argue that the use of comic contracts reduces or can even eliminate conflicts among the contracting parties. Botes (2017) has shown that the representation of a cancellation clause in a standard contract for used cars as a comic strip improved the users' understanding of the cancellation process by 19.02 percent on average.

A variety of theories can explain the underlying reasons for why illustrations can help readers understand their contract better and thus also the rights and obligations arising from a contract. One such theory can be found in Kahneman's *Thinking Fast and Slow* (2011). According to Kahneman, humans have two cognitive systems; one that is slow, deliberate, and analytical and requires a lot of resources to operate (system 2), and one that is intuitive, fast, largely unconscious, and highly resource-efficient (system 1). In order to operate under system 1, humans need to be in a state of cognitive ease (Kahneman 2011: 74; see also **Figure 2**), which is achieved in situations that feel familiar and good. Traditional legal documents hamper cognitive ease because they are written in a "by-lawyer-for-lawyer" design (Haapio et al., 2017). Readers from outside the legal profession view this design as being difficult to process due to the use of long sentences and esoteric legal language, which results in a low degree of cognitive ease. This is why one of the few recommendations that Kahneman makes in his book is the use of simple and clear language in contracts (p. 414). Cognitive ease, however, cannot only be achieved by simplifying the language style in contracts but also by using contract visualization.

Kahneman argues that repeated experience, clear display, a primed idea, and good mood are all factors that enhance cognitive ease. Combined with clear language this can facilitate greater engagement, perception, and recognition of the contract. Comic contracts also allow for creating a clear display of the contractual clauses through dialogues, illustrations, and graphs, etc. which all would seem to provide a



**Figure 2:** Visual representation of causes and consequences of cognitive ease in Kahneman's *Thinking Fast and Slow* 2011: 74 © Daniel Kahneman.

more accessible and structured framework for a recipient to follow than multiple-page written contracts. To construct a dialogue within images also genuinely seems to be a better representation of a relationship established by a contract compared to an impenetrable text. Kahneman also points out that the font and colors in a document play a significant role in how we perceive the displayed information. By displaying clear red and blue colors, you obtain a higher credibility than if you use green or yellow nuances. Choosing the right font has an impact as well as using bold letters to emphasize specific points (Kahneman 2011; 77). Other studies in the field of cognitive psychology find that different displays of the same information create different forms of engagement in the brain. Holsanova et al. (2009) find that the combination of texts with images is interpreted more efficiently and thoroughly when integrated in a serial fashion. Finally, these findings support the idea that by displaying the information of an employment contract with comic strips, the reader's understanding should be improved in comparison to being exposed to the textual version of a contract.

When creating comic contracts, however, it is critical to keep the possible limits of the medium in mind. It starts with the layout of the page. Increasing the size of the gutter and arrangement of panels can manipulate the reader to go downwards instead of following a Z-path (Cohn & Campbell, 2015). This may be intended but might not work on all audiences, as especially readers that are unfamiliar with comics will be less likely to deviate from reading panels in a Z-path. Potential problems also go beyond the design of the page. As Giddens (2015) shows in his *Lex Comica* comic, a stick man in a comic is just *ink on paper* representing the idea of a man and triggering our perception of a person. However, the ink on paper in a comic is “layered with rational connections beyond the (simple) logic of narrative progression” (2015: 9). These connections can be represented as a ‘rational grid’ that is built upon the foundation of logic reasoning, which is also the foundation of law (Giddens, 2015: 9). Giddens’ comic shows us through the medium itself, that using comics also represents a potential hazard. Comics can unintentionally create emotions in the reader, which disrupts the ‘rational grid’ (Giddens, T 2015: 11). The creation of such a dissonance can even be explained at the level of neuroscience since the processing of a text and the engaging in logical reasoning takes place in the brain’s left hemisphere, whereas images are processed in the brain’s right hemisphere (Cacioppo and Freberg 2018: 124–125; Giancaspro, 2020: 12). The difference in sense-making of texts versus pictures can thus be traced all the way to the structure of the brain. The designer of the contract must keep the processing of logical reasoning in both categories in mind through the design process to achieve an optimal outcome in terms of engagement and interpretation. These insights underline

the importance of rigorously testing a comic contract before using it in practice to avoid creating more harm than good to the users of comic contracts.

