

Uronjeni u prostor mogućeg: susret s digitalnim tehnologijama u predškolskom vaspitanju i obrazovanju¹

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Apstrakt

U kompleksnom i višestrukome svetu u kom živimo, savremene teorije promovišu obrazovanje kao prostor susreta i građenja drugačijih, afirmativnih i konstruktivnih odnosa. U ovom radu polazimo od pitanja kako i koga obrazujemo u trenutku koji živimo, razmatrajući ih kroz poststrukturalističke i posthumanističke ideje i koncepte, uz jedan primer susretanja s digitalnim tehnologijama u vrtiću. Na taj način želimo da razmotrimo obrise predškolskog vaspitanja i obrazovanja, koje materijalno i diskurzivno ispada iz unapred definisanih (i humanističkih) okvira, i potencijale koji bivaju u senci dominantnih razumevanja i praksi upotrebe digitalnih tehnologija. Posthumanističko promišljanje predškolskog vaspitanja i obrazovanja koje predstavlja susret s bićima, procesima, stvarima, idejama, otvara potencijal za drugačije promišljanje bliskosti, osetljivosti i nepredvidivosti kao vrednosti pomenutog procesa. Na njima se, uz smislenost, svrsishodnost i kritički odnos, utemeljuje razumevanje upotrebe digitalnih tehnologija. Istraživanje je pokazalo da slučajni susreti s digitalnim tehnologijama u vrtiću mogu biti nagoveštaj građenja odgovornosti kao zajedničke sposobnosti da odgovorimo. Istovremeno, snažno se afirmiše potreba za kritičkim pozicioniranjem i dodatnim istraživanjem posthumanističkih ideja i koncepata, posebno u svetlu razumevanja obrazovanja kao etičke prakse.

Ključne reči: posthumanizam, poststrukturalizam, predškolsko vaspitanje i obrazovanje, digitalne tehnologije.

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Uvod

Ovim radom želimo da započnemo razgovor o trenutku koji živimo i obrisima posthumanog obrazovanja. Nazivamo ga trenutkom zato što se interesovanje za posthumano (neopravdano) javlja kao odgovor na određenu, često tehnološku promenu, iako bi smislenije bilo o njemu govoriti kao o saživotu u kom je teško jasno povući granicu gde počinje ljudsko a završava se tehnološko, i obrnuto, gde počinje tehnološko a završava se ljudsko. Drugi razlog za upotrebljeni termin nalazimo u činjenici da je posthumanizam, shvaćen kao neuniformna filozofija (Miah, 2008), uputio na važnost sagledavanja mikroplana, na situaciono, odnosno na slučajnosti i mogućnosti u obrazovanju (Hackett et al., 2020). To je značajan uvid za sve one koji se bave obrazovanjem jer predstavlja poziv da se još jednom preispita ukorenjena potreba za njegovim stavljanjem u unapred definisane, prepoznatljive okvire i za pozicioniranjem onih koji u njemu učestvuju kao konačnih i nepromenljivih, ili bar promenljivih u odnosu na određenu „normu“ (na primer, odraslog). U kontekstu razmatranja upotrebe digitalnih tehnologija u obrazovanju prethodno pomenuto uniformisanje primetno je u istraživanju razvojno primerene perspektive, odnosno sagledavanja upotrebe digitalnih tehnologija kroz moguće efekte (pozitivne i negativne) na razvoj i učenje dece (Parette et al., 2010). Istorijski gledano postojala je, i dalje postoji, izražena težnja da se predškolsko vaspitanje i obrazovanje utemelji na vrednostima individualizma, autonomije i agensnosti pojedinaca. Ta težnja posebno dolazi do izražaja u neoliberalnim nastojanjima za reformom obrazovanja, a ogleda se u zagovaranju učenja koje je vođeno svesnim namerama individue i koje počiva na njihovoj autonomiji, ličnom izboru, efikasnosti (Duhn, 2015: 921). Uzimajući u obzir da „diskurs efekata“ dominira u akademskim krugovima (dominantan u smislu zastupljenosti), ne iznenađuje insistiranje na njihovom istraživanju i davanju preporuka u pogledu načina i vremena korišćenja digitalnih tehnologija, a kao načina da se deca zaštite od rizika i opasnosti. Takvo pozicioniranje upotrebe digitalnih tehnologija doprinelo je stavljanju fokusa na digitalnu pismenost kao očekivani ishod procesa učenja i razvoja, odnosno kao pripremu za život u društvu koja se procenjuje kroz posedovanje seta veština i ponašanja u vezi s korišćenjem digitalnih tehnologija.

Bez namere da posthumanizam afirmišemo kao nužnu promenu ili kao jedinu perspektivu koja je dovela u pitanje pomenutu potrebu, želimo da istražimo mogućnosti koje otvara u konceptualizovanju upotrebe digitalnih tehnologija u predškolskom vaspitanju i obrazovanju kao kulture koja se zasniva na autentičnim i bliskim odnosima, pre nego na razvijanju pojedinačnih veština i ponašanja. Vodeći se poststrukturalističkim i posthumanističkim idejama i konceptima, u ovom radu razmotrićemo šta to drugačije i novo posthumanizam donosi u polje predškolskog vaspitanja i obrazovanja u pogledu razvijanja kulture upotrebe digitalnih tehnologija, svesni da postoje izvesna ograničenja, problemi i kritike koje mu se mogu uputiti. Imajući u vidu specifičnosti, posebno neuniformnost, izabranih teorijsko-vrednosnih polazišta, rad je, uz uvod i metodološki okvir, strukturiran kroz zamišljene pravce kretanja i trajektoriju (putanju) promišljanja:

- *Pravac kretanja: oslobađanje predškolskog vaspitanja i obrazovanja* – želimo da uputimo na posthumanističke ideje i koncepte koji su otvorili prostor za drugačija promišljanja upotrebe digitalnih tehnologija, posebno u odnosu na poststrukturalistička razumevanja kulture upotrebe digitalnih tehnologija.
- *Pravac kretanja: susret s digitalnim tehnologijama u vrtiću* – želimo da „upletemo“ poststrukturalistička i posthumanistička polazišta predstavljena kroz „pravac oslobađanja“ u razmišljanje sa konkretnim primerom susreta s digitalnim tehnologijama u vrtiću.
- *Trajektorija: šta digitalne tehnologije u predškolskom vaspitanju i obrazovanju mogu postati* – želimo da razmotrimo pedagoške implikacije razmišljanja i susretanja s digitalnim tehnologijama u predškolskom vaspitanju i obrazovanju, uz upućivanje na preduzimanje neophodnog opreza kada za teorijsko-vrednosno polazište uzimamo posthumanizam.

Pravac kretanja: oslobađanje predškolskog vaspitanja i obrazovanja

Tokom istorije, obrazovanje je nosilo epitet „humanizujuće prakse“ (eng. practice of humanization), tačnije, one prakse koja omogućava da postanemo ljudi. Međutim, tako shvaćeno obrazovanje bilo je zasnovano na određenoj ideologiji koja je prepoznavala ljude, bele rase, koji pripadaju imućnim društvenim slojevima, izostavljajući sve one koji se ne uklapaju u „univerzalni kalup“ (Snaza, 2013). U predškolskom vaspitanju i obrazovanju ukalupljivanje i kategorisanje ispoljilo se u reprezentacijama deteta kao bića koje je u procesu razvoja, ranjivog, nezrelog, iracionalnog i na putu ka odraslosti. Odrasli, shvaćen kao zreo, racionalan, samostalan, onaj koji poseduje samokontrolu i univerzalna znanja, služio je kao „norma“ po kojoj se dete procenjivalo. Na taj način ono postaje marginalizovano, vlasništvo i odgovornost odraslog, a detinjstvo se razume kao određeni period života (hronološki gledano) tokom kog se dete, uz pomoć uplića odraslih, progresivno kreće ka nezavisnosti, autonomiji i racionalnosti (odraslosti) – poput „...životinje koju treba ukrotiti“ (Murrells, 2018: 57). Oslobađanje predškolskog vaspitanja i obrazovanja od unapred definisanih obrazaca i kartezijanskih binarnosti (kao što su pojedinac–društvo, dete–odrasli, priroda–kultura i slično) započeli su teoretičari i autori priklonjeni poststrukturalizmu, dovodeći u pitanje hijerarhijsku strukturu pozicija i odnosa moći, razumevanje prirode predškolskog vaspitanja i obrazovanja kao tehničke strategije koja se menja na osnovu objektivnih znanja i istina, sagledavanje programa predškolskog vaspitanja i obrazovanja kao gotovog modela koji se implementira u praksi, i tome slično (Pavlović Breneselović i Krnjaja, 2014). Za naša promišljanja upotrebe digitalnih tehnologija u predškolskom vaspitanju i obrazovanju značajni su sledeći poststrukturalistički uvidi:

