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## Challenges of the Future

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**213** VPLIV KRAJA BIVANJA IN IZOBRAZBE  
STARŠEV NA INTENZIVNOST  
INŠTRUKCIJ

*Evelina Perozzi, Andrej Raspor*

---

**234** OVERLAP BETWEEN LEAN  
PRODUCTION AND SCIENTIFIC  
MANAGEMENT

*Idriz Selimović, Mirko Markič*

---

**254** PATIENTS' VIEWS ON SELF-  
MANAGEMENT OF CHRONIC  
MUSCULOSKELETAL PAIN

*Barbka Huzjan, Ivana Hrvatin*

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# Vpliv kraja bivanja in izobrazbe staršev na intenzivnost inštrukcij

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## Povzetek:

**Raziskovalno vprašanje (RV):** V raziskavi smo se med drugim osredotočili na povezavo med prebivališčem in izobrazbo staršev otrok, ki obiskujejo inštrukcije ter njihovo intenzivnostjo. Za namene raziskave smo temu primerno oblikovali naslednje raziskovalno vprašanje: *Ali bivališče uporabnikov in izobrazba njihovih staršev vplivata na intenzivnost inštrukcij?«*

**Namen:** Poglavitni namen raziskave je bil ugotoviti povezavo med intenzivnostjo koriščenja inštrukcij v širši goriški regiji ter krajem bivanja in izobrazbo staršev. Osredotočili smo se na naravoslovne predmete (matematika, fizika, kemija) in en družboslovni predmet (tuj jezik).

**Metoda:** Anketirali smo osnovnošolce, dijake gimnazij, srednjih strokovnih in poklicnih šol, ter študente, vpisane v visokošolske študijske programe na Goriškem. Preko intervjuev z udeleženci inštrukcij in njihovimi starši smo kvantitativno raziskavo obogatili še z detailno vsebinsko analizo o koristi inštrukcij. Opravili smo še intervjue z učitelji fizike, kemije, matematike in angleščine, tako na osnovnošolskem, kot srednješolskem nivoju izobraževanja, in na podlagi tega presodili o nujnosti in priljubljenosti inštrukcij znotraj sistema formalnega izobraževanja. Pri raziskavi smo se poslužili metode opazovanja, pri kateri smo opazovali učence, ki obiskujejo inštrukturje in se poslužujejo inštrukcij. Raziskava je potekala v obdobju šolskega leta 2016/2017.

**Rezultati:** Na osnovi vseh predstavljenih raziskav se je izoblikovala naslednja ključna ugotovitev; Kraj bivanja in izobrazba staršev ne vplivata na intenzivnost inštrukcij.

**Organizacija:** Glede na ugotovitve, da se obseg inštrukcij povečuje in da so inštruiranci preveč usmerjeni v izboljšavo ocen in ne v boljše utrjevanje snovi, bi lahko ravnatelji in dekani šol izvedli določene spremembe pri podajanju učne vsebine, učencem, dijakom in študentom. Pri sami organizaciji inštrukcij je pomembno to da so neposredno povezane za utrjevanje snovi in ne samo, da so usmerjene v izboljšanje ocen, ki so pogoj za prehodnost in vpis na fakulteto.

**Družba:** Prispevek je pomemben z vidika učencev, učiteljev in tudi Ministrstva za izobraževanje pri prihodnjih reformah šolskega sistema. Raziskava daje osnove, saj bi širša raziskava na to temo lahko ponudila rešitve, ki bi omejile nastajajoči razdor med učenci in učitelji, saj je raziskava pokazala, da se je uporaba inštrukcij v zadnjem času povečala. Predvsem bi se tu morali zgledovati po državah, kjer je študij zasnovan tako, da ni potrebe po dodatnih inštrukcijah.

**Originalnost:** Gre za prvo tako celovito raziskavo na Goriškem in v Sloveniji nasploh. Vključeni so bili vsi nivoji šolanja. Od osnovne šole, srednje šole do fakultet. Predvsem pa se kaže njena originalnost, saj je iskala odgovore o vplivih kraja bivanja in izobrazbe staršev na same inštrukcije.