### **Case Study**

The present case study examines the theoretical claim that the use of comic strips in employment contracts improves the communication of the content of the employment relationship empirically, with the help of an experiment. At the same time, it provides an example of how designers of comic contracts could test the effectiveness of their contracts and whether the goal of improved communication of the employment conditions is achieved. The case study builds on existing empirical research on comic contracts (Andersen and McGuire, 2019; Botes, 2017). The goal of the study is twofold. First, to examine whether the introduction of illustrations in employment contracts is in compliance with Danish and EU labour law, and, second, to test if the benefits of visualizing employment contracts can have the same significant effect as seen in similar case studies conducted in other contexts.

### **Legal Analysis – The Legality of Using Contract Visualization in Danish Labour Law**

Danish labour law implements EU Directive 91/533/EEC, also known as the Written Statement Directive, which sets out the formal requirements for labour contracts for all Member States. It includes a series of mandatory elements that need to be present in an employment contract including the parties' identities, the employer's address, the salary etc. (Article 2(2)). It also includes a formal requirement, 'the written requirement', which requires the employer to provide their employees with a written statement or contract about their employment relationship (Nielsen, 2020: 311). However, neither the Written Statement Directive nor Danish labour law gives a specific definition of how to interpret the written requirement. In any case, the written requirement would not completely preclude the use of illustrations to support the written information in the contract, as long as all legally required information is contained. In order to understand whether this requirement actually would set any limitations to the use of illustrations, we examine other areas of contract law to gain a better understanding of how the written requirement is interpreted in other contexts.

The written requirement is discussed within the IT domain due to the question of whether a digital medium can fulfil the formal requirements of a contract. This discussion was settled by relying on the principle of functional equivalence. A digital contract is valid and legally binding when the digital and paper contract serve as equals (Udsen, 2019: 515). Further support for such an understanding can be found in Article

23 (2) of the Council Regulation (EC) No 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters, which states that “[a]ny communication by electronic means which provides a durable record of the agreement shall be equivalent to ‘writing’.”

In other areas, the written requirement is construed as an availability requirement, which is fulfilled when the contractual parties have easy and immediate access to the contract. In an employment context, it is important that the employer ensures that the employee has received accurate and correct information regarding the employment relationship and that there is a proof of transmission. It should be noted that the written requirement was introduced to protect employees by providing clear evidence of the employment relationship (EU Commission, 1991), which made the detection of possible infringements of workers’ rights easier and created greater transparency in the labour market (Directive 91/533/EEC, Recitals).

Technological developments since the 1990s (when the Written Statement Directive was adopted) have made the hardcopy of a contract obsolete. Within new Directive 2019/1152 on transparent and predictable working conditions in the EU, which must be implemented in all Member States by August 2022 and replaces the Written Statement Directive, the EU lawmaker provides further explanations of the written requirement. The Directive states that “information [regarding the employment relationship] shall be provided and transmitted on paper or, provided that the information is accessible to the worker, that it can be stored and printed, and that the employer retains proof of transmission or receipt, in electronic form” (Article 3). This supports the argument for interpreting the written requirement as an availability requirement based on functional equivalence. Thus, the new Directive does not seem to set any obstacles to utilizing illustrations to support the content of the employment contract if these can be printed. Other media formats as, e.g. video, however, would appear to be excluded if they cannot be printed.

Even though it is not illegal to use illustrations in contracts, their legal validity has never been contested before a Danish court. A case from the UK, however, demonstrates that the legal profession is increasingly supporting the idea of accessible and understandable legal designs of contracts. In June 2020, the High Court of England and Wales stated in *Altera v. Premier* [2020], in the context of a calculation method in a commercial contract, that the disagreement between the parties leading to the dispute could have been avoided by using illustrations such as graphs. The Court also put forward three general recommendations to professionals drafting contracts: (1) complex formulas should be supported with illustrations, (2) if more than one illustration will make the written text more understandable, more illustrations should be used, and

(3) boilerplates should be drafted carefully to avoid any confusion concerning the precedence of illustrations or examples.

The *Altera v. Premier* case demonstrates that the lack of effort to create coherence between the legal and the practical objectives of a contract can ultimately lead to the breakdown of the relationship between the parties. This can happen when acting in accordance with the contract becomes difficult due to the reader's low degree of actionable knowledge. Actionable knowledge refers to the capacity to implement knowledge "by the users whom it is intended to engage" (Antonacopoulou, 2008). Implementing illustrations in contracts, including employment contracts, can have the desired effect of raising the reader's degree of actionable knowledge and thus avoiding conflicts between contracting parties that derive from low levels of actionable knowledge.