- Subjektivnost se razume kao kolektivna kreacija koja nastaje u okviru mreže, odnosno ona koja ide od „individualne misli“ (lat. cogito – ja mislim) ka „kolektivnoj misli“ (lat. cogitamus – mi mislimo) (Lévy, 2005: 191).
- Dete se razume kao jedinstveno biće koje je ravnopravni učesnik procesa obrazovanja, kompetentno da komunicira, gradi, pregovara i dogovara znanja i značenja s vršnjacima i odraslima, kroz raznovrsne prilike za učenje i učešće u kojima autentično doživljava obrazovanje (Miškeljin, 2022).
- Odrasli, posebno vaspitač, razume se kao koučnik i koučesnik procesa obrazovanja, spreman da uči zajedno sa decom i drugim odraslima (na primer, kolegama, članovima porodice, lokalne i šire zajednice), osetljiv za iskustva i perspektivu dece, te kompetentan da na različite načine i kroz raznovrsne prilike podrži njihovo ispoljavanje i deljeno razumevanje (Krnjaja, 2010; Lazarević, 2023; Pavlović Breneselović, 2012).
- Digitalne tehnologije se razumeju kao kulturna oruđa situirana u složenoj mreži praksi, odnosa i drugih oruđa koje se u obrazovanju neodvojivo prepliću. U predškolskom vaspitanju i obrazovanju ona se pozicioniraju kao jedan od načina da se različite perspektive čuju i da postanu vidljive, odnosno da se podrži smisao koji se izgrađuje kroz proces zajedničkog učenja i učešća dece i odraslih. Shodno tome, digitalne tehnologije ne mogu biti shvaćene kao vrednosno neutralna sredstva, niti se njihov potencijal može sagledavati izvan ljudskog delovanja i različitih konteksta u koje su uronjene. Ono na čemu se insistira jeste građenje kulture upotrebe digitalnih tehnologija kao kritičke, etičke prakse koja je vođena smislom i svrhom koja se pregovara i izgrađuje u odnosima dece i odraslih (Johnston, 2019; Nikolić, 2020; Pavlović Breneselović, 2021).
- Učenje se ne dešava samo u unapred isplaniranim, već i u autentičnim situacijama koje se dešavaju u vrtiću (Krnjaja i Pavlović Breneselović, 2022; Miškeljin, 2022).
- Granice između „digitalnog“ i „realnog“ deci nisu bitne, jer ona neometano funkcionišu u njihovom preplitanju (Bonilauri & Tedeschi, 2019).
- Predškolsko vaspitanje se razume kao kompleksan i dinamičan sistem koji sadrži mnoštvo „istina“ i puteva promišljanja, u kom se kroz uzajamne interakcije transformišu brojni učesnici (Pavlović Breneselović i Krnjaja, 2014).

Na osnovama poststrukturalističkih promišljanja, koja su napravila važan pomak u uvažavanju dinamičnosti i kompleksnosti obrazovanja utemeljujući ih na razumevanju autentičnih ljudskih odnosa kao srži ovog procesa, posthumanizam je pomenuti proces radikalnije izmestio iz humanističkih okvira. Kao termin, on okuplja raznolika razmišljanja, posebno ona koja dolaze „posle čoveka“, odnosno posle fokusa na ljudsko i zabluda u vezi s tim (Ferrando, 2014). Na primer, Sneza (Snaza, 2013) u posthumanizmu prepoznaje način da se uvaži kompleksnost obrazovanja i njegovo izmeštanje iz unapred definisanih

okvira kroz koncept „drugačijeg obrazovanja“. On o obrazovanju govori kao o onom koje „ne zna kuda se uputilo“, odnosno odustaje od njegovog definisanja i podređivanja unapred ustanovljenim ciljevima. Tako shvaćenim obrazovanjem se ne teži usvajanju znanja i razvijanju veština, već građenju odgovornih odnosa s okruženjem. Stavljanjem fokusa na izgrađivanje odgovornih odnosa u obrazovanju prevazilazi se razumevanje učesnika obrazovanja kao elemenata koji postoje kao izolovani i samodelujući, fokusirani samo na ljudsko. Na primer, Fons (Fawns, 2022: 713-714) utemeljenje nalazi u „pedagogiji preplitanja“ (eng. entangled pedagogy) kojom se afirmiše razumevanje obrazovnog procesa kao kompleksnog preplitanja brojnih aktera koji se međusobno oblikuju. Pojedini autori (na primer, Malone et al., 2020: 110) čak govore o „posthumanističkim pedagogijama“ (eng. posthuman pedagogies) kojima teže da istaknu specifičnost obrazovnih praksi kroz razmatranje mogućnosti učenja sa i deljene načine saznavanja, bivanja i postajanja u svetu i sa svetom (eng. shared ways of knowing, being and becoming worldlings). O specifičnosti pomenutih relacija se u literaturi govori kao o intraakcijama, i za razliku od interakcija, one se utemeljuju na shvatanju da nijedna stvar ili proces ne postoji po sebi već uvek i samo u relaciji sa svetom (Barad, 2003; 2007; Shotter, 2013). To je posebno značajno stanovište za naša promišljanja jer se zasniva na pretpostavci da učenje zahteva osetljivost za dinamiku sveta i otvorenost za ono što će „tek postati“ (Matos Lins, 2021). Razvijanje osetljivosti zahteva podešenost za mikromomente i slučajnosti u kojima se učenje dešava, zapravo življenje kurikuluma pre nego njegovo planiranje (Duobliene & Vaitekaitis, 2021). Odaljavanje od modernističke perspektive i etike, koja je prepoznavala samo čoveka, omogućilo je da se predškolsko vaspitanje i obrazovanje sagleda kao proces zajedničkog pronalaženja šta znači živeti sa i kroz relacije sa svetom (sa ljudima i ne-ljudima, materijalnim i virtuelnim, potencijalnim i stvarnim). Time se teži da uvaži sve ono što je zapadnjačka humanistička filozofija osporavala (ne-ljudsko, ne-hegemonično, autohtono i slično), da se prepoznaju različiti konteksti i različite forme saznavanja koje se u njima dešavaju (Snaza et al., 2014). Kako Brajdotijeva ističe, „posthumanu pometnju razumem kao priliku za osnaženje kroz potragu za alternativnim šemama mišljenja, znanja i samoreprezentacije. Posthumano stanje nas primorava da mislimo kritički i stvaralački o tome ko i šta zapravo jesmo u procesu postajanja“ (Brajdoti, 2013/2016: 41), odnosno ko smo i sa kim u procesu obrazovanja.

Može se reći da, umesto ljudi, posthumanizam u centar obrazovnog procesa stavlja relacije shvaćene kao intraakcije (Ceder, 2019; Duobliene & Vaitekaitis, 2021). U kontekstu uplitanja s digitalnim tehnologijama, ovakva promišljanja otvaraju značajno pitanje: „šta se dešava kada nas naši filteri, fokusirani na humano i odraslog, spreče da se otvorimo za relaciona uplitanja dece sa i u njihovim svetovima?“ (Malone et al., 2020: 207), odnosno šta je to što nam konstantno izmiče u razumevanju, prepoznavanju i uvažavanju kompleksnosti u kojoj deca odrastaju i u kojoj se obrazovanje dešava. Ono u čemu se posebno ogleda vrednost prethodno otvorenog pitanja jeste afirmisanje shvatanja da je svaki učesnik mešavine (čovek, mašina, životinja ili neko/nešto drugo) akter ili aktant (Latour, 2005), odnosno ima moć da utiče na druge i da u složenim među-odnosima sa drugima ostvaruje svoju agensnost. Kako posthumanisti dovode u pitanje duboko ukorenjenu

potrebu za isticanjem individualne autonomije, svesne akcije i namere usmerene ka cilju, i označavaju je kao neadekvatan konceptualni okvir kojim bi se odgovorilo na izazove odrastanja i obrazovanja u savremenom svetu (Duhn, 2015), primećujemo da dete i vaspitač vešto „izbegavaju“ svako definisanje i stavljanje u poznate okvire. Zapravo, oni ne postoje mimo relacija koje uspostavljaju i grade sa svetom, otuda se u najširem smislu mogu označiti kao „više-od-ljudi“ (Murriss, 2020; Murriss & Osgood, 2022; Tesar & Arndt, 2020). Na taj način se prepoznaju i uvažavaju kompleksna postajanja koja dovode u pitanje, oblikuju i menjaju prosvetiteljsku odrednicu „Ja“ (eng. I) koja istrajava kao „kalup“ u koji se smešta ljudska subjektivnost (Taylor, 2016). Drugačija subjektivnost koja teži da se afirmiše može se odrediti kao „nomadska“, odnosno kao ona koja nije fiksirana, nepromenljiva, te ne može biti precizno geografski, istorijski, etnički ili klasno locirana. S tim u vezi, fokus se pomera sa subjekta kao supstance ka subjektu u procesu koji nužno podrazumeva razmatranje kontradiktornosti koje se u tom procesu mogu ispoljiti (Murriss, 2016: 89). Ovakvo razumevanje subjektivnosti značajno je za naša promišljanja kompleksnih uplitanja s digitalnim tehnologijama u predškolskom vaspitanju i obrazovanju, jer je otvorilo prostor za bliske susrete s ovim oruđima kao slučajnostima, kroz koje postaju i menjaju se ne samo deca i odrasli, već i digitalne tehnologije. Dakle, oni koji učestvuju u obrazovanju jedni od drugih kontinuirano pozajmljuju ono što im „nedostaje“ (Lee, 2001). Na primer, digitalne tehnologije mogu biti „produžena memorija“ čoveka, da sačuva ono što ne mora ili ne može da zapamti, istovremeno, kroz datu upotrebu tehnologije ostvaruju svoju funkciju i agensnost. Upućivanjem na dinamične veze koje postoje između čoveka i sveta, napušta se koncept liberalnog humanističkog subjekta koji dominira i kontroliše svet oko sebe. Dakle, ljudsko biće se sagledava kao deo sveta u kom se ne priznaje podeljenost nepomičnog fizičkog tela od bestelesne subjektivnosti. Ovakvo razumevanje subjektivnosti pretpostavlja da dok ljude sagledavamo kao autonomne subjekte jasnih granica, odnosi između čoveka i digitalnih tehnologija svodiće se i razdeljivati na opipljivost stvarnog života, s jedne strane, i na iluziju virtuelne realnosti, s druge strane (Hayles, 1999). I ne samo to, postaje evidentno da trenutna znanja i veštine nisu dovoljna priprema za budućnost. Prema rečima Gibbonsa (Gibbons, 2015), obrazovanje treba da osnažuje za nepredvidivo (bilo da je reč o sadašnjosti ili budućnosti). Razvijanje takvog kapaciteta podrazumeva, između ostalog, i stalnu zapitanost za to na kojim pretpostavkama se zasniva upotreba tehnologija, šta utiče na to kako reagujemo na svoje okruženje shvaćeno kao tehnološko i na koji način se suočavamo s različitim poimanjima tehnologija.

