As elementary and secondary school educators increasingly adopt digital games to teach content in a range of subjects, and as education and game scholars turn their attention to ‘serious games’, it is worth noting that serious games are nothing new to Shakespeare classrooms. Non-digital games and playful performance practices have long been a standard part of teaching the dramas of Shakespeare. Indeed, the use of physical, play-based methods of teaching Shakespeare – or what we shall call ‘playful pedagogy’ – has become something of an industry in the world of Shakespeare education. Theatrical games and dramatic playfulness are central to the teacher-training programmes touted by Education departments in many well-established Shakespeare theatres. The Royal Shakespeare Company calls their programme ‘rehearsal room pedagogy’, Shakespeare’s Globe has its ‘Globe Strategies’, Chicago Shakespeare has its ‘drama-based strategies’, and there are similar initiatives at other theatres, including the American Shakespeare Center in Virginia and the Folger Shakespeare Library. Education departments of these and other Shakespeare theatres offer specialized workshops that train teachers to use playful pedagogy in their classrooms. Some theatres, such as the Royal Shakespeare Company and Shakespeare’s Globe – which face greater hurdles networking with American K-12 schools – have established residency programmes or collaborations with Schools of Education in American universities (The Ohio State University and the University of California, Davis, respectively).
Such an extensive and long-standing investment in playful pedagogy for teaching Shakespeare is not surprising, given that Shakespeare’s dramas are, after all, plays and thus deeply connected historically and theoretically to ludic culture. But teachers are especially drawn to playful pedagogy because Shakespeare intimidates and/or bores many students – and sometimes their teachers, too. With Shakespeare being the only named author in the US Common Core English Language Arts curriculum and the National Curriculum in the UK, not to mention the national curricula for language arts in most former British colonies across the world, the stakes of student disengagement are high. In workshops for teachers and students, and through published texts of all kinds, scholars associated with major Shakespeare theatres lay out the benefits of playful pedagogy for teaching the bard.6

But playful Shakespeare pedagogy has also been criticized by scholars who argue that its experiential, embodied methodology of learning fails to endow students with the capacity for literary, social and cultural critique, while also fostering ahistorical ideas about Shakespeare’s characters and themes. Put simply, when used in Shakespeare education, playful pedagogy activities often exist in tension with social justice pedagogy, which emphasizes cultural critique, theoretical reflection and historical awareness.7 This presumed tension between social justice pedagogy and experiential, embodied learning is surprising, given that many Education scholars have found playful pedagogy to be an ideal way of addressing social justice issues in both primary and secondary schools. Studies on what is variously called ‘drama based pedagogy’, ‘contextual drama’, ‘narrative theatre’ and ‘drama in education’8 have demonstrated that using theatrical techniques to play with ideas and texts – whether dramatic literature or not – spurs students and teachers to recognize and think critically about social inequities relating to embodied differences, including race and gender.9 So why is it that when these techniques are used to study Shakespeare, social justice concerns are so often diminished or set aside? The short answer may be that ideas about Shakespeare’s universalism are well-entrenched in theatres and in schools, and it takes tremendous critical effort to dislodge learners’ and many teachers’ assumptions. But we would argue that the reason playful pedagogy ends up usually reinforcing, instead of critically investigating,

7 For a thorough introduction to Shakespeare and social justice pedagogy, see Hillary Ecklund and Wendy Beth Hyman, eds., Teaching Social Justice Through Shakespeare: Why Renaissance Literature Matters Now (Oxford and New York, 2019). Notably, the only essay in the collection to deal with playful pedagogy is Ruben Espinosa’s, which I discuss further below.
8 Education scholars use a range of terms to describe what we’ll call here ‘playful pedagogy’. For a good and succinct overview of the history of this approach to teaching by one of its foundational thinkers, see Gavin Bolton, ‘Changes in thinking about drama in education’, Theory into Practice 24 (1985), 151–7.
Shakespeare’s universalism is because playful pedagogy typically approaches the bodies of learners as tools for facilitating learning, rather than objects themselves to be critically investigated.

To begin to understand the limitations of playful Shakespeare pedagogy, we can examine a game called ‘Words as Weapons’, developed by the Globe Shakespeare Education team and described in Fiona Banks’s helpful compendium of Globe Teaching Activities, Creative Shakespeare. For this activity, students are divided into pairs and engage in a pretend physical battle: each player throws an imaginary weapon at the other; the victim of attack responds physically, altering the response depending on the wounding potential of the weapon. After practising like this for a little while, the teacher introduces the text: a Shakespeare scene involving conflict between two characters, such as Katherine and Petruchio in Taming of the Shrew. Students choose a word in the text that hurts the other character. The students then deliver lines from the dialogue, throwing their pretend weapon at the other player when the hurtful word is spoken. Banks and proponents of similar activities have shown that students, particularly those who are visual, auditory and kinesthetic learners, understand Shakespeare better when their bodies are involved in the learning process. This may be true, but the exercise also illustrates how playful pedagogy techniques might easily overlook social inequities relating to race, gender and other kinds of embodied difference. As explicated in Banks’s book at least, ‘Words as Weapons’ does not consider what physical violence might mean for the particular characters involved in the scene, let alone the students performing those characters. The exploration of verbal banter between Katherine and Petruchio through imaginary physical violence is deeply troubling, given the play’s dramatization of domestic abuse. Perhaps even more concerning is how the exercise might register for student players enacting these characters. Imagine if the partnership duelling with pretend weapons is comprised of a male student and a female student, a Black student and a White student, a student with a physical disability and an able-bodied student, a queer student and a straight student? A socially responsible form of playful pedagogy clearly needs to be framed by and provoke explicit classroom discussion about identity and embodied difference. The need to marry social justice and playful pedagogies is particularly pressing at this historical moment, when Shakespeare (like other early canonical authors) is so often co-opted to serve White supremacist aims.