**Omejitve/nadaljnje raziskovanje:** Omejitev raziskave se kaže v tem, da smo raziskavo izvedli na Goriškem in da je bil vključen priložnostni vzorec, zato ugotovitev ne moremo prenašati na vse, saj vzorec ni uravnotežen. Na podlagi ugotovitev, bi bilo smiselno dopolniti metodologijo in izvesti raziskavo med celotno slovensko populacijo. Druga omejitev je v tem, da je bila izvedena pred COVID-19, saj se je med tem časom podajanje snovi in inštruiranje moralno prilagoditi novim razmeram.

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**Ključne besede:** inštrukcije, izobraževanje, individualizem, konformizem, motivacija, generacije, izobrazba staršev, lokacija bivanja staršev.

## 1 Uvod

Poleg nuklearne in razširjene družine, katere želja je, da bi otroka že v zgodnji fazi otroštva pripravila na samostojnost pri delu, izobraževanju in splošnem razvoju, saj mu bo to omogočilo vključenost v sodobno družbo, sodelujejo v tem procesu tudi prijatelji, okolje ter izobraževalne ustanove s svojimi pedagoškimi delavci. Otrok tako poleg znanja razvija, poglablja in pridobiva tudi življenjsko pomembne vrednote in norme. Ob formalnemu izobraževanju se v ta proces vedno bolj vključujejo tudi inštruktorji.

Izobraževanje postaja skupna naloga družine, širše družbe ter formalnih in neformalnih izobraževalnih ustanov in organizacij. Za doseganje uspehov v izobraževalnem sistemu in v življenju posameznika naplohol, je vseeno v prvi vrsti ključna lastna odgovornost pri pridobivanju znanj in aktivna udeležba v izobraževalnih procesih. V sled tega posamezniki iščejo razne oblike pomoči. Ena takšnih oblik so inštrukcije. Gre za plačljivo obliko nudjenja individualne učne pomoči pri šolskih predmetih in niso del formalnega šolskega sistema (Dedić, Jokić, Jurko, & Puzić, 2005). Inštruktorji imajo velik vpliv na inštruiranca, saj ga v procesu inštruiranja s svojim zgledom tudi vzugajajo.

Za usmeritev pri teoretičnem raziskovanju omenjenega področja so nam služile raziskava, ki jo izvaja OECD (OECD, 2018) in raziskave Marka Braya (Bray 2006, 2014, 2016, 2003). Raziskovanje je bilo kasneje nadgrajeno z lastno raziskavo (Perozzi, 2018), ki je bila izvedena v letu 2017 in je bila sestavljena iz dveh delov. V prispevku omenjamo tudi ugotovitve omenjene raziskave. Prvi del raziskave smo izvedli s terenskim anketiranjem učencev in učenk devetih razredov osnovnih šol, dijakinj in dijakov splošnih in poklicnih srednješolskih programov ter študentk in študentov fakultet, ki so v šolskem letu 2016/2017 delovale na območju goriške regije. Naslednji del raziskave je potekal med učitelji, zaposlenimi na osnovnih in srednjih šolah goriške regije, pri čemer smo uporabili polstrukturirane intervjuje.

Kljub nenehnim spremembam in posodobitvam šolskega sistema, je koristnikov inštrukcij tudi pri nas vedno več, kar sovpada s porastom individualizacije in zavesti o lastni odgovornosti za znanje in kakovost bivanja. Pri tem se njihov osnovni namen spreminja, saj postajajo orodje za ne le popravljanje nezadostnih ocen, pač pa za izboljšanje pozitivnih ter poglabljanje znanja izbranih vsebin, ki so koristniku nujni za doseganje nadaljnjih izobraževalnih ciljev.

## 2 Teoretična izhodišča

Inštrukcije se omenjajo že med zapisi o stari Grčiji (Gardner III, Nobel, Hessler, Yawn, & Heron, 2007), a so bile takrat reden del izobraževalnega procesa, in jasne razmejitve med izobraževanjem in inštrukcijami ni mogoče določiti. Izobraževanja so bili do vzpostavitve

javnega šolstva največkrat deležni le izbranci, zato je bilo število učencev na učitelja majhno, še posebej tam, kjer so izobraževali le plemiški stan (Joyal, Yardley, & McDougall, 2009). S spremembami izobraževalnih sistemov se je spremenjala tudi vloga in oblika inštrukcij in te postajajo vedno bolj razširjen dodatek k formalnemu izobraževanju, to pa predvsem v državah v tranziciji in razvoju, delno tudi pri nas.