Na taj način se od onih koji se bave predškolskim vaspitanjem i obrazovanjem zahteva izmeštanje iz „prijatnih“ pozicija u okviru kojih delaju (Rautio, 2014) i privilegija, prava, vrednosti koje one nose (Lindgren & Sjöstrand Öhrfelt, 2019), te suočavanje sa strahovima i izazovima izmeštanja obrazovanja iz humanističkih okvira. Ističe se da je pomenuta strepnja naša realnost (na primer, ugrađivanje pejzajmera ili proširivanje memorije kroz upotrebu kompjutera ili pametnih telefona), ujedno i važan podsetnik da u promišljanjima o predškolskom vaspitanju i obrazovanju može

da se ide izvan onoga što je poznato i prijatno, odnosno da kiborge (mešavine ljudi i kibernetičkih delova) ne doživljavamo samo kao naučnu fantastiku, već kao proživljeno iskustvo (Haraway, 2006). Istovremeno, sa strahom dolazi i izvesno olakšanje, jer posthumanizam ne zagovara potpuno odbacivanje ljudskog, već njegovo dekonstruisanje u relaciji sa svetom (Stojković, 2024). Oslanjajući se na takva razumevanja, nalazimo argumentaciju za stav da se dete i detinjstvo mogu razumeti kao deo mešavina koje same sebe stvaraju. Međutim, nisu samo digitalne, već obuhvataju raznovrsne materijalnosti koji se neodvojivo prepliću sa ljudskim (videti Hackett & Rautio, 2019; Rautio, 2013). Dakle, dete se razume kao „klupko“ u kom se prepliće političko, biološko i društveno, digitalno i prirodno, koje se sastoji od koncepata i materijalnih sila koji su neodvojivo povezani. Svaki element pomenutog zapleta je agensan, čime se proširuje dijapazon faktora koji doprinose razumevanju ne samo deteta, već i onoga što se dešava u obrazovnom susretu. Time se zahteva i oslobađanje odraslog pozicije individualnog subjekta koji kontroliše obrazovni proces (vodi, instruiše, trenira, socijalizuje, štiti) i one koji u njemu učestvuju, odnosno prepoznavanja i uvažavanja da je i on taj koji postaje sa svetom (Murris, 2020). A to nam dalje govori da biti vaspitač nikada nije bio niti će biti lak posao, kakva god da se tehnologija „uplela“ u obrazovni proces, kao i da je teško nadomestiti njegovu ulogu. „Odnos saputnika“ (Murris, 2016: 89) koji se datim pozicioniranjem deteta i vaspitača pretpostavlja zahteva prevazilaženje upotrebe digitalnih tehnologija koja se svodi samo na promenjenu (digitalnu) formu sadržaja kojima se deca podučavaju. Kako pojedini autori primećuju (Kuby & Gutshall Rucker, 2020), neophodno je izdvojiti vreme i prostor za uplitanja sa tehnologijama bez određenog cilja i otvoriti se za smisao koji iz ovih susreta izranja. Ovakav pristup blizak je postrukturalističkim stremljenjima koja su usmerena na građenje kulture upotrebe digitalnih tehnologija utemeljene u vrednostima smisla, svrsishodnosti i razvijanja kritičkog odnosa. Međutim, posthumanizam osvetljava jedan drugačiji segment kulture upotrebe digitalnih tehnologija, a to je da se ona može razumeti kao relacioni i afektivni proces, odnosno kao „postajanje sa“ mnogima (koji nisu samo ljudi), odnosno kao događaj ili „pismenost u akciji“ (Burnett, 2017; Collier, 2024; Lenters, 2016). Karen Barad (Barad, 2013) to opisuje kao poziv u zajedničko putovanje, odnosno kao poziv u eksperimentisanje sa mogućnostima pričanja drugačijih priča, koje stavljaju naratora pred rizik, te upućuju na drugačiju osetljivost i sposobnost da se odgovori i bude odgovoran. U tom smislu, (digitalna) pismenost predstavlja multidimenzionalni konstrukt, proces koji pretpostavlja građenje specifičnog odnosa, nipošto razvijanje pojedinačnih i tehničkih veština upotrebe digitalnih tehnologija (Pavlović Breneselović, 2021). Dakle, susreti s digitalnim tehnologijama moraju se razumeti kao odgovorna praksa koje se ogleda u sposobnosti različitih učesnika (ljudi i ne-ljudi) da odgovore (Murris & Peers, 2022: 334). Prethodno predstavljene ideje i koncepti nameću pitanje da li je takvo susretanje moguće, pa čak i potrebno, zbog čega ćemo se u nastavku fokusirati na konkretnu situaciju korišćenja digitalnih tehnologija u vrtiću.

Metodološki okvir

Proučavanje pitanja upotrebe digitalnih tehnologija u ovom radu utemeljujemo na pristupu koji Džekson i Mezei (Jackson & Mazzei, 2012) nazivaju „misлити s teorijom“. Izabrani pristup ne karakteriše primenjivanje određenog metoda prema unapred poznatim obrascima, već spremnost da se pozajme i rekonfigurišu koncepti, da se razviju kreativni pristupi problematici koja se proučava tako da se uvaži nepredvidivost i razvojnost procesa razmišljanja (sa) (Jackson & Mazzei, 2012). Argumentaciju za oslanjanje na ovaj pristup nalazimo u njegovoj primerenosti i otvorenosti za posthumanistička dekonstruisanja i repozicioniranja koncepta „humanog“, te „postajanja u svetu“ i „sa svetom“ kroz proces obrazovanja. To je značajno jer se omogućava izmeštanje upotrebe digitalnih tehnologija u obrazovanju iz dominantnih okvira njihovog razumevanja samo kao sredstava podređenih unapred zamišljenoj svrsi. S obzirom na to da ne postoji ustaljena forma po kojoj se „misli s teorijom“ (Jackson & Mazzei, 2012) svesni smo da su dometi ovog rada ograničeni na interpretacije autora rada i onih autora čije uvide koristi da argumentuje razmišljanja o digitalnim tehnologijama u predškolskom vaspitanju i obrazovanju. Iz tog razloga nalaze ovog istraživanja ne treba sagledavati kao „istine o fenomenu“, već kao jedan od načina da se razume fenomen i njegova urođenost u kontekst(e), a koji je podložan preispitivanju, kako u procesu pisanja, tako i mimo njega.

Pravac kretanja: susret s digitalnim tehnologijama u vrtiću

Boraveći nekoliko meseci u vrtiću za potrebe izrade doktorske disertacije, primetila sam da su pojedine situacije korišćenja digitalnih tehnologija izlazile izvan granica poststrukturalističkog teorijsko-vrednosnog okvira na kom sam zasnovala svoje istraživanje. Kao istraživača to me je provociralo, tačnije, činilo je da osećam izvesnu nelagodu u susretu s predmetom svog istraživanja. Prepoznala sam da nemam nužno kontrolu nad onim što će proizaći iz susreta s digitalnim, te da kao istraživač ne moram stavljati sebe u „mesijansku poziciju“ – onog koji spasava svet i/ili otkriva „velike“ istine o njemu, već da otvorim svoja promišljanja za drugačije susrete s decom i digitalnim tehnologijama. Istovremeno, osećala sam potrebu da tome kritički pristupim jer prostor koji posthumanizam otvara za digitalne tehnologije u vrtiću nije dovoljno istražen, a može biti i jeste predmet opravdanih strepnji i rasprava. Svakodnevnica vrtića mi je pokazala da digitalne tehnologije po sebi nisu fokus niti jedne situacije u vrtiću, one se zapravo upliću u smisao koji se izgrađuje. Primetila sam da ono što decu „čudi“ u njihovom istraživanju jesu životinje. Deca su vrlo brzo počela da me uključuju u pomenutu potragu – vodila su me u obilaske dvorišta i upućivala na mesta gde su nalazili životinje u projektu koji su razvijali s vaspitačem, donosila su mi životinje (puževe, mušice, različite tvrdokrilce i druge) kako bih osetila njihovo kretanje po ruci, zajedno smo crtali životinje koje nismo pronalazili u dvorištu i tome slično.