But, if playful pedagogy sometimes falls short, the reason is not, we would argue, because these methods are ineffective in twenty-first-century classrooms, as some critics maintain. Rather, as this brief example demonstrates, the problem with traditional playful Shakespeare pedagogy is that play-based techniques often treat the body as a transparent tool of expression. Playful pedagogy tends to dissolve student’s self-consciousness about their physical selves, since immersion is presumed to be key to its success; students are encouraged to lose their inhibitions through active, physical, deeply embodied play. Undoubtedly, losing their inhibitions helps students to buy into these techniques and, thus, to learn through them. But when students are encouraged to treat their bodies primarily as tools, students’ differences from each other and their historical differences from Shakespeare’s characters are more likely also to dissolve and to become invisible. In this situation, it is too easy for students and teachers to fall back on old ways of thinking about Shakespeare’s universalism. The key, then, is to find ways to frame the playing body, in all its differences, as an abstract concept open to critical investigation. This does not mean setting aside the body entirely and focusing primarily on difference as an analytic category, as some critics of playful pedagogy suggest. Rather, we need to redefine how the body functions in playful pedagogy in order to enable this technique to serve social justice goals.

10 Banks, Creative Shakespeare, ch. 4.
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This article argues that one way to bridge the difference between experiential, embodied learning and the kind of social critique and theoretical reflection central to social justice pedagogy is by digitally remediating playful Shakespeare pedagogy. Although, in Shakespeare pedagogy, ‘digital’ has come to be associated almost entirely with film and video performances – professional and amateur, including student-generated – we are interested here in the promise of mixed-reality interfaces as a way of translating playful pedagogy techniques to the classroom. Our focus will be Play the Knave, a mixed-reality digital game we co-developed at the University of California, Davis. Users of Play the Knave create virtual theatre productions via avatars on screen by performing physically in real life (RL). Because of the mixed-reality interface, embodied, physical play is mediated by the virtual body of a digital avatar that is and is not fully identified with that of the player. As such, Play the Knave underscores a friction between the player’s physical and digital bodies. Activating this friction during play encourages learners to think creatively and critically about social and embodied differences within Shakespeare and within the classrooms where his plays are taught.

THE CASE AGAINST PLAYFUL PEDAGOGY

Before exploring the benefits of digitizing playful Shakespeare pedagogy, let us examine more closely the case for and against its current use in Shakespeare classrooms. It is worth noting at the outset that the debate about playful Shakespeare pedagogy is centred largely on its suitability for advanced learners – those in high school and above. There is widespread consensus that playful pedagogy techniques are ideal for engaging and maintaining student interest in and enthusiasm for Shakespeare. However, as Ayanna Thompson and Laura Turchi write, engagement is not a sufficient goal in the case of high school and university students, whose critical thinking and close-reading skills need to be developed. In the words of Kate McLuskie, play-based methods of teaching Shakespeare foreground ‘dancing’ – by which she means physical, pleasurable, performance-based engagement – over ‘thinking’. She argues that the variety of techniques that I am calling playful pedagogy overlook the complexity of Shakespeare’s language in favour of delivering, through ‘fun’-based lessons, a universal Shakespeare seemingly more accessible to today’s students and teachers. Thompson and Turchi worry, moreover, that one vital area of ‘thinking’ that gets set aside in playful Shakespeare pedagogy pertains to embodied difference. They note that, too often, these kinds of techniques lead teachers to overlook complex issues of race and gender in Shakespeare’s plays and in the contemporary classrooms where the plays are taught. Like McLuskie, Thompson and Turchi accept that playful pedagogy engages otherwise reluctant students in the study of Shakespeare, but maintain that advanced learners would be better served, to borrow McLuskie’s words, by ‘separating out the analysis from the experience of Shakespeare’. What is surprising about these critiques is that playful pedagogy has been shown to be highly effective for activating students’ critical thinking about social justice issues when the focus is non-Shakespeare content. Education scholars have explored playful pedagogy in the teaching of a range of subjects – including not only English Language Arts, but also Social Studies and even

13 McLuskie, ‘Dancing and thinking’.
14 Thompson and Turchi, Teaching.
15 McLuskie, ‘Dancing and thinking’, p. 139.
Math¹⁷ – and have found these techniques to be especially effective in ensuring that learners grapple with racial, ethnic and cultural differences and social inequities. Drawing especially on Augusto Boal’s ‘theatre of the oppressed’ and Paolo Freire’s ‘critical pedagogy’, scholars in Education have found that playful pedagogy fosters in pre-service teachers and in students ‘empathy’ and ‘perspective-taking’, reactions that can transform how teachers and students think about those who are different from them. When they take part in workshops and programmes to learn to use theatrical techniques in the literature classroom, teachers discover that ‘democracy in society and equity are not “givens” and that power is distributed asymmetrically across certain groups according to race, ethnicity, social class, and gender’.¹⁸ When used in high school classrooms, the techniques have been found to ‘productively interrupt conventional notions of “multiculturalism”’, leading students to grapple more deeply with gendered and racial subjectivity.¹⁹ Clearly, the problem is not with the techniques themselves but with what often happens to playful pedagogy when these techniques are used to teach Shakespeare.

Some of the challenges of integrating playful and social justice pedagogies in teaching Shakespeare become evident in a recent study of one teacher education programme, a partnership between Globe Education at Shakespeare’s Globe in London and the School of Education at the institution where we collaborate, the University of California, Davis. The programme offers pre-service teachers, who are pursuing their post-baccalaureate teaching credential, a chance to receive training in playful Shakespeare pedagogy from artist educators at the Globe. Participating pre-service teachers attend workshops taught by visiting artists; participants who wish to deepen their training after receiving their teaching credential can travel to London to participate in a five-day more intensive workshop at the Globe; and then, as part of an optional Master’s degree, programme participants can pursue an inquiry-based MA project to investigate the impact of these teaching techniques in their own classrooms. Notable about the programme is that it is as committed to the moment to write’, Research in Drama Education: The Journal of Applied Theatre and Performance 11 (2006), 273–91: https://doi.org/10.1080/13569780600900636; Brian Edmiston, Pat Enciso and Martha L. King, ‘Empowering readers and writers through drama: narrative theatre’, Language Arts 64 (1987), 219–28; Ann Podlozny, ‘Strengthening verbal skills through the use of classroom drama: a clear link’, Journal of Aesthetic Education 34 (2000), 239–75: https://doi.org/10.2307/3333644; Sharon Fennessey, ‘Using theatre games to enhance language arts learning’, Reading Teacher 59 (2006), 688–91: https://doi.org/10.1598/RT-59.7-7.