## 2.1 Formalno izobraževanje in z izobraževanjem povezane učne težave

V Sloveniji je formalno izobraževanje javno in v pristojnosti države. Zaradi vsesplošne dostopnosti pogosto ni deležno ugleda, ki bi si ga zaslužilo, oz. se te dobrine ne ceni dovolj. Za uspešno aktivno življenje posameznika je pridobitev formalne izobrazbe ključna. Javno formalno izobraževanje je kolektivno, saj je njegov cilj formirati družbenokoristne državljanе, medtem ko individualno izobraževanje oblikuje značaj posameznika, razvija njegove sposobnosti samodiscipline in prepoznavanja lastnih sposobnosti in njihov razvoj (Pavitra, 2002). Slogan »na znanju temelječa družba« je direktno povezan s poglavitnimi nameni izobraževanja, kot so bili prvič zapisani v dokumentu Evropske komisije (1996). Slovenija je izvedla prenova izobraževalnega sistema in s prilagajanjem šolanja smernicam Lizbonske strategije in Evropske unije, prešla na devetletno osnovno šolanje. V srednješolsko izobraževanje je bil uveden dualni sistem, na terciarni stopnji pa se je izvedlo prehod na bolonjski sistem izobraževanja. Prenova slovenskega šolstva je potekala na več nivojih, tako na strukturnem, kot na vsebinskem, zasnovana in predstavljena pa je bila v Beli knjigi o izobraževanju (Zgaga, Pluško, Krek, Zdenko, & Marjanovič-Umek, 2004). Trenutni sistem vzgoje in izobraževanja pri nas se začenja s vrtčevsko predšolsko vzgojo in poteka preko osnovnošolske in srednješolske stopnje vse do doktorskega študija, izobraževanje pa poteka tako v javnih kot tudi v zasebnih vrtcih, šolah oziroma univerzah. Kvaliteta posameznih šol in njihova primerjava poteka z zunanjimi preverjanji izobraževalnih rezultatov, na primer s preverjanjem znanj ob zaključevanju triad na osnovnih šolah, srednješolski zaključni izpiti oziroma matura.

Skozi celoten proces šolanja se pojavljajo težave, povezane z učenjem. Pomembno je, da znamo te težave že zelo zgodaj prepoznati. Glavni cilji diagnostičnega ocenjevanja težav pri učenju so (Grašič idr., 2010):

- identificirati (velja za učenca/dijaka/študenta) splošna močna področja in šibkosti,
- ugotoviti aktualno raven učnega funkcioniranja in dosežkov,
- razložiti pomanjkanje napredka,
- identificirati vidike izvajanja, ki so značilni za določeno vrsto težav,
- identificirati specifična področja kompetentnosti,
- razumeti stil učenja in
- ugotoviti pokazatelje v kurikulumu, ki posameznika zanimajo ali motivirajo.

Večina učiteljev v osnovni šoli za učence s posebnimi potrebami, med katerimi je največ takšnih z izrazitimi specifičnimi učnimi težavami oziroma s primanjkljaji na posameznih

učnih področij z vidika storilnosti, o teh učencih navaja sledeče (Peček, Čuk, & Lesar, 2010):

- niso zmožni koncentracije,
- so površni, ne vztrajajo, so pri delu počasni in počasi dojemljivi,
- niso aktivni in iniciativni,
- imajo slabe delavne navade,
- med zaposlitvami se igrajo in klepetajo,
- niso razgledani,
- imajo nizke izobrazbene aspiracije.

Učne težave, opredeljene za nivo osnovnošolskega izobraževanja, uporabljajo pa se lahko tudi v srednjem izobraževanju, se razdelijo v pet osnovnih stopenj pomoči (Magajna, Čačinovič Vogrinčič, Kavkler, Pečjak, & Bregar Golobič, 2008):

- pomoč učitelja neposredno pri skupinskem ali nivojskem pouku, dopolnilnem pouku in v okviru programa podaljšanega bivanja,
- pomoč šolske svetovalne službe in/ali mobilne specialne pedagoške službe,
- dodatna individualna in/ali skupinska pomoč, ki jo lahko izvajajo specialni pedagogi, učitelji in svetovalni delavci,
- strokovno mnenje in pomoč zunanje ustanove,
- poseben program s prilagojeno izvedbo pouka in dodatno strokovno pomočjo.