Maj je bio mesec traženja puževa, jer je u tom periodu bilo puno padavina. Međutim, posle određenog vremena intenzivnog bavljenja puževima, upali smo u izvesnu rutinu, delovalo je kao da je svaki dan isti, a da se smisao s ostalim životinjama negde sakrio od kiše. Tražeći druge životinje s decom, jačao je osećaj da sam donekle zaboravila na ono čime se bavim u svojoj disertaciji. Međutim, već prvi nekišni dan upleo je novi smisao u potragu, kako za životinjama tako i za načinima korišćenja digitalnih tehnologija. Povod da u potragu uključimo digitalne tehnologije bilo je dečje zamišljanje bazena punog kišnice kao prostora u kom mogu da žive životinje koje su karakteristične za neke druge zemlje i kontinente. To me je navelo na razmišljanje kako bih mogla da dovedem životinje uprkos kiši ili daljini, a podržim smisao koji izranja iz susreta. Upotreba Gugl alata koji prikazuje 3D modele životinja desila se slučajno, kao način da podržim zamišljanje dece i njihovo promišljanje opasnosti susreta s pojedinim životinjama. Ovaj alat, osim prikaza 3D modela, poseduje karakteristike proširene realnosti (eng. augmented reality, AR) jer pruža i projekciju modela životinje u realni prostor. Vrlo je jednostavan za korišćenje jer zahteva samo da ukucate naziv životinje u Gugl pretragu na mobilnom telefonu (na primer, ukucate termin „žirafa“ i kliknete opciju „traži“ na osnovu čega dobijete ključne informacije i fotografije o žirafi, mogućnost da čujete zvuke koje proizvodi, te opciju za 3D prikaz modela i drugo). U nastavku je opisana situacija „Šta iskače iz telefona?“ koja je pronikla drugačiji smisao u vezi sa upotrebom digitalnih tehnologija. Ona će biti podrška našem „razmišljanju sa“ posthumanističkim i poststrukturalističkim idejama i konceptima. Projekcije životinja koje je omogućio Gugl alat ne shvataju se kao objekti opisanog susreta, niti kao reprezentacije onoga što se tada desilo u vremenu i prostoru. Naime, one nisu način da se dublje zagledamo u ljudsko ili da dalje produbimo binarnost u sagledavanju odnosa subjekat–objekat, čovek–tehnologije, već se razumeju kao način da dovedemo u pitanje našu subjektivnost tako što ćemo vizuelno prikazati „...difraktivna angažovanja s fenomenom“ (Murriss & Peers, 2022: 334).

Šta iskače iz telefona?

Zbog kiše koja je danima padala, u dvorištu vrtića su se mogli naći samo puževi. Traganje za puževima je u jednom trenutku za decu postalo zamorna aktivnost. I sama sam se osećala „pokislo“, delovalo mi je kao da mi je nestalo ideja, kao da je istraživanje utihnilo. Međutim, zajednička lutanja po dvorištu koje je pomenuto traganje proizvodilo nisu nužno bila beznačajna i prazna. Grupa dece prilazi bazenu koji je napunjen kišnicom, okupirana dečakom iz druge grupe koji traga za nečim u vodi (izgleda kao da nešto lovi, žurno gazeći čizmama po vodi), i započinju razgovor.

Dečak M.: *Vidite, bazen izgleda kao bara. Zamislite da u njoj ima krokodila ili nekih drugih životinja, na primer, guštera. To bi bilo zabavno. Ali onda Marko ne bi smeo da bude u vodi.*

Grupa dece uzbuđeno uzvikuje: *Da!*

Dečak V. prilazi i vuče me za ruku: *Hajde uključi nam krokodila kao da je u bazenu! Kao juče kad smo videli zmiju (projektovanu).*

Istraživač: *Sad ću da proverim da li aplikacija može da projektuje krokodila u vodi.*

Dečaci se meškolje oko telefona, nestrpljivi da vide virtuelnu projekciju krokodila u svom dvorištu.

Istraživač: *Nažalost, nema krokodila, ali dajte mi predloge nekih drugih životinja, možda njih mogu projektovati.*

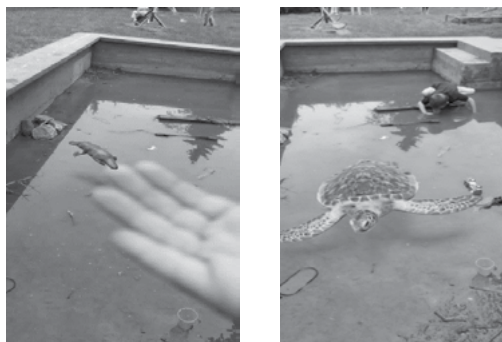
Dečak M. dodaje: *Hajde pokaži nam kljunara!*

Istraživač pretražuje i projektuje kljunara u bazen, a deca pružaju ruke kako bi uhvatila životinju (Fotografija 1).

Deca uzvikuju: *Vau, gledajte imamo kljunara u dvorištu!*

Fotografija 1

Virtuelne projekcije kljunara i kornjače u dvorištu vrtića



Fotografisano 2023. godine. Izvor: arhiva istraživača.

Na uzvik, još nekoliko dece se noseći puževe u ruci pridružuje grupi zainteresovano za dešavanja u bazenu i oko njega.

Dečak V.: *Doći će kljunar do Marka! Pazi, Marko! (uzbuđenje i smeh, pruža ruku da zakloni druga i uzme kljunara).*

Grupa dece uzvikuje: *Spasao si Marka!*

Dečak V.: *Hajde, projektuj nam i kornjaču.*

Grupa dece uzvikuje: *Da, hajde da vidimo!*

Istraživač pretražuje i projektuje kornjaču (Fotografija 1).

Dečak M.: *Hajde sada projektuj kengura, ovde na pesku (pokazuje rukom na mesto pored bazena gde želi da istraživač projektuje kengura). On živi u Australiji, voli pesak.*

Dečak V. uskače u kadar i govori kroz smeh: *Je l' kengur skočio na mene? (Fotografija 2).*

Grupa dece se okuplja oko telefona, posmatraju svog druga i uzvikuju: *Jeste! Veći je mnogo od tebe, vidi se samo tvoja noga! Smešni ste!*

Dečak M.: *Hajde, Vojo, pomeri se da pomazim kengura (Fotografija 2).*

Dečak V.: *Ne smetam ti, slobodno ga pomazi.*

Dečak M.: *Hajde, stavi mi kengura na glavu (smeh).*

Istraživač: *Prevelik je kengur, izlazi iz okvira kamere ako ga postavim na tvoju glavu.*

Dečak M.: *Je l' to znači da će da iskoči iz telefona? (smeh).*

Ostala deca se smeju, a ja sam ostala pod utiskom ovog pitanja.

Devojčica S. *dobacuje: Koliko životinja imamo u dvorištu, i puževe i životinje iz telefona!*

Fotografija 2

Virtuelne projekcije kengura i orla u dvorištu vrtića



Fotografisano 2023. godine. Izvor: arhiva istraživača.

Istraživač: *Nažalost, neće iskočiti iz telefona iako bi bilo super da može. Ali ako želiš da projektujem neku životinju na tvoju glavu, možda to može da bude neka ptica? Imaš li ideju koja?*

Dečak M.: *Može! Hajde projektuj orla ili tako nešto. I napravi sliku, molim te, da možemo da vidimo.*

Dečak V.: *Ja ću da ga poljubim u letu (smeh).*

Dečaci staju ispred kamere telefona i nameštaju se.

Istraživač: *Spremni?*

Dečaci: *Da! Slikaj! (Fotografija 2).*

Okupljaju se oko telefona da bi videli fotografiju.

Deca (uzbuđeno): *Dobra je slika! Hajde ponovo, moramo da vidimo sve životinje i da ih do-dirnemo!*

Opisana situacija uputila je na nekoliko značajnih uvida. Prvo, da smisao zahteva bliskost (koja se ne ostvaruje samo sa ljudima). Kao što vidimo u nekoliko navrata, bez obzira na činjenicu što je reč o susretima s virtuelnim projekcijama, deca traže načine da ostvare bliskost sa životinjama (na primer, pokušavaju da drže kljunara ili da pomaze kengura). Istovremeno, ne zanemaruju razvijanje bliskosti sa svojim vršnjacima (na primer, dečak brine za svog druga u bazenu koji bi mogao da bude izložen opasnosti da su umesto pro-

jekcija u bazenu prave životinje). Drugo, pomenuta bliskost ostvaruje se kroz intraakcije, jer virtuelne projekcije „nama nešto čine i mi činimo njima“. To zahteva drugačiju osetljivost za ono što se dešava oko nas i u nama, što je u primeru приметно u delu razgovora u kom dečak otvara prostor za moguće iskakanje kengura iz telefona ili zajedničkog skoka. Zapravo, otvara se jedna drugačija potreba za dolaženjem u susret koji se na drugačiji način materijalizuje. Treće, problem s ovim primerom jeste što je ostao samo slučajnost, ostavljajući za sobom pitanje šta je to što nam nedostaje ili nas koči u promišljanju sa i o digitalnim tehnologijama.