¹⁸ Shelton and McDermott, ‘Using literature’, p. 132. For additional references, see note 9 above.

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coming out of this programme will work in public (government) schools in California, which have high numbers of Latinx students in particular, and are generally quite diverse in terms of race, ethnicity and socio-economic status. The Center’s Globe teacher education programme is thus an ideal testing ground for assessing how well playful Shakespeare pedagogy and social justice pedagogy align in practice.

Initial research by Steven Z. Athanases and Sergio L. Sanchez on the programme’s impact shows mixed results regarding this alignment. On the one hand, researchers found that, despite early exposure to and immersive training in ‘Globe Strategies’, early career teachers struggled to bridge playful Shakespeare pedagogy with their work in diverse American schools. One of the teachers in the study reported that, although her training helped her to understand how to use drama activities to improve students’ comprehension and interpretation of Shakespeare, it did not prepare her to think about ‘social justice implications’. To be sure, such challenges are hardly unique to pre-service teachers coming out of this programme. As Todd Butler and Ashley Boyd point out, even the most well-intentioned high school teachers battle to address social justice issues in the classroom, because teacher education programmes tend to focus on content knowledge and on training pre-service teachers to use a range of pedagogy techniques that can address different student learning styles. Boyd and Jeanne Dyches have argued that social justice concerns are by no means peripheral to these latter emphases, provided teacher education programmes use enhanced frameworks.

What is concerning about the findings from the UC Davis study is that the participating teachers were coming from a programme that employs such enhanced frameworks, taking educational equity issues as part of its ‘core mission’. That is, even pre-service teachers explicitly trained in social justice pedagogy do not naturally make a link between this kind of pedagogy and play-based techniques when they approach their Shakespeare curriculum. This would appear to support the concerns that Thompson and Turchi and others raise about this methodology.

On the other hand, Athanases and Sanchez’s research reveals that the challenges teachers faced were not a function of playful Shakespeare pedagogy as a method, but rather of how the pre-service teachers had been exposed to the method. In 2019, the Center added a three-day Summer Institute for teachers who had completed the other stages of the programme and finished their first year teaching in their own classrooms. The Institute explicitly focused on addressing social justice concerns through the Globe’s playful pedagogy techniques. Participating teachers discussed how to ‘lead difficult conversations about issues including politics and power, LGBTQ rights, forced migration, and the nation’s sociopolitical state’ and then designed mini-units that utilized the Globe techniques to teach Julius Caesar. Research on teacher take-away from the Summer Institute showed that teachers became quite adept in using drama-based activities to address social justice concerns in their Shakespeare units. Taken alone, the ‘Globe Strategies’ did not lead to or connect easily with social justice pedagogy, but teachers could be trained to make those connections. These initial findings suggest that the problems Thompson and Turchi cite are not a function of playful pedagogy techniques themselves but of the methods typically used to distribute these techniques and train teachers to use them in their Shakespeare units.


23 The Center’s mission statement is available at https://education.ucdavis.edu/center-shakespeare-diverse-classrooms.

The question remains about how to ensure that a wide range of teachers can address timely and critical social justice issues when they implement playful pedagogy in their Shakespeare units. Clearly, a programme like the one at UC Davis is the gold standard, but replicating it across America, let alone on a global scale, is next to impossible. A programme so reliant on international travel is unsustainable in the long run due to climate change—with air travel having such a high carbon footprint—and even in the shorter term, as we have seen during the COVID-19 pandemic. As it is, few American universities have the funds to support visiting artists from London, and even fewer can afford to send dozens of pre-service teachers to London for deeper immersion. What’s more, even at UC Davis, the teachers who benefitted most from the Globe Academy programme were the small minority who completed the follow-up Summer Institute. Although clearly effective, UC Davis’s programme concentrates quite substantial resources on a few privileged participants and, as such, arguably ends up perpetuating inequities in schools. Wide distribution of playful pedagogy techniques is impossible if knowledge of this methodology is delivered only face-to-face and by practitioners affiliated with established Shakespeare theatres. In the next section, we’ll suggest that digitizing playful pedagogy techniques not only enables their distribution to many more teachers and classrooms, but also can help to connect these techniques to social justice concerns.

**Digitizing Playful Shakespeare Pedagogy**

The idea of digitizing playful Shakespeare pedagogy will likely strike most advocates of this method as counter-intuitive and possibly sacrilegious. For many practitioners, both within Shakespeare education and in the field of education more generally, playful pedagogy is considered an antidote to the problems of the computer age. As one Education scholar writes, it ‘offers participants a focused approach to humanistic learning in a world which is becoming more and more distanced from the real values of humanity, due to an increased dependence upon electronic communication and media’. Teachers participating in the UC Davis Summer Institute discussed above also mentioned using the Globe’s playful pedagogy techniques to engage students obsessed with computer games and screens. By getting students up on their feet working collaboratively, drama activities refocus students with short attention spans, which many believe are the result of students’ over-use of screens. Suspicion about digital technology is perhaps the most common thread uniting the diverse schools of thought on playful pedagogy. Proponents of these techniques believe very strongly in ‘face-to-face social collaboration’, and almost all of the activities associated with this pedagogy involve students’ physical interactions with each other. Digital technology would seem to undermine the privileged status of the physical body in this pedagogy.