Povezavo med formalnim izobraževanjem in inštrukcijami vidimo pri dopolnilnem pouku ali konzultacijah. Tam se lahko učitelji individualno posvetijo posamezniku, vendar pa v učnem programu predpisani čas za dopolnilne ure ne dopušča vedno poglobljenega dela.

## 2.2 Inštrukcije

Zakaj nastanejo inštrukcije in kaj z njimi pridobimo? Neformalno izobraževanje je vsaka namerna, organizirana in načrtovana oblika izobraževanja, ki se opravlja zunaj okvirov rednega formalnega šolskega sistema in ne poteka na konvencionalen način, ter naslavlja le posamezne ciljne skupine uporabnikov (Perozzi, 2018). Takšna oblika izobraževanja se lahko izvaja bodisi neposredno na delu, ali kot samostojna aktivnost posamezne ustanove ali civilnodružbene skupine, lahko pa nudi podporo formalnemu izobraževanju, pri čemer je njen namen poglabljanje in posodabljanje že obstoječega znanja. Inštrukcije na vseh nivojih formalnega šolanja sodijo med neformalne oblike izobraževanja .

V kolikor za definicijo inštrukcij povzamemo Dedića, ta z ostalimi avtorji definira inštrukcije kot »dodatev poučevanje šolskih predmetov v zameno za plačilo izven formalnega poučevanja, kjer pa je izvzeto izobraževanje izven šolskih dejavnosti, kot je šport ali učenje dodatnega tujega jezika« (Dedić idr., 2005). Obstajajo tudi druge opredelitve. Bray (1999) namesto pojma inštrukcij uporablja zvezo »izobraževanje v senci«, pri čemer poudarja, da so pri tej vrsti izobraževanja vsebine skladne tistim, ki jih uporabnikom podajajo formalne

izobraževalne ustanove. Načini in načela formalnega izobraževanja so jasno določeni, medtem ko pri inštrukcijah niso tako jasno opredeljeni (Bray, 2006). Ne nazadnje je lahko inštruiranec pri inštrukcijah fokusiran v le en problem (podrobno razjasnitev ali utrditev znanja določenih vsebin), pri čemer ne gre le za ponavljanje vsebin, ki jih ima ta v okviru formalnih učnih programov.

V tem kontekstu lahko inštrukcije ponujajo dodatno zasebno mentorstvo (inštruiranje) pri osvajanju in poglabljanju učnih vsebin, ki jih je podal formalni učni sistem. Brey navede tri osnovne pogoje: (1) zasebna oblika poučevanja za plačilo, (2) dodatno izobraževanje ob rednem šolanju in »izobraževanje v senci« (3) temeljiti morajo na primarnih predmetih formalnega izobraževanja (Bray, 2014).

Pri definiciji pojma inštrukcije je potrebno gledati tudi z vidika števila inštruirancev. Inštrukcije so lahko omejene zgolj na individualno poučevanje »ena na ena«, ki lahko vključuje tudi manjše skupine, lahko pa se jih v opredelitev vključi poučevanje večjih skupin, na primer hkratno predavanje večim inštruirancem v večjih predavalnicah. S pojavom različnih možnosti za delo od doma, se pojavljajo tudi t.i. spletnne (ang. *on-line*) inštrukcije, ki se jih vse pogosteje realizira in neposredno prenaša preko raznih socialnih omrežij (Ventura & Jang, 2010). Te večinoma potekajo v živo, kar omogoča neposredno delo, a se pogosto uporablja tudi video posnetke (Bray idr., 2016).

V kolikor se navežemo na še enega slovenskega avtorja, Kranjc (1979) inštrukcije ali »izobraževanje v senci« opredeli kot neformalno obliko poučevanja, ki poteka zunaj formalnega izobraževalnega procesa. Inštrukcije predstavljajo podporo formalnemu procesu in potekajo pretežno individualno ali v manjših skupinah, osnovane so na učni snovi, ki se jo obravnava v formalnem učnem načrtu. Ključni namen inštrukcij je pridobivanje znanja, ki je potrebno za uspešno izpolnjevanje načrta formalnega izobraževanja. Inštruktor, ki je lahko bodisi učitelj, starš, sorojenec, prijatelj ali kdo drug, mora biti pozoren, da pri delu uporablja pravilne učne postopke (Krajnc, 1979). Plačila ne opredeljuje kot pogoj za definicijo inštrukcij. Gre za utrditev znanja, ki je bilo pridobljeno v okviru rednih šolskih programov, s ciljem izboljšanja znanja ali ocene. V zadnjem času se pojavljajo težnje mlajših generacij po izobraževanju, da bi na ta način zadostili svoji individualnosti, tekmovalnosti, ambicioznosti, neučakanosti in materializmu, ki so zanje značilni, kar je zelo vplivalo na porast uporabe inštrukcij (Perozzi & Raspor, 2020).