Nismo mogli da planiramo niti da predvidimo da bi bazen pun kišnice mogao da postane „sidro“ koje bi „probilo“ novi, nedovršeni smisao. Pomenuti smisao nije nešto što se voljno izgradilo, zapravo više je stvar deljenog osećaja koji se ustanovljava u relacijama (Purešević & Mitranić, 2023) naših činjenja i otelovljenja (Murriss, 2016). Dakle, nije reč o značenju kao takvom, već o značenju koje se materijalizuje (eng. meaning that matters) (Mazzarella, 2017). Imajući to u vidu, možemo da kažemo da slučajnosti (kakva je prethodno opisana situacija) zahtevaju poigravanja s granicama, vremenom, ulogama i pozicijama iz kojih istupamo, uzrocima i posledicama našeg delanja i tome slično. Zbog toga ćemo na kraju ovog rada razmotriti pedagoške implikacije razmišljanja i susretanja s digitalnim tehnologijama u vrtiću, kao i dileme koje ne smemo da zanemarimo kada upotrebu digitalnih tehnologija sagledavamo iz posthumanističkih okvira.

Trajektorija: šta digitalne tehnologije u predškolskom vaspitanju i obrazovanju mogu postati

Kako Delez i Gatari ističu, ključno pitanje filozofije nije „šta jeste“, već šta „može postati“ (Holland, 2013: 350, prema Lentres, 2016: 284). Otvaranjem ovog pitanja pomenuti autori žele da upute na „ontološki preokret“ kojim se zagovara razumevanje života, ne kao statičnog, već kao procesa kontinuirane promene, odvijanja, pokreta i preokreta. To znači da oni koji su u intraakciji ili koji postaju u mešavinama ne imitiraju, već se kontinuirano menjaju, prožimaju, postaju ne samo drugačiji, nego i drugi (eng. becoming other) (Lenters, 2016). Ovim pitanjem želimo da uputimo na određene pedagoške implikacije koje proizilaze iz pozicioniranja u posthumane okvire. Uvažavanje neočekivanog u procesu postajanja predstavlja važno polazište za obrazovanje jer otvara prostor za građenje drugačijeg kvaliteta odnosa, u kojima se smisao izgrađuje ne kao stvar lične (ljudske) odluke, već situaciono (svih onih koji u njoj učestvuju). Kao što smo mogli da vidimo iz opisane situacije, bliskost s virtuelnim projekcijama životinja nagovestila je kako se odgovornost za drugog izgrađuje kroz zajedničko istraživanje čak i onda kada nema neposrednog kontakta. Na taj način se poststrukturalistička ideja o zajedničkom učenju i učešću dalje otvara za bliskost i brigu koje, iako ljudski kapaciteti, treba da uvažavaju i mnoge druge. Kada o upotrebi digitalnih tehnologija govorimo kao o kulturi koja je utemeljena na smislu, svrsishodnosti i kritičkom odnosu, onda možemo da kažemo da su posthumanističke ideje upletene u situaciju susretanja s digitalnim tehnologijama u vrtiću otvorile

prostor za promišljanje o tome kako možemo da podržimo građenje bliskosti s drugim(a) (koji nisu nužno ljudi) i osetljivost za drugačije (za doživljaj s projekcijama). Dakle, kako možemo da gradimo odgovornost i sposobnost da odgovorimo kroz fino podešavanje u kom se prepliću bliskost i osetljivost. To zahteva, posebno od vaspitača i istraživača, da učimo da razmišljamo „dok smo u pokretu“, takoreći, da tretiramo svoja „razmišljanja“ kao privremene rezultate u okviru procesa postajanja koji traje. Dakle, jedan od preokreta koji moramo da načinimo jeste da se udaljimo od ideje da svemu dajemo objašnjenje koje služi kao reprezentacija „stvari“ koje se mogu identifikovati i imenovati (Shotter, 2013: 33-34) i da se približimo onome što Barad (Barad, 2007) naziva direktnim materijalnim angažovanjem sa svetom. Učiniti ovo nije nimalo lako, posebno kada je reč o susretima s digitalnim tehnologijama i specifičnostima takvog angažovanja sa svetom, što je pokazala i opisana situacija iz vrtića. Posebno želimo da naglasimo da takvo angažovanje ne treba tumačiti kao podsticaj opremanju vrtića robotima, niti kao afirmisanje stava da iskustvo upotrebe digitalnih tehnologija bude ključno i jedino iskustvo u vrtiću. To bi bilo suprotno stavu autora i upućivalo na suštinsko nerazumevanje poststrukturalističkih i posthumanističkih ideja i koncepata.

Naime, kada mislimo sa i u upotrebi digitalnih tehnologija u predškolskom vaspitanju i obrazovanju, ne smemo da zaboravimo da čak i oni koji svoja razmišljanja utemeljuju na posthumanizmu izražavaju dilemu u pogledu toga da li će bliski susreti sa digitalnim tehnologijama biti ispunjavajući ili da će podržati stvaranje pravednijeg sveta: „da li će Fejsbuk, Instagram, Tviter, Tik-tok, Snepčet i druge forme društvenih mreža postati prostori koji podržavaju glas kolektivnog detinjstva, u kojima će postojati deljeno pripadanje i odgovornost kao zajednička sposobnost da odgovorimo na ono što se dešava u svetu“ (Malone et al., 2020: 134). Osim toga, izlišno je misliti da je „beg“ od antropocentrizma (pozicioniranja čoveka u centar sveta i obrazovanja) samo naš izbor ili da će konstrukcije o ljudskom biti izbrisane ili prosto zamenjene nekim drugim konstrukcijama (Mitranić Marinković & Krstić, 2024). Zapravo, možemo da se izgubimo u drugoj krajnosti koja instrumentalizuje čoveka u odnosu na digitalne tehnologije. Na kraju, ne smemo da zaboravimo činjenicu da obrazujemo ljude, kao i da je predškolsko vaspitanje i obrazovanje etička praksa, što zahteva da i upotrebu digitalnih tehnologija razvijamo kao takvu. Ono što možemo jeste da prepoznamo da je (predškolsko) vaspitanje i obrazovanje u procesu postajanja koje je i humano i posthumano (Mitranić Marinković & Krstić, 2024), te da zahteva transformisanje koje je usmereno na uvažavanje, redefinisavanje, osetljivost, a ne na zaboravljanje i odbacivanje nekoga ili nečega. U tom redefinisavanju neke granice ipak moraju da se uvaže, jer bismo bili u riziku da obrazovanje prepustimo potpunoj slučajnosti. Zato situaciju koju smo opisali u radu treba razumeti kao nagoveštaj za nešto što se dalje mora istraživati. Briga je ljudski kapacitet, zbog čega ne iznenađuje kolektivna anksioznost u pogledu sadašnjosti i budućnosti u kojoj roboti tu sposobnost i osećanje „oduzimaju“ ljudima (DeFalco, 2020). Zbog toga se prema posthumanim razmatranjima relacija dece i odraslih sa svetom mora odnositi s određenom rezervom, posebno kada se otvori pitanje upotrebe digitalnih tehnologija u predškolskom vaspitanju i obrazovanju.

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Immersed in the Realm of Possibility: An Encounter with Digital Technologies in Early Childhood Education¹

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Abstract

In the complex and multifaceted world we live in, contemporary theories promote education as a space for encounters and building of different, affirmative, and constructive relationships. In this paper, we start from the question of what and whom we are educating in the current moment, examining these through poststructuralist and posthumanist ideas and concepts, along with an example of an encounter with digital technologies in early childhood education. In this way, we aim to explore the outlines of early childhood education that materially and discursively fall outside predefined (and humanistic) frameworks, as well as the potentials that remain overshadowed by dominant understandings and practices of using digital technologies. Posthumanist thinking about early childhood education as an encounter with beings, processes, things, and ideas, opens up a space for a different consideration of proximity, sensitivity, and unpredictability. Alongside meaningfulness, purposefulness, and a critical stance, these are the key values on which the use of digital technologies in early childhood education can be established. The research has shown that unexpected encounters with digital technologies in early childhood education can indicate a building capacity to respond collectively and be responsible. However, there is a strong need for critical positioning and further exploration of posthumanist ideas and concepts, especially in the light of understanding education as an ethical practice.

Keywords: posthumanism, poststructuralism, early childhood education, digital technologies.