To some extent, this concern about what happens to the physical body when digital tools are incorporated into Shakespeare teaching is well founded. Most of the ‘digital theatre’ tools currently available for classroom use set aside physical performance by students, inviting them instead to consume and analyse pre-produced, professional digital performances. Indeed, when Shakespeare theatres pursue ‘digital’ initiatives, these inevitably translate to archives of filmed theatre productions. Although some theatres have engaged in fascinating experiments with using social media platforms for theatrical productions (e.g., the RSC and Mudlark’s *Such Tweet Sorrow* on Twitter, and BuzzFeed Original’s *Romeo Likes Juliet*), the bulk of digital resources for teaching Shakespeare are ‘live’ broadcasts available on DVD or online. From the Stratford Festival to the Globe to the RSC, ‘digital theatre’ has come to mean access—sometimes free, usually paid—to filmed theatre productions. To be sure, these filmed performances have great pedagogical value, particularly as they make global performances of Shakespeare more widely available. And, as Erin Sullivan has argued, broadcast theatre

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27 As further evidence of how ‘digital theatre’ has become synonymous with filmed live productions, note that the content of *Digital Theatre Plus* is almost entirely filmed productions.
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may even offer spectators certain advantages over traditional live theatre. However, even as filmed productions provide students with access to Shakespeare in performance, they surely are not interchangeable with playful pedagogy, which is valuable because it engages students kinesthetically: instead of consuming a performance created by professional actors, playful pedagogy gets students up on their feet, moving their bodies, engaging with each other and speaking Shakespeare’s language, as they create a performance together. It is no wonder that proponents of playful pedagogy are suspicious of the digital realm.

But the mere fact that ‘digital theatre’ in the classroom has become synonymous with screened productions doesn’t mean it should remain so. Over the last decade, there have been several interesting digital Shakespeare projects that engage students more actively in theatrical performance activities, and although most of these have been used for theatre and performance history research, they have potential as classroom resources. For instance, the Simulated Environment for Theatre project developed by Jennifer Roberts-Smith, Shawn DeSouza-Coelho and colleagues offers 3D models of historical and contemporary theatre stages, and allows users to block a production by moving digital actors/avatars, which take the form of geometric shapes, around the virtual stage. Roberts-Smith and DeSouza-Coelho’s Staging Shakespeare digital game hoped to invite even more playful engagement, as users would create a virtual scene from Romeo and Juliet by choosing and combining digital assets that represent props, costumes and other elements of scene design. These kinds of projects widen the definition of ‘digital theatre’ in ways that can be productive for the theory and practice of playful pedagogy, though, to be sure, they don’t replicate digitally what Education scholars have found to be the most effective ingredients for this kind of pedagogy. Indeed, Roberts-Smith and team have themselves drawn attention to the limitations of their digital Shakespeare projects in terms of their ability to simulate the experience of theatrical performance. In our view, this is because, although these projects are more physically interactive than watching a filmed production, they significantly restrict the kind of kinesthetic movement in which students can engage. As is true with almost all currently available Shakespeare games, the player interacts with the onscreen avatar via a touchscreen, mouse and/or keyboard, instead of through more full-body expression, and there is little to no interaction or collaboration with others using the system.

One way in which teachers have used digital tools to engage students kinesthetically in collaborative Shakespeare performance is by asking them to create video adaptations of Shakespeare, which can then be shared on YouTube. Such assignments can certainly serve social justice pedagogy goals. Ruben Espinosa asked his primarily Chic anx students, who live near the Mexico–America border, to create 5-minute iMovie adaptations of Shakespeare. His students, when given ‘absolute creative license’, tended to emphasize their cultural and ethnic identities, and the assignment helped them to confront apprehensions about pressures of assimilation and the burdens of hybridity and daily bi-national cross-cultural experiences. But, in the absence of a well-crafted lesson plan that explicitly takes up social

30 A beta version of the game was created but, in the end, not released.
33 For a useful overview of YouTube in Shakespeare pedagogy, see Christy Desmet, ‘Teaching Shakespeare with YouTube’, English Journal 99 (2009), 65–70.
justice issues, YouTube is hardly a progressive platform for teaching. The compulsion to receive ‘likes’ when a user takes up the ‘broadcast yourself’ mantra skews videos towards the lowest common denominators of humour, often perpetuating racial and gender stereotypes. Ayanna Thompson’s survey of classroom-inspired YouTube adaptations of Shakespeare produced by Asian-American students found, for instance, that the videos resort to gangster/gangsta stereotypes when representing Black characters in Shakespeare. Student-generated video productions can succumb to the same problems as traditional playful pedagogy: student performers identify uncritically with the characters they impersonate. Arguably, one reason Espinosa’s playful pedagogy assignment was effective, whereas the assignments that prompt many YouTube student-generated videos are not, is that Espinosa explicitly directed students to ‘find a way to speak to contemporary/regional social issues’ through their video performances. His assignment cued and played with the tension between students’ embodied personal experiences – as Chicanx living at the borderlands – and the ‘white monopoly on Shakespeare on the stage and in film’. Rather than immersing themselves into Shakespeare’s predominantly White characters, Espinosa’s students were, in effect, being asked to interrogate the differences between those characters and their own ethnic and cultural identities. When student-generated video adaptations work to support social justice pedagogy, it is because students are explicitly asked to think about issues of embodied difference and the tension between their own embodied experiences and those of Shakespeare’s characters.

In the remainder of this article, we want to think about the ways in which the digital realm and, particularly, mixed-reality platforms, such as the one we co-designed, are well suited to highlighting the friction between students’ embodied identities and Shakespeare’s text. Digital tools that can activate this friction are especially important in the Shakespeare classroom, where embodied differences between students can disappear beneath the weight of Shakespeare’s complex, historically distant and overly mythologized text. If playful pedagogy is to be practised by teachers less experienced than Espinosa in social justice pedagogy, and/or in the absence of a well-crafted lesson plan that explicitly draws attention to students’ own embodied experiences, then we need platforms that keep the body in play (figuratively and literally) while simultaneously abstracting it. In the analysis that follows, we show how the Play the Knave game we designed highlights the body as both performing subject and object of performance. By not only bringing digital bodies into the classroom but also staging the relationship between these digital bodies and their physical RL counterparts, Play the Knave encourages players to abstract themselves from their embodied performances without forgetting their bodies. As such, the game prompts critical inquiry around embodied difference.