Za potrebe te študije smo pojem inštrukcij definirali kot obliko poučevanja, ki poteka zunaj sistema formalnega izobraževanja, se izvaja proti plačilu in je osnovana izključno na šolskih predmetih. Izvaja jih inštruktor, ki je starejši od učenca in prevzema aktivno vlogo in odgovornost pri podajanju učne vsebine, preverjanju pomnjenja in razumevanja in preverjanju znanja na konkretnih primerih. Iz definicije sta izvzeti pomoč soudeležencev izobraževanja in članov družine. Skratka, z inštrukcijami si tisti, ki jih izvajajo bodisi popravljajo svoj ekonomski status, ali pa jih izvajajo kot svojo osnovno dejavnost. Velikokrat zelo dobro

poznaajo zahteve posameznega nosilca predmeta in zato lahko inštruirancu svetujejo, kaj je tisto, kar mu bo pomagalo izboljšati oceno.

### 2.3 Inštrukcije v sodobnem času

Inštrukcije niso nov pojav, kot smo predhodno že omenili. V članku *Researching Private Supplementary Tutoring* (Bray idr., 2016) avtorji navajajo, da lahko omembe mentorstva v literaturi najdemo že v prvi polovici 20. stoletja. Mauritius Foondun (Mauritius Ministry of Education and Science 1994, str. 488) omenja šolskega ravnatelja, ki je leta 1901 ocenil mentorstvo oziroma inštrukcije kot negativen pojav, ki ga sam ni bil sposoben preprečiti. Vodja Mavričijske kraljevske akademije se je pritožila (v Mauritius Ministry of Education and Science, 1994, str. 1-2), ker je dvanajst njenih delavnih kolegov ob rednem delu za dodatno plačilo ponujalo tudi do 33 ur zasebnega mentorstva (Bray idr., 2016). Iz tega je jasno, da prisotnost plačanih inštrukcij ni nov pojav in kot tak ni značilen zgolj za eno okolje.

Obseg inštrukcij, kot navaja Bray (2016), se od države do države razlikuje. Tako v Afriki intenzivnost inštrukcij raste. Uradna študija je pokazala, da je 81 % egiptovskih gospodinjstev plačevalo svojim otrokom inštrukcije na srednjih šolah, v osnovnih šolah je bil delež 50 % (Sobhy, 2012, str. 49). V Aziji, še posebej na Kitajskem, so inštrukcije že dolgo pomemben spremljevalec formalnega izobraževanja. Zanje je značilno, da inštrukcije, z namenom zviševanja svojega življenskega standarda, izvajajo učitelji, ki so sicer zaposleni v formalnem izobraževalnem sistemu. Zanimanje za inštrukcije vedno bolj narašča tudi v Indiji in Pakistanu. Tu jih poleg učiteljev nudijo tudi za ta namen ustanovljena specializirana podjetja. Na območju držav varšavskega pakta ter srednje in severne Azije se inštrukcij niso posluževali vse do uveljavitve tržnega gospodarstva, po razpadu Sovjetske Zveze. V južni Evropi, s Ciprom, Malto in Grčijo, se inštrukcij poslužujejo že desetletja in tam veljajo za običajen del srednješolskega izobraževanja. Tudi zahodna Evropa se ponaša z dolgo tradicijo mentorstva in inštrukcij. Te so se v večjem obsegu pričele pojavljati sočasno s porastom želje po povečanju podjetne konkurenčnosti, predvsem v kontekstu povečevanja delovne mobilnosti in kompetenc, in veljajo za pomemben del trženja znanja. S tem postajajo bolj in bolj družbeno sprejemljive (Bray idr., 2016) in posledično povpraševanje po teh storitvah raste.