Introduction

In this paper we aim to initiate a conversation about the current moment we are living in and the outline of posthuman education weaving through it. This is referred to as

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“a moment” because the interest in the posthuman arises (unjustifiably) as a response to a certain, often technological change, although it would be more meaningful to talk about it as a co-existence in which it is difficult to clearly draw a line where the human begins and the technological ends, and vice versa. Another reason for calling it “a moment” has been found in the understanding of posthumanism as a non-uniform philosophy (Miah, 2008), which refers to the importance of looking at the micro-plan, the situational, that is, the coincidences and possibilities in education (Hackett et al., 2020). This is a significant insight for all those engaged in the field of education because it represents an invitation to reconsider once again the rooted need to place education in predefined, recognizable frameworks and to position its participants as final and unchanging, or at least changeable in relation to a certain “norm” (for example, an adult). Considering the use of digital technologies in education, this previously mentioned uniformity is noticeable in the persistence of a developmentally appropriate perspective, i.e. looking at the use of digital technologies through the possible effects (positive and negative) on the child’s development and learning (Parette et al., 2010). Historically, there was, and still is, a pronounced tendency to establish early childhood education on the values of individualism, autonomy and personal agency. This tendency is particularly expressed in neoliberal efforts to reform education, and is reflected in the advocacy of learning that is guided by the conscious intentions of the individual, therefore resting on his/her autonomy, personal choice, efficiency (Duhn, 2015: 921). Given that “the discourse of effects” predominates within academic circles, it is not unexpected that there is a persistent emphasis on investigating the effects and formulating recommendations regarding the time and modes of digital technologies use, as a means to safeguard children from associated risks and dangers. Such positioning puts an emphasis on digital literacy as an anticipated outcome of the learning and development process, serving as a preparation for societal engagement, which is evaluated through the acquisition of a specific set of skills and behaviors.

Without the intention to affirm posthumanism as a necessary change or the sole perspective within education which has questioned the above-mentioned tendency, we want to reconsider the many possibilities it opens for conceptualizing the use of digital technologies in early childhood education as a culture based on authentic and imminent relationships, rather than on developing individual skills and behaviors. Thinking in terms of poststructuralist and posthumanist ideas and concepts, in this research paper we will consider what is different and new that posthumanism brings to the field of early childhood education concerning the use of digital technologies, aware of many limitations, problems and criticism that can be directed at this perspective. Acknowledging the particulars of our chosen theoretical starting point, especially non-uniformity, this research paper is, apart from the introduction and methodological framework, structured through imagined directions and trajectory (path) of thinking:

- *Direction of Movement: Liberating Early Childhood Education* – we are referring to posthumanist ideas and concepts that have opened up space for a different perspective regarding the use of digital technologies, especially in relation to the poststructuralist understanding of the use of digital technologies as a specific culture.

- *Direction of Movement: An Encounter with Digital Technologies in Kindergarten* – we want to “intertwine” poststructuralist and posthumanist premises, presented within the previous “direction of liberation”, in thinking with a concrete example of one encounter with digital technologies in the kindergarten.
- *Trajectory: What Digital Technologies Can Become in Early Childhood Education* – we are reconsidering the pedagogical implications of thinking and encountering digital technologies in early childhood education, taking necessary precautions when choosing posthumanism as a theoretical starting point.

Direction of Movement: Liberating Early Childhood Education

Throughout history, education has been labeled the “practice of humanization”, specifically, the practice which enables us to become humans. However, this understanding was based on a certain ideology which only recognized people, especially of the white race, who belonged to “the wealthy”, leaving out all those who do not fit into the “universal mold” (Snaza, 2013). In early childhood education this “structuring” and “categorization” was manifested in representations of the child as a being in the process of development – vulnerable, immature, irrational and “on the way to adulthood”. The adult, understood as mature, rational, independent, the one who possesses self-control and universal knowledge, served as the “norm” according to which the child was valued. Consequently, the child becomes marginalized, the property and responsibility of an adult. Childhood is understood as a certain period of life (chronologically speaking) during which the child, with the help of adults, progressively moves towards independence, autonomy and rationality (adulthood) – like an “... animal that needs to be tamed” (Murrin, 2018: 57). The liberation of early childhood education from pre-defined patterns and Cartesian binaries (such as individual-society, child-adult, nature-culture, etc.) was initiated by theorists and authors inclined to poststructuralism, who questioned the hierarchical positions and power relations, the understanding of early childhood education as a technical strategy which changes based on objective knowledge and truths, the understanding of the curriculum as a finished model that should be implemented as is in practice, etc. (Pavlović Breneselović & Krnjaja, 2014). The following poststructuralist insights are significant for our reconsideration of the use of digital technologies in early childhood education:

- Subjectivity is understood as a collective creation that arises within a network, i.e. one that goes from “individual thought” (lat. cogito – I think) to “collective thought” (lat. cogitamus – we think) (Lévy, 2005: 191).
- A child is understood as a unique being who is an equal participant in the educational process, competent to communicate, construct, negotiate, and co-create knowledge and meanings with peers and adults, through diverse learning opportunities and experiences in which they authentically engage (Miškeljin, 2022).
- An adult, especially a teacher, is understood as a co-learner and participant in the educational process, ready to learn together with children and other adults

(for example, colleagues, family members, the local and wider community) attentive to the experiences and perspective of a child, hence competent to support its expression and shared understanding in various ways and on various occasions (Krnjaja, 2010; Lazarević, 2023; Pavlović Breneselović, 2012).

- Digital technologies are understood as cultural tools situated in a complex network of practices, relationships and other tools which are inextricably intertwined in education. In early childhood education, they are positioned as one of the many ways in which different perspectives are heard and made visible, that is, to support the construction of meaning through the process of joint learning and participation of children and adults. Consequently, digital technologies cannot be understood as value-neutral means, nor can their potential be seen outside of human action and the different contexts in which they are immersed. What is insisted upon is building a culture of using digital technologies as a critical and ethical practice based on meaning and purpose, negotiated and built through many relationships between children and adults (Johnston, 2019; Nikolić, 2020; Pavlović Breneselović, 2021).
- Learning does not only happen in pre-planned, but also in authentic situations that happen in kindergarten (Krnjaja & Pavlović Breneselović, 2022; Miškeljin, 2022).
- The boundaries between “digital” and “real” are not important to children, because they function seamlessly in their intertwining (Bonilauri & Tedeschi, 2019).
- Early childhood education is understood as a complex and dynamic system that contains many “truths” and ways of thinking, in which numerous participants are transformed through mutual interactions (Pavlović Breneselović & Krnjaja, 2014).

Starting from these poststructuralist reflections, which have led to an important shift in the appreciation of the dynamism and complexity of education, basing them on authentic human relationships as the core of this process, posthumanism displaced education more radically from the humanistic framework. As a term, posthumanism draws together diverse perspectives, especially those that come “after the human”, that is, after the focus on the human and the misconceptions related to it (Ferrando, 2014). For example, Snaza (2013) acknowledges in posthumanism a way to appreciate the complexity of education and its displacement from predefined frameworks through the concept of “bewildering education”. He speaks of education as one that “does not know where it is headed”, that is, he gives up on defining it and subordinating it to pre-established goals. Understood in this way, education is not aimed at acquiring knowledge and developing skills, but building responsible relationships with the environment. By focusing on the development of responsible relationships, the understanding of education participants as isolated and self-functioning elements, solely concerned with the human, is transcended. For example, Fawns (2022: 713-714) establishes his thoughts on “entangled pedagogy” which affirms the understanding of the educational process as a complex intertwining of numerous actors that shape each other. Some other authors (for example, Malone et al., 2020: 110) talk about “posthuman pedagogies”, striving to

highlight the specificity of educational practices through consideration of the possibility of “learning through” shared ways of knowing, being and becoming in the world and with the world. In the literature the specificity of the mentioned relations is referred to as intraactions, and unlike interactions, they are based on the understanding that no single thing or process exists by itself, rather always and only in relation to the world (Barad, 2003; 2007; Shotter, 2013). It is a particularly significant perspective for our considerations because it is based on the assumption that learning requires sensitivity to the dynamics of the world and openness to what is “yet to become” (Matos Lins, 2021). Developing this kind of sensitivity requires being attuned to the micro-moments and coincidences in which learning happens, actually “living the curriculum” rather than planning it (Duobliene & Vaitekaitis, 2021). Moving away from the modernist perspective and ethics which recognized only humans, made it possible for early childhood education to be understood as a process of joint search for what it means to live with and through relations with the world (human and non-human, material and virtual, potential and real). In this way, everything that Western humanistic philosophy contested is acknowledged (non-human, non-hegemonic, autochthonous and similar), therefore the diverse contexts and various forms of knowledge are recognized (Snaza et al., 2014). As Braidotti (2013/2016: 41) points out, “I take the posthuman predicament as an opportunity to empower the pursuit of alternative schemes of thought, knowledge and self-representation. The posthuman condition urges us to think critically and creatively about who and what we are actually in the process of becoming”, that is, who we are and with whom in the education process.