In the exploratory study that forms the experimental part of this article, we tested whether introducing illustrations in the employment contract of a Danish leisure sports association can increase transparency and predictability, and thus actionable knowledge. Furthermore, we tested the participants' level of personal utility when reading the comic contract to also capture the aesthetic and engagement aspects of using comic contracts compared to textual contracts. In the context of this study, personal utility refers to the individual's perception of the contract and the individual's impression of the employer utilizing either the comic contract or its textual counterpart. We now turn to the experimental part of the study, which examines the actual benefits of utilizing illustrations in employment contracts.

### **Exploratory Empirical Study**

The exploratory empirical study aims at testing and quantifying whether the use of illustrations, in our case comic strips, in employment contracts leads to a more effective communication of the employment relationship between employer and employee. We measured employees' level of personal utility and actionable knowledge from using a comics-based contract in comparison with a text-based contract in order to determine whether there was an improvement in communication.

This study was facilitated through a collaboration with the Danish leisure sports organization DGI. In collaboration with DGI, a comic employment contract was developed and tested by volunteers from leisure sport associations affiliated to DGI. For the study, four hypotheses were developed, which were based on results from similar experimental setups (Andersen and McGuire, 2019). The study put forward the hypothesis that the reader of a comic contract would have an increased *personal utility*

when reading a visual contract compared to reading a textual counterpart, due to the aesthetic quality from using images to represent the contract. Furthermore, another hypothesis was that the reader of a comic contract would have an improved ability to act based on the given information or instruction due to an increased understanding of the contractual terms and ability to remember the given information. In other words, we expected actionable knowledge to improve with a comic contract.

## Design Process

This case study focused on re-designing DGI's contract for paid employees. DGI's standard contract consists of 2379 words on five pages. The first three pages contain the actual contract, and the last two pages contain a guide to understanding each section. The contract was divided into 18 sections and each of the headlines was written in bold. The text was written in black on white paper using the font Verdana size 8 and for the headlines size 10 (bold) was used. **Figure 3** provides an example from a page of the standard DGI contract.

The comic version of the contract went through three development phases. The first version of the comic contract was created in a free online graphic program: Pixton. Due to the lacking variety of graphics included in the program, however, we decided to use another platform, namely StoryboardThat, which is another cloud-based graphics program with a paid option that offers a greater variety of graphic designs, including settings, characters, and backgrounds. We used StoryboardThat in the second phase. While the feedback from the first prototype was positive regarding the content, it was not satisfying regarding the graphic quality. In the third and final phase, we approached a professional graphic designer with the StoryboardThat prototype. The graphic designer updated the graphic quality in Adobe Illustrator. **Figure 4** shows the translation from a textual clause to a finished visualized clause made by a graphic designer, which was included in the visual contract. The figure provides a good example of how a textual paragraph can be elaborated through dialogue.

We would have preferred to engage a professional comic artist to draw the comic strips for the contracts, and we would have done so, had the budget for the project allowed for it. Undoubtedly, this would have raised the quality and visual impression of the graphics much further.

The comic contract consists of 1130 words on 14 pages. **Figure 5** provides an example of a visualized page in the comic contract.

In terms of the design of the comic strips, attention was paid to the fact that when comics are used as a medium, they must be read and written in a way that is sensitive to



STANDARDKONTRAKT – VERSION: marts 2020

## Ansættelseskontrakt for lønnede trænere/instruktører

### §1 Parterne

**Forening:**  
**Adresse:**  
**CVR-nr.:**

og

**Træner/instruktør:**  
**Adresse:**  
**Cpr.nr.:**

indgår på de i kontrakten nævnte vilkår aftale om, at virker som lønnet træner/instruktør i foreningen.

### § 2 Ansættelsesperiode

- Træneren/instruktøren starter den \_\_\_\_\_ og stopper den \_\_\_\_\_.  
Der er således tale om et tidsbegrænset kontraktforhold som lønnet træner/instruktør. I perioden kan kontraktforholdet dog opsiges af parterne, jf. stk. 2.
- Kontrakten kan af hver part opsiges med \_\_\_\_\_ måned(ers) varsel til udgangen af en måned.
- Hvis den ene af parterne væsentligt misligholder sine forpligtelser, kan den anden part ophæve kontrakten med øjeblikkelig virkning.
- Hver part kan kræve, at der forhandles om, hvorvidt der indgås aftale for en ny periode senest \_\_\_\_\_ måned(er) før denne kontrakts udløb. Parterne har således i god tid før kontraktens udløb mulighed for at vide, om samarbejdet skal fortsætte.