V državah severne Evrope se beleži najnižja stopnja uporabe inštrukcij. Skandinavija prednjači v ohranitvi tradicije, ki se trudi ustrezno izpolnjevati zahteve in želje svojih učencev v sistemu javnega šolstva. Tam so dodatnih inštrukcij deležni le nekateri posamezniki, da lahko brez težav sledijo svojim vrstnikom, in se izvajajo v okviru javnega šolstva (Sahlberg, 2014), ter niso posebej plačljive. Finska slovi kot država, kjer se izobraževanje izvaja na način, da ob obveznem šolskem delu, ki je osnovan na enakosti, ni potrebe po dodatnih inštrukcijah. Slednje se potrjuje tudi v študiji OECD, kjer je razlika med najbolj in najmanj uspešnim učencem minimalna, v primerjavi z ostalimi državami (OECD, 2018). Ista študija ugotavlja, da to dosegajo v glavnem z etičnim usmerjanjem v izobraževanju, ki je bazirano na medsebojnem spoštovanju, zaupanju in pomoči vsakomur, ki je potreben, vse dokler jo

potrebuje (OECD, 2018). Otrok ne deli na boljše ali slabše, marveč se jih že v začetnih fazah izobraževanja spodbuja k samostojnemu učenju in iskanju ter razvijanju lastnih interesov (Morgan, 2014). Vsak je za nekaj dober in lahko postane v tem najboljši. Študij na visokih šolah tako nadaljuje kar 66 % dijakov. Raziskave opozarjajo še, da se finski otroci po svoji samooceni uvrščajo nekako med povprečje, dejansko pa so v vrhu lestvic po dosežkih (Škalič, 2016).

V Avstraliji, Kanadi, ZDA in Latinski Ameriki inštrukcije niso dosegle razsežnosti, kakršne so bile deležne v Aziji in južni in srednji Evropi. V Argentini in Braziliji pa se že kažejo očitni znaki razširjenosti inštrukcij (Bray idr., 2016).

## 2.4 Kje lahko iščemo vzroke za nastanek inštrukcij

Med temeljnimi vzvodi povečevanja povpraševanja po inštrukcijah Kassotakis in Verdis (Kassotakis & Verdis, 2013, str. 94) navajata: (1) povečevanje zanimanja za izobraževanje in (2) omejevanje prostih vpisnih mest na visokih šolah. Vzroki so pogosto politično-gospodarske narave. S spremembo oblasti v Grčiji so bolj levičarsko usmerjeni učitelji izgubili zaposlitev. Inštrukcije so jim zagotavljale preživetje.

Druge razloge za potrebo po inštrukcijah lahko iščemo tudi v nezadovoljstvu staršev s kakovostjo formalnega izobraževalnega sistema in njihovi želji ali želji njihovih otrok po boljših ocenah in posledično bolj kakovostni izobrazbi (Čakš, 2004). Na Finskem je na primer ocenjena stopnja zaupanja v kakovost šolskega sistema zelo visoka, kar 90 %, zato inštrukcij praktično nimajo (Škalič, 2016). Dodatno znanje pa ni edini motiv za obiskovanje inštrukcij, saj učenci ne iščejo samo znanja, kot smo tudi sami ugotovili, ampak lažjo pot do boljših ocen (Perozzi & Raspor, 2020).

Evropska unija si je zastavila cilj, da bi polovica prebivalstva med 25 in 45 letom do leta 2020 dosegla tercarno stopnjo izobrazbe, kar očitno povečuje interes za tercarno izobraževanje. Če se ozremo nekoliko v preteklost, je bilo vse do poznih sedemdesetih let izobraževanje nad srednješolsko stopnjo nedostopno za otroke iz manj premožnih družin. Takrat se je po srednji šoli na nadaljevalno šolanje na univerzah vpisalo le okoli 5 % vseh 18 letnikov. Modernizacija in pospešen tehnološki napredok v gospodarstvu ustvarjata potrebe po visoko izobraženih delavcih, ki bi povečevali produktivnost in zagotavljali konkurenčnost. Bolj izobraženim pa to vsaj v teoriji omogoča boljše zaposlitvene možnosti. V zadnjem času so se spremenile tudi kompetence, ki jih potrebujejo zaposleni. Predvsem gre tu za računalniška in druga znanja, povezana s uporabo modernih tehnologij. Rapuš Pavel in Stepišnik Perdih (Rapuš & Stepišnik Perdih, 2007) ugotovljata, da je eden izmed pomembnih dejavnikov ranljivosti, ki prispeva k naraščanju tveganja izključenosti, nizka stopnja izobrazbe. Novo revščino naj bi v prihodnje bolj določali primanjkljaji v izobrazbi, neznanje, nekvalificiranost oz. napačna kvalificiranost. Uporabniki storitve inštrukcij si ne želijo postati družbeni izobčenci, in jim te predstavljajo motivacijo in možnost za doseganje karseda dobrih rezultatov (Reddy, Lebani, & Davidson, 2003).