Instead of people, posthumanism places relationships, understood as intraactions, at the center of the educational process (Ceder, 2019; Duobliene & Vaitekaitis, 2021). In the context of intertwining with digital technologies, such considerations open up an important question: “what happens when our adult and human-centric filters prevent us from ever really opening up to children’s relational entanglements with and in their worlds?” (Malone et al., 2020: 207), i.e. what continually eludes our comprehension is the necessity of recognizing and appreciating the complexities within which children grow up and education unfolds. What particularly reflects the value of the previously raised questions is the understanding that each participant in the assemblage (man, machine, animal or someone/something else) is an actor or actant (Latour, 2005), hence, they have the power to affect and be affected in a web of complex relationships. As posthumanists question the deep-rooted need for emphasizing individual autonomy, conscious action and goal-directed intention, and mark it as an inadequate conceptual framework to answer the many challenges of growing up in the contemporary world (Duhn, 2015), we recognize that the child and the teacher skilfully “avoid” defining and molding. They do not exist apart from the relationships they establish and build with the world, therefore in the broadest sense they can be labeled as “more-than-human” (Murriss, 2020; Murriss & Osgood, 2022; Tesar & Arndt, 2020). Accordingly, complex becomings are recognized and acknowledged, which is why the Enlightenment determinant “I” as a “mold” in which human subjectivity is placed must be questioned and changed (Taylor, 2016). The alternative subjectivity that is aimed to be affirmed can be defined as “nomadic”, meaning it

is not fixed or immutable, and therefore cannot be precisely located geographically, historically, ethnically, or class-wise. In this regard, the focus shifts from the subject as a substance to the subject in process, which necessarily entails consideration of the contradictions that may manifest within that process (Murris, 2016: 89). This kind of subjectivity is significant for our reflections concerning the complex interactions with digital technologies in early childhood education, because it opens a space for close encounters with these tools as coincidences through which not only children and adults, but also digital technologies are becoming and changing. Thus, those who participate in education continuously borrow from each other what they are “missing” (Lee, 2001). For example, digital technologies can be the “extended memory” of human beings, preserving what they do not have to or cannot remember. At the same time, through this kind of use, technology achieves its function and agency. By referring to the dynamic connections which exist between humans and the world, the concept of a liberal humanist subject which dominates and controls the world is abandoned. Thus, the human is seen as part of a world in which the division of “an inert body” from “a disembodied subjectivity” is surpassed. This conceptualization of subjectivity presupposes that, as long as we understand people as autonomous subjects with clear boundaries, the relationship between human and digital technologies will be reduced and divided into the tangibility of real life, on the one hand, and the illusion of virtual reality, on the other (Hayles, 1999). Furthermore, it becomes evident that current knowledge and skills are not sufficient preparation for the future. According to Gibbons (2015), education should empower for the unpredictable, whether it be in the present or in the future. Developing such capacity entails, among other considerations, a continuous deliberation on the underlying assumptions that inform our engagement with technology, and also how we react to our environment understood as technological, and deal with different notions of technology.

Therefore, those who are engaged in the matters of early childhood education are required to move from the “comfortable” positions in which they work (Rautio, 2014), also the privileges, rights, values that they have (Lindgren & Sjöstrand Öhrfelt, 2019), and face the fears and challenges of decentring education from humanistic frameworks. It is emphasized that the above-mentioned concern is our reality (for example, implanting a pacemaker or expanding memory through the use of computers or smartphones), but also an important reminder that, when thinking about early childhood education, one must go beyond what is familiar and pleasant. Which is why cyborgs (a hybrid of machine and organism) cannot be understood only as science fiction but as a lived experience (Haraway, 2006). At the same time, with fear comes a certain relief, because posthumanism does not advocate for the complete rejection of the human, but rather its deconstruction in relation to the world (Stojković, 2024). Building on these understandings, we found a solid basis supporting the premise that the child and the experience of childhood may be viewed as integral components of many assemblages. However, these assemblages are not only digital, but encompass a variety of materialities that are inextricably intertwined with the human (see Hackett & Rautio, 2019; Rautio, 2013). Therefore, the child is understood as a “tangle of knots” in which the political, biological and social, digital and natural intertwine, consisting of concepts and material forces that are

inseparably connected. Each element of the mentioned “tangle of knots” is agentic, thus expanding the range of factors that contribute to the understanding, not only of the child, but also of what happens in the educational encounter. This requires the liberation of the adult from the position of individual subject who controls the educational process (leads, instructs, trains, socializes, protects) and those who participate in it, hence the recognition and appreciation of him as the one who is becoming with the world (Murris, 2020). Furthermore, this suggests that being and becoming a teacher has never been, and will never be an easy job. No matter what the technology “entangled” in the educational process is, it is difficult to replace the teacher’s role. Inherent in the established roles of both the child and the teacher, the “fellow travellers” relationship (Murris, 2016: 89) requires transcending the use of digital technologies reduced to the changed form of the content children are being taught. As some authors note (Kuby & Gutshall Rucker, 2020), it is necessary to dedicate time and space for intertwining with technologies without a specific academic goal in mind, therefore to be open to the meaning that emerges from these encounters. This approach is close to poststructuralist inclinations, which are aimed at building a culture established on a meaningful, purposeful, and critical use of digital technologies. However, posthumanism sheds light on a different segment of culture, meaning it can be understood as a relational and affective process, as a process of “becoming with” many (not only people), even as an event or “literacy in action” (Burnett, 2017; Collier, 2024; Lenters, 2016). Karen Barad (2013) describes this as an invitation to a joint journey, or as experimentation with the possibilities of telling different stories, stories that put the story-teller at risk, stories that point to a multitude of different abilities to respond to someone/something, at the same time being attentative to the materiality of imagining. In this sense, (digital) literacy represents a multidimensional construct, a process which assumes a specific relationship building through the use of digital technologies, rather than the development of individual and technical skills (Pavlović Breneselović, 2021). Thus, encounters with digital technologies must be understood as a responsible practice which is reflected in the ability of different participants (human and non-human) to respond (Murris & Peers, 2022: 334). The previously presented ideas and concepts raise the question of whether such encounters are possible, even necessary, which is why in the next section we will focus on the specific situation of using digital technologies in kindergarten.

Methodological Framework

Our research on the use of digital technologies was based on the approach which Jackson and Mazzei (2012) call “thinking with theory”. The selected approach is not defined by the adherence to a specific method following established patterns, rather by the openness to adopt and reconfigure concepts, fostering innovative strategies to address the research problem, thereby recognizing the unpredictability and evolution of the thinking (with) process (Jackson & Mazzei, 2012.). Within this approach, especially its appropriateness and openness, we found a solid base for a posthumanist deconstruction and repositioning of the concept of “human”, therefore, “becoming in” and “with

the world" through education. This insight is significant as it facilitates a repositioning of digital technologies in education, moving beyond the prevailing perspective which views them solely as tools subordinated to predetermined purposes. Given that there is no established form of "thinking with theory" (Jackson & Mazzei, 2012), we are aware that the scope of this paper is limited to the interpretations of the author of the paper and other authors whose insights are used to study digital technologies in early childhood education. For this reason, the findings of this research should not be seen as "truths about the phenomenon", but as one of the ways to understand the phenomenon and its immersion in the context(s), which is susceptible to re-examination, both in the writing process and beyond it.

Direction of Movement: An Encounter with Digital Technologies in Kindergarten

During many visits to the kindergarten, for the purposes of writing my doctoral dissertation, I noticed that certain situations involving the use of digital technologies surpassed the poststructuralist theoretical framework on which I had established my research. This posed a challenge to me as a researcher, or rather, it made me feel a certain discomfort regarding my research problem. I realized that I do not necessarily possess control over what will come out of the encounter with the digital. Therefore, I recognized that being a researcher does not mean being the one who saves the world and/or discovers the "big" truths about it ("messianic position"), but being open for different encounters and thinking with children and digital technologies. At the same time, I felt the need to approach this problem critically because the space that posthumanism opens for digital technologies in kindergarten has not been sufficiently explored, and it can be the subject of justified concerns and discussions. Daily experiences showed me that digital technologies "per se" are not the focus of any situation in the kindergarten. They are actually involved based on the meaning that is being built between many (human and non-human). What actually captivated children's curiosity in their explorations were animals. They very quickly began to involve me in these explorations – they took me on tours through the kindergarten backyard and showed me places where they had found animals in the project they were developing with their teacher, they brought me animals (snails, flies, various beetles and many others) so that I could feel their movement on my hand, we drew animals that we did not find in the backyard and so on.

May was the month in which we were looking for snails, because it would rain frequently. However, after a certain time of intensively engaging in the search for snails, we fell into a particular routine. It seemed as if every day was the same – the meaning was somewhere hidden from us and the rain with the other animals. This search with children strengthened the feeling that I had somewhat forgotten about what I was dealing with in my dissertation. However, the first non-rainy day brought a new meaning to the search, both for animals and the many ways of using digital technologies. The main reason to include digital technologies in the search was children's envisioning of a pool full of rain-water as a space where animals from all over the world can live. This led me to think how I

could bring those animals despite the rain or distance, and support the meaning that was emerging from the encounter. The utilization of the Google tool, displaying 3D models of animals, occurred spontaneously as a way to support children's imagination and their consideration of the dangers we can be exposed to in encounters with certain animals. This tool also has the characteristics of augmented reality (AR) because it provides a projection of the 3D model in real space. It is user-friendly because it only requires typing the name of the animal into Google search on the mobile phone (for example, typing the term "giraffe" and clicking on "search" gives key information and photos about this animal, the option to hear the sounds a giraffe makes, the option to display a 3D model, etc.). The following section of this paper describes the situation "What emerges from the phone?" which proposed a different meaning in relation to the use of digital technologies. This example from kindergarten supported our "thinking with" posthumanist and post-structuralist ideas and concepts. Animal projections created with the Google tool are not understood as objects of the described encounter, nor as representations of what had happened in time and space. In other words, they are not understood as a way to look deeper into the human or to further deepen the existing binaries (subject/object, human/technology etc.), but as a way to question our subjectivity by visually displaying the "...diffractive engagements with phenomena" (Murris & Peers, 2022: 334).

"What emerges from the phone?"