### § 3 Arbejdsopgaver og ansvarsområde

- Træneren/Instruktøren har fået tildelt ansvaret at lede følgende hold: \_\_\_\_\_
- Trænerens/Instruktørens opgaver kan beskrives nærmere i et tillæg til denne kontrakt. Tillægget betegnes "Funktionsbeskrivelse".
- Træneren/Instruktøren har fået tildelt opgaven at træne og udvikle det /de hold, som er nævnt i stk. 1. Dette foregår inden for de aftalte rammer og under ansvar over for bestyrelsen.
- Træneren/Instruktøren må ikke under ansættelsesforløbet have lignende lønnet eller ulønnet arbejde/hverv i en anden forening uden bestyrelsens accept.

### § 4 Arbejdssted

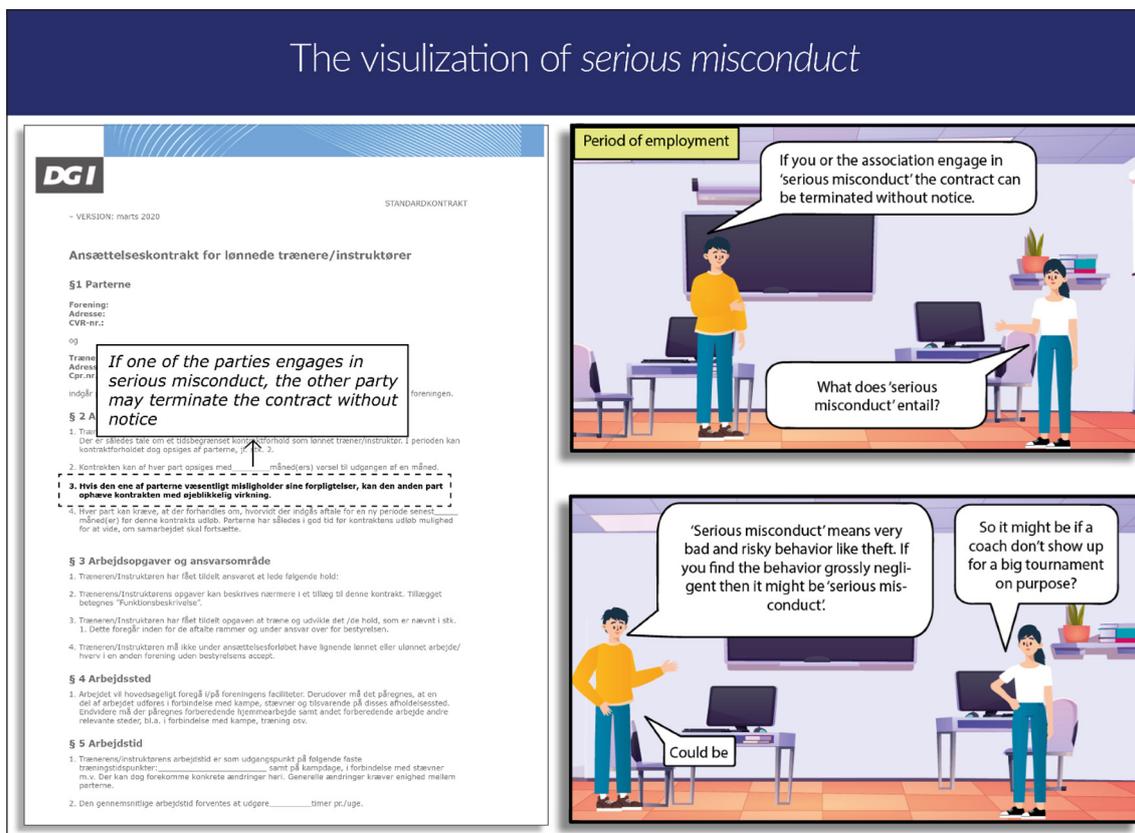
- Arbejdet vil hovedsageligt foregå i/på foreningens faciliteter. Derudover må det påregnes, at en del af arbejdet udføres i forbindelse med kampe, stævner og tilsvarende på disses afholdelsessted. Endvidere må der påregnes forberedende hjemmearbejde samt andet forberedende arbejde andre relevante steder, bl.a. i forbindelse med kampe, træning osv.