Play the Knave is a Windows-based game played via the Kinect motion-sensing camera, wherein one to four players engage their voices and physical movements to animate avatars in a digital theatre production. Although there are a range of ways the game can be used, it was initially designed for performing scenes from Shakespeare in ways that are akin to traditional playful pedagogy assignments. In this case, however, much of the labour of production is offloaded to the digital system. The platform is preloaded with hundreds of scripts of scenes from Shakespeare’s dramas, or players can use an online tool we developed, Mekanimator Scriptmaker, to write and upload a script of their own making. Alternatively, players can skip the script entirely, choosing the ‘free play’ option. Players then navigate a menu system to design their virtual theatre production by choosing from among a range of costumed avatars, theatre stage

35 See, for example, Stephen O’Neil, Shakespeare and YouTube: New Media Forms of the Bard (London, 2014) esp. ch. 3.
37 Espinosa, ‘Chicano Shakespeare’, pp, 81, 80.
38 Mekanimator Scriptmaker is available open-access at http://modlab.ucdavis.edu/scriptmaker.
models and background soundtracks. Players then perform with their selected assets. If players choose a script, it will appear in chunks karaoke-style on screen so that players can recite lines aloud as they move their avatars around the virtual stage.\textsuperscript{39} Significantly, nothing happens on screen without the player’s physical input. To make an avatar speak, the player must voice its lines, reading them from the karaoke interface or improvising as they wish. To make an avatar move, the player must themselves move. As the software processes the movement data from the player, the avatar on screen mirrors the player’s movements in what feels like real time. Each player’s sound and avatar movement are recorded, resulting in an animated short film that can be viewed, shared or edited. In effect, players create for themselves – and most often for an audience, as well – two performances simultaneously: one virtual on screen, and one in the physical space of real life.\textsuperscript{40} 

Play the Knave also includes a suite of mini-games designed by scholar and theatre practitioner Sawyer Kemp, and adapted from well-known theatre improvisation and character-building activities. Through these mini-games, players practise speaking, movement, analytical and/or collaboration tasks, all the while learning to navigate performance via the digital interface. The activities in which players engage through the Play the Knave platform are, in effect, very similar to those undertaken in playful pedagogy programmes run by Shakespeare organizations. It is the digital interface that is the primary and crucial difference with Play the Knave.

Research thus far has shown that Play the Knave engages students in all of the ways in which traditional playful Shakespeare pedagogy does. But the digital platform also helps to support teaching about embodied differences – including, especially, race, gender and size. Although Bloom’s current study of Play the Knave’s use in secondary schools in the United States and in South Africa is too early in its development to offer overarching conclusions, we have some evidence of Play the Knave’s impact gathered from some primary and secondary school classrooms in the United States and from Bloom’s extensive use of the game in her own university teaching. In addition, we will discuss lesson plans Bloom has developed in partnership with secondary school teachers, since these demonstrate the game’s potential and imagined uses. Our aim in the analysis that follows is less to argue for and demonstrate the pedagogical effectiveness of Play the Knave per se than to use the game as a case study for thinking about how and why social justice concerns can be addressed successfully by digitizing playful pedagogy.

In teaching with Play the Knave, and planning lessons centred on the game, Bloom has found that one of the reasons the game is so conducive to conversations about social justice and embodied differences is because the cast of avatars is extremely diverse, including characters that are legible as male, female and non-binary gender, as well as characters representing people of colour and of varying age and size, not to mention species (see Figure 3). Choosing an avatar is a standard part of many videogames, of course, but the significance of this choice is quite particular in the case of a game that is about performing Shakespeare, given that students, like the general public, tend to default to traditional ideas about casting when they think about Shakespeare performance. In his

\textsuperscript{39} Jennifer Roberts-Smith and Shawn DeSouza-Coelho argue that the digital Shakespeare games produced by academics are too script-centric in their representation of Shakespeare performance, failing to embody ideas about performance that the academics themselves hold (‘Shakespeare, game, and play’). They conclude, thus, that videogames are, in general, not a good medium for Shakespeare pedagogy. While I agree that most Shakespeare videogames are overly script-centric – indeed, I offer a similar critique about Shakespeare videogames failing to capture the ethos of theatrical performance in Bloom, ‘Videogame Shakespeare’ – this critique does not extend to Play the Knave. Its modular design actually makes explicit that the script is merely one among many other assets that create a performance. Not only can players choose to move their avatars around on screen without any karaoke lines appearing but, since there is no internal evaluation metric that scores players for their capacity to speak the script, even when the script is there, it does not authorize the performance.

\textsuperscript{40} A tour of the user interface and menu system for Play the Knave, along with footage of students playing it, is available at www.playtheknave.org/how-it-works.html.
experience of teaching racially progressive and experimental Shakespeare performance adaptations to South African university students, Chris Thurman found that, even in a class that had significant racial, ethnic, and linguistic diversity, students were often suspicious of, or unable to make sense of, non-traditional casting and the cross-cultural settings for the plays that tend to allow for these non-traditional casting options. In Bloom’s experience of teaching Shakespeare in American universities, she also has observed that some of her best students are ‘stickler[s] for “authenticity”’, questioning productions that set Shakespeare in modern times or global locales.41

In short, students assume that Caesar should be a White man in a toga. And yet, as Thurman also found, when he exposed his students to traditionally cast performances alongside less traditional ones and deconstructed assumptions about ‘authentic’ Shakespeare, his students, including the most reluctant, could be ‘freed from fealty to a false authenticity’ and were able to both appreciate and thoughtfully critique filmic adaptations that set Shakespeare plays in Africa.42

To be sure, many teachers committed to social justice pedagogy turn to film adaptations, and, thanks to projects such as Thurman’s Shakespeare.za, Global Shakespeare at MIT, and Globe to Globe, there are a wealth of resources out there for visualizing and discussing the stakes of diverse bodies in Shakespeare performance.43 But, as we have begun to suggest above, there is a difference between seeing Shakespeare performed by different kinds of bodies and having learners embody that performance themselves: the core principle at the centre of playful pedagogy. Rather than only analysing the casting decisions made by other directors, student-generated performances put students into the position of making casting decisions themselves. Indeed, choosing an avatar directly engages students in the kind of racial justice work that theatres are reluctant or unable to do.44 Avoidance around the semiotics of race, as well as other aspects of embodied identity, is far less likely in classrooms where Play the Knave is used, however. In typical student-generated productions of scenes, the logic theatres often use to avoid discussion of the semiotics of race can persist: e.g. a particular student may be chosen for a part because she is the most talented or the only one willing to perform; or one cannot cast Black actors for a part if the class is made up entirely of White students. With Play the Knave’s wide range of avatars, none of which is any more talented than the next, availability of particular kinds of bodies is not a factor in casting the virtual production. A teacher need only ask students to explain their choice of avatar in order to lay bare assumptions about casting. Most of the lesson plans that Bloom and collaborators design prompt students to explain their avatar choices in advance or analyse the impact of those decisions afterwards. Both ensure that students think carefully through the semiotics of casting.