Due to the heavy rain, only snails can be found in the kindergarten backyard. At one point, the search becomes a tiring activity for the children, but also for myself. It seems as if I had run out of ideas, as if the research has stopped. However, the common wanderings through the backyard are not necessarily hopeless and empty. A group of children approaches the pool filled with rainwater, where a boy from another group is searching for something in the water (he appears to be hunting something, hurriedly splashing his boots in the water). They start a conversation.

Boy M: *The pool looks like a pond. Imagine that there are crocodiles or some other animals in it, for example lizards. That would be fun. But then Marko should not be in the water.*

The group of children shouts excitedly: *Yes!*

Boy V approaches and pulls my hand: *Let's see the crocodile in the pool! Like yesterday when we saw the snake (virtually projected).*

Researcher: *Let me check if the app can project a crocodile in the water.*

The boys are jostling around the phone, eager to see a virtual projection of a crocodile in their backyard.

Researcher: *Unfortunately there are no crocodiles, but give me some other animal suggestions, maybe I can project them in the backyard.*

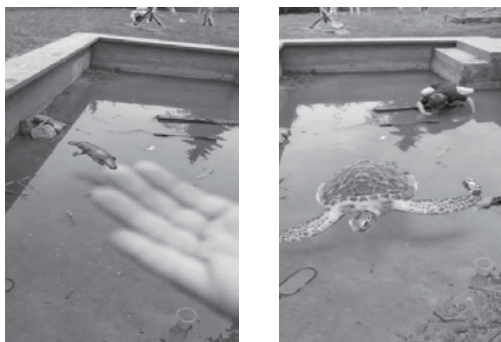
Boy M adds: *Show us the platypus!*

The researcher searches and projects the platypus into the pool, then the children reach out to catch the animal (Photo 1).

Children shout: *Wow, look, we have a platypus in the backyard!*

Photo 1

Virtual projections of a platypus and a turtle in the kindergarten yard



Photographed in 2023. Source: Researcher's archive.

At the shout, several other children, with snails in their hands, join the group interested in the events in and around the pool.

Boy V: *The platypus will come to Marko! Watch out Marko!* (excitement and laughter, extends his hand to shield his friend and take the platypus).

The group of children exclaims: *You saved Marko!*

Boy V: *Project a turtle too!*

The group of children exclaims: *Yes, let's see!*

The researcher projects a turtle (Photo 1).

Boy M: *Now project the kangaroo, here on the sand* (points with his hand to the spot by the pool where he wants the researcher to project the kangaroo). *It lives in Australia and loves sand.*

Boy V jumps into the frame and says with a laugh: *Did the kangaroo jump on me?* (Photo 2).

A group of children gather around the phone, looking at their friend and exclaiming: *Yes! It is much bigger than you, only your leg is visible! You are funny!*

Boy M: *Come on Voja, move so I can pet the kangaroo* (Photo 2).

Boy V: *I am not bothering you, feel free to pet him.*

Boy M: *Put the kangaroo on my head* (laughs).

Researcher: *The kangaroo is too big. If I put it on your head, it goes out of the camera frame.*

Boy M: *Does that mean he is going to jump out of the phone?* (laughter).

The other children laugh, but this question has made an impression on me.

Girl S adds: *We have so many animals in our backyard, snails and animals from the phone!*

Photo 2

Virtual projections of a kangaroo and an eagle in the kindergarten backyard



Photographed in 2023. Source: Researcher's archive.

Researcher: *Unfortunately it won't jump out of the phone although it would be cool if that happened. But if you want me to project a different animal on your head, maybe it could be a bird? Any idea which one?*

Boy M: *Yes! Project an eagle or something like that. And take a picture, please, so we can see.*

Boy V: *I am going to kiss the eagle while it's flying (laughs).*

The boys stand in front of the camera and get ready for the photo.

Researcher: *Ready?*

Boys: *Yes! Take the photo! (Photo 2).*

The children gather around the phone to see the photo.

Children (excited): *It is a good photo! Come on again, we have to see all the animals and interact with them!*

The situation described above led to several important insights. First, that meaning requires proximity (which is not achieved only with people). As we see on several occasions in this example, regardless of the fact that we are talking about encounters with virtual projections, children are looking for ways to achieve proximity with animals (for example, trying to hold a platypus or pet a kangaroo). At the same time, they do not neglect proximity with their peers (for example, a boy worries about his friend in the pool who could be exposed to danger if there were real animals instead of projections). Second, the aforementioned proximity is built through intraactions, hence virtual projections "are doing something to us just as we are doing something to them". This requires a different sensibility for what is happening around and within us, which is noticeable in the part of the conversation where a boy opens space for the possibility of a kangaroo jumping out of the phone or them jumping together. In fact, a different prerequisite arises from encountering which materializes in a distinct way. Thirdly, the issue with this example is that it remains merely a coincidence, raising the question of what is lacking or hindering our thinking with and about the encounters with digital technologies.

We could not have planned or foreseen that the pool full of rainwater could become the “anchor” which “broke through” a new, but unfinished meaning. This meaning is not something that has been consciously constructed, in fact, it is more a matter of a shared feeling that is established in many relationships (Purešević & Mitranić, 2023), actions and embodiments (Murrís, 2016). Therefore, the focus is not on meaning per se, but rather on the meaning that matters (Mazzarella, 2017). Bearing that in mind, we can say that coincidences (like the situation described above) require playing with boundaries, time, roles and positions, and the causes and consequences of our actions. In the concluding section of this paper, we will consider the pedagogical implications of thinking about and encountering digital technologies in kindergarden, as well as the dilemmas that we must not ignore when we base the use of digital technologies on posthumanism.

Trajectory: What Digital Technologies Can Become in Early Childhood Education

As Deleuze and Guattari point out, the key question of philosophy is not “what is” but “what can it become” (Holland, 2013: 350, as cited in Lentres, 2016: 284). By posing this question, the authors aim to highlight an “ontological turn” advocating for the understanding of life, not as a static, but as a dynamic process of continuous change, development, movement and shifts. This means that those who are in intraaction or who are becoming in assemblages, do not imitate, but continuously change, permeate, becoming not only different, but also other (Lenters, 2016). With this question in mind, we want to highlight certain pedagogical implications which arise from positioning the use of digital technologies within posthuman frameworks. Appreciation of the unexpected in the process of becoming is an important starting point for education, because it opens space for building a different quality of relationships, in which meaning is built not as a matter of personal (human) decision, but situationally (of all those who participate in it). As illustrated in the example described above, a proximity with the virtual projections of the animals indicated how responsibility for others is built through joint search, even when there is no direct contact. In this way, the poststructuralist idea of joint learning and participation further opens to proximity and care which, although human capacities, should acknowledge others. When discussing the use of digital technologies as a culture, it could be said that the posthumanist ideas have encouraged thinking about how we can support building proximity with other(s) (i.e. who are not necessarily human) and sensitivity for the different (i.e. experience with virtual projections). This leads us to the question: how can we build accountability and responsiveness through fine-tuning where proximity and sensitivity intertwine. Especially for teachers and researchers, this demands that we learn to think “in action”, to treat our “thinkings” as temporary results within an ongoing process. One of the turns we have to make is to move away from the idea of giving everything an explanation which serves as a representation of “things” (Shotter, 2013: 33-34), thus getting closer to what Barad (2007) calls “direct material engagement with the world”. Doing that is not easy, especially when it comes to digital technologies and the specifics of those encounters with the world, as described in the example from the kindergarden. We want to emphasize that such an encounter should not be interpreted as an incentive for equipping kindergartens

with robots, nor as an affirmative position that the experience of using digital technologies should be a key or sole experience in a kindergarten. That would be contrary to the author's position, but also indicate a fundamental misunderstanding of poststructuralist and post-humanist theories and concepts.

Particularly, when we think with and about the use of digital technologies in early childhood education, we must not forget that even those authors who establish their thoughts on posthumanism question whether encounters with technologies will be fulfilling or support the creation of a more just world: "Will Facebook, Instagram, Twitter, TikTok, Snapchat and other forms of social media become the sites for supporting a collective childhood voice, where a shared belonging and a shared response-ability ... will be played out?" (Malone et al., 2020: 134). Furthermore, it is unfounded to think that the "escape" from anthropocentrism (the positioning of humans at the center of the world and education) is only our choice or that some considerations about the human can be simply removed or replaced with others (Mitranic Marinkovic & Krstic, 2024). In fact, we can get lost in the other extreme, which instrumentalizes man in relation to digital technologies. Lastly, we must not forget that we are educating people, and that early childhood education is an ethical practice, which requires us to develop the use of digital technologies as such. What we can do is to recognize that (early childhood) education is in the process of becoming which is both human and posthuman (Mitranic Marinkovic & Krstic, 2024), and it requires a transformation which is aimed at acknowledging, developing sensibility, not at rejection of someone or something. In this redefining, some limits must still be acknowledged, because we would be at risk of leaving education to utter coincidence. Hence, the example from kindergarten we described in this research paper should be understood as "a hint" for something that must be further investigated. Caring is a human capacity, therefore, it is not surprising we are noticing a collective anxiety about the present and the future in which digital technologies "take away" this ability and feeling from people (DeFalco, 2020). This is why we need to question posthuman reconsiderations of many relations being built between and through the human and the world, especially when we raise the question of the use of digital technologies in early childhood education.

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