### § 5 Arbejdstid

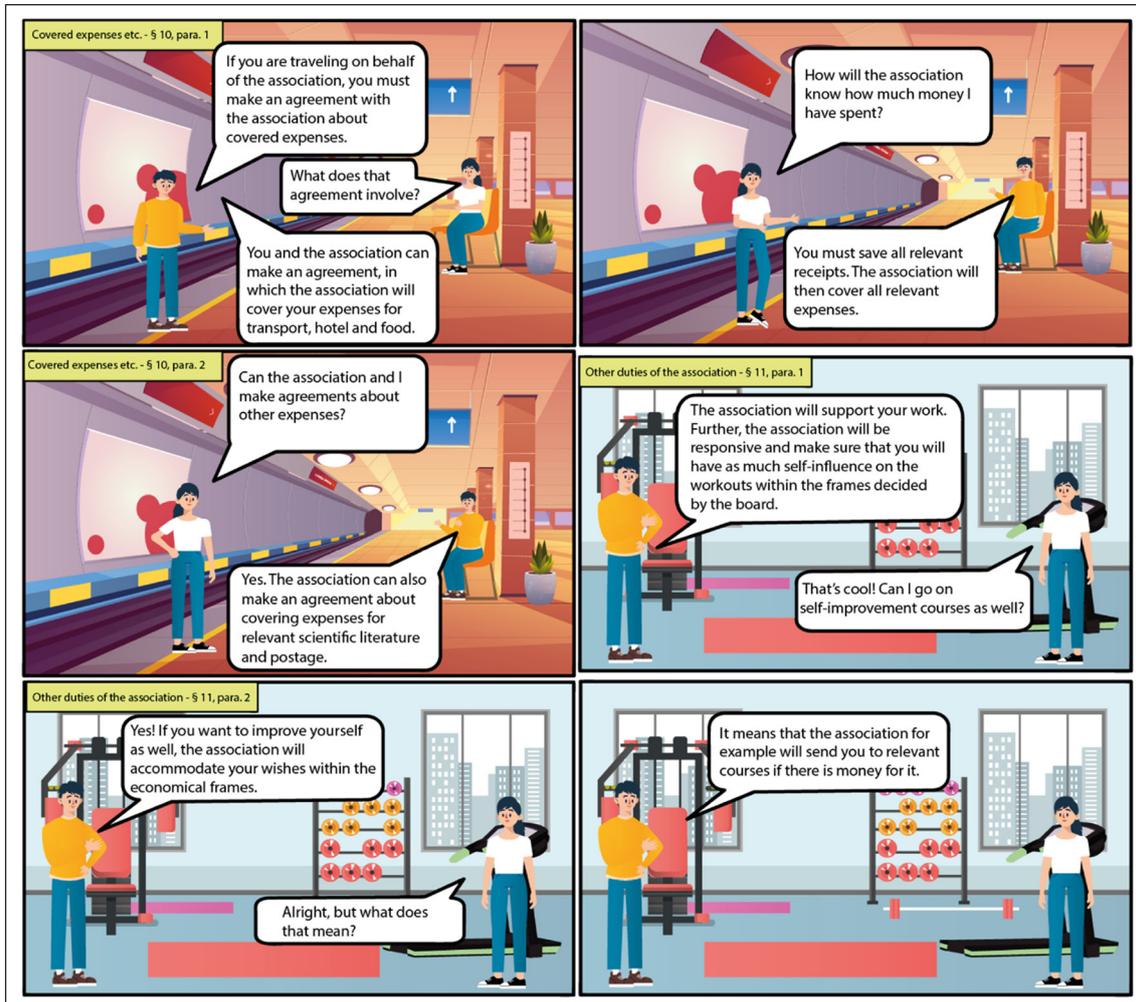
- Trænerens/instruktørens arbejdstid er som udgangspunkt på følgende faste træningstidspunkter: \_\_\_\_\_ samt på kampdage, i forbindelse med stævner m.v. Der kan dog forekomme konkrete ændringer heri. Generelle ændringer kræver enighed mellem parterne.
- Den gennemsnitlige arbejdstid forventes at udgøre \_\_\_\_\_ timer pr./uge.

Figure 3: Page one of the standard DGI employment contract © DGI, 2020.



**Figure 4:** An example of before and after contract visualization of the standard DGI employment contract and the DGI comic contract © Niels Høegh Madsen & Mathias Stengaard, 2020.