Although students’ decisions about avatar casting can organically open up conversations about social justice issues, a teacher can push these conversations to the surface by insisting on the use of particular avatars as part of the lesson. For instance, Bloom has collaborated with Cape Town artist and teacher


44 Ayanna Thompson, Passing Strange: Shakespeare, Race, and Contemporary America (Oxford, 2011). Thompson notes that, although non-traditional casting is now the norm in much Shakespeare performance, theatre companies rarely explicitly address and help audiences to understand the semiotics of casting decisions. Thompson argues for the importance of distinguishing not only between colourblind casting (where actors are purportedly selected with no attention to their race) and ‘race-conscious’ casting (where the production consciously assigns some semiotic meaning to the actor’s race), but also between the range of forms of the latter. Noting three significantly different forms of race-conscious casting set out by the Non-traditional Casting Project (societal, conceptual and cross-cultural), she observes that actors and audiences rarely understand which model of non-traditional casting is at work in a production.
Lauren Bates to develop a curriculum of *Play the Knave*-based lessons for South African schools that focus on violence in Shakespeare plays and in South African history and contemporary society. One lesson plan focuses on Act 4, Scene 3, of *Macbeth*, when Macduff learns of the massacre of his family.

3 Six screenshots of the *Play the Knave* menu, showing avatar choices – in this case, for the character Othello.
The lesson uses well-established playful pedagogy techniques – such as asking students to create statues to represent concepts in the text – to address gender stereotypes around the expression of grief. But the lesson also helps students to think about the violence of civil war in the context of South Africa, and how
that violence impacts Black bodies in particular. To push this contemporary resonance, the lesson plan instructs teachers to choose a Black avatar for Macduff’s role, and to imagine that Macduff’s massacred family is Black. One of the writing assignments Bloom and Bates developed to accompany
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this lesson then asks students to recollect the Apartheid police’s 1976 massacre of Black school children in Soweto township, a turning point in the fight against Apartheid, to encourage students to think about why, as is the case in Macbeth, depictions of massacred children provoke rebellion against tyrannical governments.45 Macduff’s family’s blackness, conveyed through the choice of avatar, helps to introduce into study of Macbeth a discussion about systemic racism and violence against Black bodies in South Africa’s history. Such an assignment could easily be adapted to the American context of Black Lives Matter and similar issues around racial injustice in other countries.

Another lesson plan for South African schools focuses on Othello’s murder of Desdemona and uses race-conscious avatar casting to help students to think about the intersection between race and gender in domestic violence – so pervasive in contemporary South Africa that it has been called a second epidemic. The lesson plan is designed to be used for students who have not yet read Othello and are being introduced to the play for the first time through a section of the play’s climactic final scene. Students use Play the Knave to perform four versions of the murder scene (created using Mekanimator Scriptmaker), progressively layering on embodied differences in each version. In the first performance, the parts of Othello and Desdemona are played by science-fiction avatars who lack clear gender markers: ‘Warrior’, the character speaking Othello’s lines, is larger and more imposing than ‘Cyborg’, who has Desdemona’s lines. Students perform the scene and then are asked to think about why ‘Warrior’ has power over ‘Cyborg’ and is, thus, in a position to harm the latter physically; the power dynamic between characters is found to be a function largely of their size and presumed strength differences. The second version switches to avatars legible as female and male humans, ‘Imani’ and ‘Dion’, both Black and in contemporary dress. Discussion after the performance considers again why Dion has power over Imani, which invites the students to begin thinking about gender differences and male privilege, and how these shape domestic violence. In a third performance, Othello’s lines are spoken by ‘Kai’, a White male avatar, with Imani still in Desdemona’s part. This leads to discussion about racial difference as a factor in domestic violence, the complexities of interracial relationships, and potentially the lasting impact of South Africa’s earliest history of sexual violence: the abuse of Black female slaves by White European settlers. Only in the final performance does the lesson set the scene in sixteenth-century Cyprus, with a Black Othello and a White Desdemona, both wearing Elizabethan-style clothing. Having addressed intersections of race, gender and power in contemporary contexts, students are prepared to think about how these variables signify in the historical moment represented by the play.

As these lessons demonstrate, the digital embodiment of Shakespeare characters allows students to experiment, and literally play, with embodied identity (racial, gendered, sized, historical, etc.) in a way that would be difficult in traditional student-generated performances, and impossible if using pre-made film productions of the plays. The game’s casting mechanism enables students to visualize concretely and to embody physically the semiotics of race and gender in Shakespeare performance, regardless of the racial and gender composition of the students in the classroom. This is not to say, however, that students’ own embodied identities will or can be overlooked. In fact, because of the mixed-reality interface – which insists that a physical body in RL move the virtual avatar – the game encourages teachers and students to think about race, gender and other variables, such as size, not just on screen but in the classroom itself. Even in less nuanced lessons than those we discuss above – such as situations where students choose their own avatars – the choice of avatar tends to open up conversations about embodied identity and its semiotic meaning because the digital avatar and the human actor perform simultaneously. When students have a choice of which avatar to use, do they choose avatars that look like

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them or that are different from them? These conversations are especially enriched because the game’s narrative (you are an actor playing a scene from Shakespeare) intersects in interesting ways with the game’s mechanics (the player and the avatar are both – simultaneously – enacting the part of a character in Shakespeare’s play). The bodies of digital avatar, physical player and character in the play overlap and become imbricated, though the perceived attributes of identity for each (gender, race, size, etc.) need not correlate.