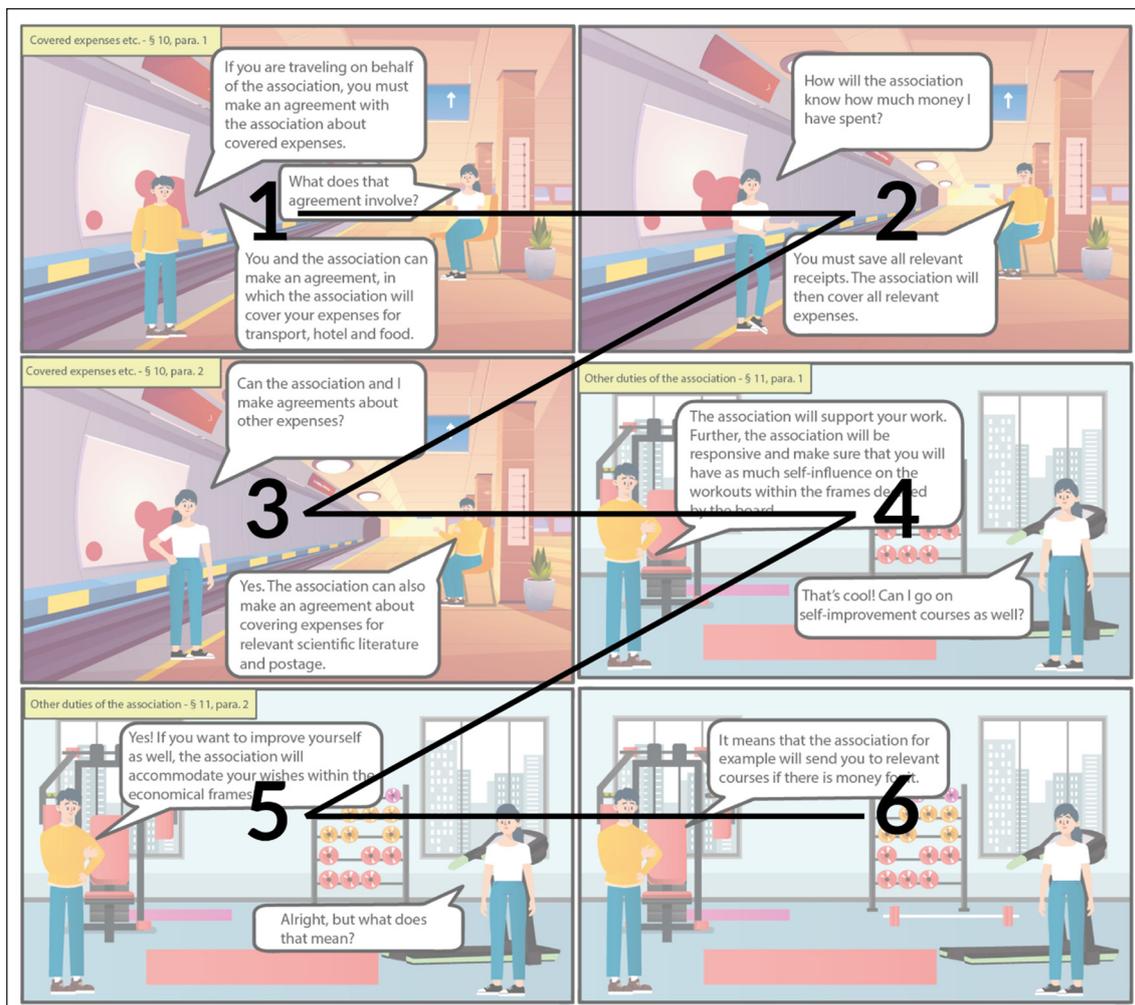
interpretation complexities and epistemological context (Giddens, 2012). Comics follow a flow similar to normal language usage in which there is an implicit logic surrounding the sequential progression through the panels. In order to achieve this in the DGI comic contract, avatars representing the employer and employee were used, as well as backgrounds that represent the workplace in question. Throughout the comic contract, a character representing the organization guides a character that represents the new employee through the contractual clauses. The character representing the employee asks questions about certain terms and procedures and the organization character then elaborates and explains. The questions asked by the employee were made from a FAQ-list put together in collaboration with the organization. The ability to include dialogues in the contract is one of comics' compelling features; it gives the organization a chance to personalize the contract and make it relatable for the employee. It also represents the employment relationship as a conversation instead of a unilaterally imposed list of "do's and don'ts". In addition, when utilizing broad terms such as serious misconduct in contractual clauses without using examples to the specific work relation, the term



**Figure 5:** Clauses 10 (“Covered expenses etc.”) and 11 (“Other duties of the association”) from the DGI comic contract © Niels Høegh Madsen & Mathias Stengaard, 2020.

becomes less relatable for employees. The employees will have a reduced ability to use the information provided in the contract. In the conversation in the comic contract, the employer gives some examples to make abstract terms, such as “serious misconduct” or procedures such as “covered expenses” more tangible for an employee (see **Figure 5**).

In the comic strip utilized for the study, the panels were arranged in a grid following a Z-path, as exemplified in **Figure 6** (reading flow from left to right, top to bottom). McCloud (1994: 62) notes that the blank spaces between panels forming a grid (the “gutter”) have a central role in comics, as the movement between the different images forces the brain to make associations in order to construct the story in our imagination (“closure”). The division into panels gives a logical sense of time in the DGI comic contract – it tells a story where the conversation or the illustrated substance changes.



**Figure 6:** Illustration of the mentioned Z-path from a page in the DGI comic contract © Niels Høegh Madsen & Mathias Stengaard, 2020.

As an example, **Figure 5** represents clauses of an employment contract for coaches at DGI. The shift from providing information about the covered expenses to the other duties of the association is represented by a change in the setting from the train station (associated with travel expenses) to a training facility representing a training environment (symbolizing both the content of the work and that of self-improvement). This creates the illusion that the story shifts in time and place, thus creating a break between different contractual clauses.

## Method and Measure

Participants were recruited via several Facebook posts in various relevant Facebook groups. Fifty-two members reached out and volunteered to participate in the test.

Participants had to be at least 18 years old. They were fully informed about the steps of the experiment and the purpose of the research in the Facebook posts and during a first contact before the experiment. All participants were members of local sports associations that are supported by DGI. The participants were thus not directly employed by DGI and had not necessarily been exposed to DGI standard contracts before, since the local associations are likely to make their own employment contracts and just use the DGI standard form contract as inspiration. The participants did not know if they would be testing the original textual contract or the re-designed comic contract. The study was conducted anonymously, and neither DGI nor the local association in question was given access to the answers by the individual participants. This was done to minimize any bias in the experiment from reputational fears or loyalty to either of the organizations. Participants were informed that they could withdraw from the experiment at any time and could also request their answers and data to be deleted after the experiment. All personal data was anonymized in the experiment results.

The participants were split into two groups. Group A read and answered questions by using the comic version of the contract, and group B did the same based on the original textual contract from DGI. The average age of group A was 40.73, and the group consisted of 14 men and 12 women. Group B had an average age of 31.00 and consisted of 13 women and 13 men. The participants of the study were part-time employees or volunteers at local associations associated with DGI and had a variety of different professional and educational backgrounds.

The participants were individually asked to join a Zoom meeting where one of the facilitators greeted them and explained that they should open a received PDF containing the contract (comic or textual). The participants received the instruction that they should read the contract. Afterwards, they were told that there would follow eight questions that aimed at testing their personal impression of the contract and how well they were able to use the information provided in the contract.

During the testing for their personal utilities, the participants were asked to rate, on a scale from one to ten, whether they agreed with a presented premade statement on which impression the contract had made or on the impression of the given employer using either a comic or a textual contract, moreover, how well they felt that they were able to use the provided information in the contract, and how much they would trust an employer using comic contracts. The ratings were quantifiable and allowed for a comparison between the two types of contracts across the two groups. During this part of the experiment, participants were allowed to have the contract open.

Before testing for actionable knowledge, the participants were asked to close the contract and perform the subsequent tasks using their memory. In the first step,

testing actionable knowledge, the participants were asked to elaborate on specific legal terms, namely 'serious misconduct' and 'duty of loyal behaviour'. In the second step, the participants were given two short cases of situations where a protagonist had to act in accordance with the contractual clauses in a concrete situation. One case concerned driving deductions and the other the duty of loyal behaviour. After having read the cases, the participants were asked if and what they would have done differently from the protagonist in the case. At this point in the experiment, we were able to compare the different participants' number of correct answers to see whether the participants performed better when reading a comic contract compared to reading a textual contract. We acknowledge that the validity of this part of the experiment would have been increased by first having both groups answer general knowledge questions in order to better evaluate the comparative cognitive performance of both groups (Coane and Umanath, 2021). While this was only a small-scale and exploratory study, in the future, we would also test for general knowledge first and suggest this approach to other researchers engaging in testing the effectiveness of comic contracts.