In their reflections on gameplay, students often revel in this layering of identity and the ‘freedom’ to perform in different body types. As one of Bloom’s university students wrote in response to a Play the Knave performance assignment in which student groups could choose their own avatars for scenes from Henry IV, Part I: ‘[Play the Knave] allow[s] the player to pick any gender or body type person they desire, with little to no judgement from their audience ... Play the Knave affords us a freedom that playing a character onstage and in our bodies does not.’46 Another writes:

A person playing Play the Knave can be any shape and size playing any shape and size character, and the gender and body type of the player and the avatar by no means need to match up... [It] is no less plausible for a petite woman to play Falstaff than it is to have a burly man playing the same character, when the script calls for a fat, jolly older man. In other words, because the player is using a virtual avatar to enact the scene, the question of bodies in the space becomes more open-ended.

The avatars allow learners to inhabit a range of kinds of bodies and to play with identity, allowing for a kind of learning that games and education scholars argue videogames facilitate especially well.47 One could imagine how such identification could work in service of social justice pedagogy, though it is just as easy to see the reverse. A White student who chooses and then identifies with a Black avatar has the opportunity to feel what it is like to be in a Black body, and thus potentially to understand better and empathize with the experiences of people of colour. But, as so much research on the performance tradition of blackface and minstrelsy shows, such identification bleeds easily into exploitation.48 Given these dangers, it seems less important to have students identify with their avatars than it is to establish, but then disrupt, that identification. Ultimately, the goal is not to see oneself in the avatar, but to think critically about the process of identification. Education scholars call this ‘critical games literacy’49 but we might also recognize it as Bertold Brecht’s Verfremdungseffekt (‘the alienation effect’).50

46 Due to the terms of Bloom’s Internal Review Board approved protocol, we retain the complete anonymity of the students whose work we cite.


Play the Knave’s mixed-reality interface prompts critical thinking about identification, laying bare the artificiality of performance, because the game stages so explicitly the distinction between the player and the ‘mask’ of the avatar. Instead of naturalizing gender, race and other aspects of identity, the game’s mixed-reality interface constantly asks players to consider where in the body markers of identity reside. This was especially apparent when Bloom used the game to teach the cross-dressing comedies. Bloom arranged students into small groups to perform the wooing scene in As You Like It, where Rosaline, cross-dressed as Ganymede, flirts with Orlando. Groups had a choice not only of which avatars to use, but also which students would enact these parts physically. The sex of the student controlling an avatar’s movement and voicing its lines could match the sex of Shakespeare’s actors historically (male youths), Shakespeare’s characters (Rosalind and Orlando), or the fictional characters in the wooing scene (Ganymede and Orlando). More interestingly, these options were also equally available for the avatars selected. The assignment thus offered students a way to grapple in material ways with the intersections between gender and eroticism in the scene. Would performances show Orlando flirting with a male youth Ganymede, or with the female Rosaline, or both?

With very little prompting, students arrived at complex insights about how gender is embodied. One group, which argued for a homoerotic reading of the scene, selected two avatars that, they said, were clearly male. Yet the physical presence of their actors complicated their interpretation: whether by design or by necessity, one of the student actors was cisgender female. To solve this problem for their interpretation, the group decided to have the female student ‘affect a male voice during her performance’. This resulted in fascinating conversations about where gender is located in the body and what makes gender legible. Another group tried to recognize the complexities of gender performance by choosing a Rosalind/Ganymede avatar that they argued was clearly male but had ‘feminine clothing’, making this avatar more gender ambiguous. They also switched the predicted gender of the actors, having Rosalind/Ganymede played by a cisgender male student and Orlando by a cisgender female student.

What generated some of the most excited conversations and some of the deepest reflections were two groups (hailing from two different sections, thus not aware of the similarities in their production decisions) that chose the ‘Robot’ avatar to play both Rosalind/Ganymede and Orlando in the scene. Whether they selected the genderless ‘Robot’ for fun, or whether they did so intentionally to highlight the ambiguity of gender in the play, didn’t really matter in the end, because the presence of gendered student bodies playing these avatars shaped subsequent conversations spectating students had about the meaning of the performance. As is evident in the animated films that were produced from their performances, the student groups seemed to believe they needed to contend in some way with the gender coding of the human voice, and they did so in strikingly different ways. One group, which had both characters played by cisgender male students, kept the actors’ voices mostly naturalistic, thereby representing the otherwise ungendered robots as two males. The other group, which had switched the predicted genders of the actors (having Rosalind played by a cisgender male student and Orlando played by a cisgender female student) took things one step further by having these students put on falsetto voices. The female student playing Orlando adopted a deep voice, while the male student playing Rosalind used a higher-pitched voice for most of the scene, breaking back into a male voice only in the final lines where Rosalind/Ganymede accepts Orlando’s advances and swears to love him.

Play the Knave’s mixed-reality platform prompted students to think about the various

51 The gameplay video is available at www.youtube.com/watch?v=mf1LDGohCGQ&feature=youtu.be&ab_channel=ginabloom.
52 The gameplay video is available at www.youtube.com/watch?v=SwhsUZR8ahQ&feature=youtu.be&ab_channel=ginabloom.
places that gender gets located in the body in order to be legible: in the voice, the body shape, the body movement, the clothing worn. If students are tempted to naturalize these aspects of gender identity, the layering of human actor, Shakespeare character and digital avatar kept them thinking and rethinking how they define gender. *Knave*’s mixed-reality platform abstracts gender as a construct by drawing attention to the ways in which gender is mediated. But, crucially, that abstraction is *lived* by the bodies of the students in the room. Student performers have to contend with their own gender expression in order to produce their scenes and to analyse the scenes they and their peers produced. Because of the mixed-reality interface, students cannot ignore or naturalize gender, or other embodied aspects of identity, because embodiment, however abstract it may be, cannot remain abstract during *Play the Knave* performances.