## Results

When comparing group A (reading the comic contract) to group B (reading the textual contract), all metrics showed a higher degree of personal utility and actionable knowledge of group A. The impression of the contract and how well the participants felt they could use the information in the contract was 22.66 percent (13 percent for men and 34 percent for women) and 17.64 percent (2 percent for men and 36 percent for women) higher. Regarding the image of the employer, the impression was 33.58 percent higher (23 percent for men and 46 percent for women) but the trust towards an employer using comic contracts was 0.634 percent lower (this measure was 11.23 percent lower for men, while it was 10.59 percent higher for women). In terms of actionable knowledge, the performance of group A was overall higher than that of group B. The participants' ability to explain serious misconduct and duty of loyal behaviour was 19.86 (24 percent for men and 15 percent for women) and 45.20 (13 percent for men and 83 percent for women) higher. The two cases regarding driving deduction and duty of loyal behaviour showed results that were 31.62 percent (10 percent for men and 57 percent for women) and 33.58 percent (21 percent for men and 44 percent for women) higher.

## Discussion

The experiment conducted in collaboration with DGI on the implications of using comic contracts is the first of its kind in Europe. The results from the case study display that, overall, the participants scored 19.63 percent higher on personal utility and 33.38

percent on actionable knowledge when a comic employment contract was being used. The results show that women in general derived greater benefits from a comic contract (32.50 percent higher) than men (6.75 percent higher). Women showed a higher degree of actionable knowledge when using the comic contract (49.75 percent higher) than men (17.00 percent higher). The benefits identified in earlier studies (Vitasek 2017; Botes 2017; Andersen & McGuire 2019) thus also accrue in a context where literacy is not a problem and where overall labour protection standards are already high. Due to the small sample size of the study, which was partly due to the Covid-19 pandemic, no broad or sweeping generalizations can be made based on the experimental results. Nevertheless, the results still provide some evidence for a significant increase in the impression of a comic contract versus a written contract, which can also explain why participants scored higher in terms of actionable knowledge. The results support already existing findings in literature on the use of comic contracts in other parts of the world, such as Australia and South Africa (Andersen and McGuire, 2019; Vitasek 2017). For future research, it would be interesting to repeat these experiments but at a much larger scale in order to not only prove or disprove the results of the existing exploratory experiments, but also to gather more granular and statistically valid evidence on how participants react to comic contracts across e.g. gender, age, and education level. These results would offer a greater insight into the optimal use of comic contracts.

Our results are in line with Andersen and Keating (2019) that showed an overall improvement on perception, engagement and comprehension of 16 percent testing comic contracts at the Australian engineering consulting company Aurecon. These experiments also showed a higher score for women, where women scored 20 percent higher and men 12 percent higher on the tested parameters when using comic contracts. Robert De Rooy showed a decrease in onboarding time for South African fruit pickers going from four hours to 40 minutes when comics were introduced. Similarly, the Aurecon experiment has shown time reductions of a comparable size when onboarding. While our study did not test onboarding time, this could be tested in further research. Overall, this illustrates that comic contracts can be used in a variety of employment relationships and contexts, and with a variety of goals in mind.

In order to make the link to the literature and insights from cognitive psychology stronger, and in order to adduce evidence as to whether comic contracts compared to their textual counterparts actually enhance cognitive ease, additional experimental methods should be used in future research. These could include eye-tracking and brain scanning, which would trace cognitive processes more reliably than self-reporting. Such methods could potentially test hypotheses made about the engagement of various parts of the brain when readers process information contained in comics (Cacioppo and

Freberg 2018: 124–125; Giancaspro, 2020: 12). They could also contribute to existing literature on cognitive load theory on dual coding, which has shown that dual coding decreases the cognitive pressure on the brain (Nielsen et al., 2016) and increases the reader's ability to obtain and use information (Dewan, 2015).

A final context for which this study is relevant is EU labour law. The EU is actively seeking to improve labour conditions by improving the information that workers receive about their labour terms. This is why legislation such as the New EU Labour Law Directive on transparent and predictable working conditions in the EU has been adopted. The growing development in employment relationships which tends more towards project-based-employment or time-limited hiring has made this heightened focus on transparency and predictability necessary. The Directive does not offer a substantive improvement of labour conditions, however, as it only concerns itself with the procedural aspect of communication of the content of the contract. In other words, the Directive only obliges employers to provide more information to employees in the employment contract. Many studies in the field of behavioral economics, however, have long shown that providing ever more amounts of information to vulnerable groups (e.g. consumers, employees, retail investors) does not lead to their empowerment. Information needs to be presented in a recipient-centric way in order to enable the recipient to act upon the information. We submit that comic contracts are precisely such a recipient-centric tool that will provide the information of an employment contract in a more accessible and actionable manner.

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## Competing Interests

The authors have no competing interests to declare.

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## Editorial Note

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