**BODIES AS OBJECTS OF CRITICAL ANALYSIS**

The layering of identity we have described above is present in any game involving avatars, but is more noticeable in a mixed-reality game such as *Knave* not only because the physical body moving the avatar is so insistently on display during play, but also because the motion-capture technology creates a complex dynamic of identification that foregrounds differences between the digital avatar and the physical body controlling it. This is not simply because of the simultaneous presence of the physical actor and the digital avatar. It is because of the unique nature of live motion-capture performance, particularly the kind of motion-capture performance we use in *Knave*. To understand this point, it helps to know more about how motion capture works as a technical process. Motion-capture technology involves communication between three entities: the player, the motion-sensor camera system, and the computer that processes the captured data. The motion-capture camera system searches for clues about the moving body in the physical, real-life performance space. In the case of the high-end motion-capture systems used in films like *Lord of the Rings* (where the digitized Gollum is animated by an actor) or theatre productions like the Royal Shakespeare Company’s 2016 *Tempest* production (where an actor animates an Ariel avatar via live mo-cap performance), the actor wears a tight-fitting suit covered with hundreds of reflective dots, and cameras use infrared or related technologies to pinpoint the position and location of the dots. Whatever camera system is used, the gathered information gets sent to a computer that quickly processes the data to attempt to decipher and reconstruct where the player/actor’s body is, and how that body is moving over time. These data are almost immediately mapped onto the digital avatar, so that the player appears able to control the avatar in real time.

The quality of the motion capture will depend on the quality of all three entities involved. The camera system must be good enough to pick up data from the movement of the player’s body, reading the location of the body parts accurately; the computer must be powerful enough to process the data quickly; and the player must move in ways that the technology can understand. When one component of this system is of lower quality, the other components have to compensate. If that compensation is insufficient, the system will seem to malfunction, with the clearest visible symptom being that the avatar looks ‘glitchy’ – it doesn’t move seamlessly and/or doesn’t mimic the movement of the player precisely.53

One can see this glitchy animation repeatedly in *Play the Knave*, which currently uses a lower-quality motion-capture camera, the Microsoft Kinect v2. The camera is ideal for pedagogical applications of *Knave* because it is cheap: $150–$250, compared to tens, or even hundreds, of thousands of dollars for higher-quality systems. It

is also portable, allowing it to be set up by anyone, anywhere in minutes, instead of taking weeks and a trained construction crew. Finally, it doesn’t require the actor to wear any special clothing or need the system to calibrate the actor’s body before each performance. This means that, in the course of an hour, multiple groups of players can engage with the technology, and a technologist is not required on site. The downside of using a low-quality motion-capture camera, however, is that it more often fails to read the player’s movement data. In effect, the single camera we use, the Kinect v2, sends out infrared pulses that search for the playing body using depth sensors. The software loaded on the computer (Microsoft Software Development Kit) looks for twenty-seven joints on the body that the camera’s sensor finds, and tries to match those to a skeleton in its library (see Figures 4, 5 and 6). The animation is, then, only as good as the library, but also only as good as the player. For if a player crosses a hand in front of another hand, the computer cannot tell which joints have moved. Receiving imprecise data, the machine effectively makes its best guess, and the animation usually suffers, sometimes producing hilarious effects.54

Bloom has discussed elsewhere how the glitchy presentation of avatars presents opportunities for students to think about their relationship to digital technology, and the ethics around engaging with those that are different from them.55 For the purposes of this article, however, we want to reflect on the ways the glitchy interface draws attention to the player’s body as a performing object, which, as we have suggested, is crucial to the game’s pedagogical effectiveness, especially its capacity to shape student thinking about embodied difference. To keep their avatars from looking ‘glitchy’, players must learn to move in ways that the system can understand. For instance, once they realize that crossing an arm in front of the body makes their avatar’s arm contort sideways, players may learn that, if they want to produce a more seamless animation, they must face the camera directly and not cross limbs in front of each other. Players are thus learning through play that their physical bodies are being objectified by the camera, as it tries to read them.

In their comments after they play, students often remark on how the game’s mixed-reality mechanics lead to self-consciousness about embodiment. For some, this experience is uncomfortable. One student writes, ‘I’ll be honest and say that playing the game was pretty awkward and weird. I really don’t like playing video games with a lot of body movements because I’m really conscious on how I move.’ The student goes on to explain that the game makes players ‘think about everything’ relating to their bodies. ‘You have to think about your tone, your attitude, your body movements, your projections, and even where you move on stage. You can’t really just stand there and read the lines because then it comes out really plain and extremely monotone.’ For other students, this emphasis on the player’s body was a highlight of their engagement with the game. ‘One of the unique strengths of Play the Knave is that it promotes player awareness of both what is on the screen and how the player fits into the game as an actor rather than simply a gamer.’ Another student’s comment even more explicitly connects this self-consciousness of the body to the apparent glitchiness of the avatars: ‘I was acutely aware of my own body as I watched the avatar flail about on the screen as it tried to correspond to my movements. My stance seemed very unnatural.’ The value of this insight was that it helped the student to discover firsthand ‘how complex acting could be’ and how crucial performance is to the interpretation of Shakespeare’s plays, a realization that appears to have had a lasting impact: the student who made this comment went on to get her teacher education credential and to pursue an MA in Education that

54 See, for example, the gameplay video available at www.youtube.com/watch?v=cj3kzAnjBAk&feature=youtu.be&channel=ginabloom.
focused on playful pedagogy, on which she is now an authority.

Whether or not students take what they have learned about their bodies beyond the classroom, this kind of self-consciousness about embodiment is an ideal stepping-stone towards thinking about issues of bodily difference. The perceived ‘glitchiness’ of Play the Knave objectifies the bodies in the room in a way that traditional playful pedagogy does not. The latter treats the body as, and trains the body

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4 Screenshot from Microsoft Kinect Studio, showing Kinect depth sensors picking up the location of a body in the room, and mapping it onto a skeleton from the software library.

5 The computer’s calculated data regarding the perceived location of joint positions in the body the Kinect camera is sensing in Figure 4.
to be, a tool for the actor’s expression or for communication of something to an audience. But if our aim in playful pedagogy is not to train actors to produce meaningful performances so much as to use playful activities to encourage critical thinking about Shakespeare and the myriad issues the plays raise, playful pedagogy must do more than teach students to express and communicate with their bodies. It needs to teach them to think about how different bodies signify — how markers of bodily difference carry meaning in and out of the classroom. As Play the Knave stages the digital mediation of players’ bodies, it prompts students to analyse embodied identity not just in Shakespeare or in digital games, but in the classrooms where the plays are studied.

6 The avatar ‘skin’ mapped onto the skeleton for the body shown in Figure 4.