V primerjavi s formalnim ima izobraževanje z inštrukcijami navadno manj teoretskega dela in bolj poudarja prakso. Aktivnega sodelovanja udeležencev je več, vključeni so bolj raznoliki pristopi, samo učenje pa je bolj prilagojeno posamezniku. Razlage so bolj preproste, kot je to značilno pri podajanju znanja v sklopu formalnega šolanja, inštruiranec lahko takoj pridobi povratno informacijo o svojem delu, kar ga dodatno motivira in vzpodbuja k nadaljnemu delu. Inštruktor lahko nudi precej več individualne podpore in pomoči z uporabo preprostejšega besedišča, se sproti prilagaja in v proces vključuje različne metode dela, glede na inštruirančev odziv. Vse to pomaga pri učenju in pripomore k razreševanju učnih težav posameznika, ki jih lahko inštruktor zaznava in rešuje neposredno. S takim načinom dela inštruiranec lažje ponotranji znanja in razvije potrebno samokorekcijo. Njegovo znanje postaja aktivno in uporabno, kar izboljšuje samozavest in spodbuja razvoj pozitivnih osebnostnih lastnosti. Ni nezanemarljivo tudi to da imajo inštruiranci do inštrukturjev višja pričakovanja kot do svojih pedagoških delavcev v javnem šolstvu, saj prevladuje mnenje, da bi jim moral bolj individualen način dela omogočiti uspešno nadaljevanje formalnega izobraževanja (Bray & Kwok, 2003, str. 611–620).

Tuje raziskave nakazujejo na vse večjo potrebo po inštrukcijah iz naravoslovnih predmetov, fizike, kemije, matematike in tujih jezikov, predvsem na srednjih šolah, kar se opaža v razvitih deželah in tistih v razvoju (Bray, 2006). Podobno stanje imamo tudi v Sloveniji, kar nakazuje, da morda pristopi pri podajanju snovi niso ustrezni in bi jih kazalo spremeniti. Predvsem pa bi bilo potrebno narediti študij bolj zanimiv.

Nižja stopnja inštrukcij bi lahko nakazovala na uporabo boljših metod znotraj formalnega šolstva na Finskem (5%) in v Veliki Britaniji (10 %). Kaže pa lahko tudi na bolj motivirane učence, ki stremijo k znanju in ne iščejo le hitrih poti do dobrih ocen. Slednje je morebiti pogojeno z družbeno kulturo in njenimi vrednotami. Inštrukcij se poslužujejo tako manj uspešni učenci, ki bi želeli popraviti ocene, kot odlični učenci, ki se pripravljajo na spraševanja in preverjanja znanj, za doseganje odličnih ocen. Inštrukcije se zanemarljivo redko uporablja z namenom poglabljanja znanj. Največkrat se učenci inštrukcij poslužujejo pri predmetih, pri katerih je novo snov težko osvojiti brez dovolj dobrega znanja prejšnje (Jarić Dauenhauer, 2014). Gre za postopno utrjevanje znanja.

Raziskave o uporabi inštrukcij v Hong Kongu, Taiwanu in Nemčiji so pokazale, da je največji delež uporabnikov presenetljivo med študenti elitnih šol. Ti se inštrukcij poslužujejo z namenom ohranjanja visokih ocen. Pričakovanja staršev in inštruirancev so že ob vpisu na te šole visoka. Dedić in ostali avtorji (Dedić idr., 2005) navajajo, da je večina otrok, ki uporablja inštrukcije iz premožnejših družin, Braya (Bray, 2006) pa navaja, da se inštrukcij, prav z namenom, da bi zapolnili vrzeli neenotnega sistema javnega izobraževanja, poslužujejo tudi manj premožni. Učenci morajo pri prestopu izobraževalnih stopenj namreč nadoknaditi vse tisto znanje, ki ga v okviru predhodnih šol niso dobili. Nekatere države se ne zavzemajo za inštrukcije in so do njih kritične, saj naj bi ta oblika izobraževanja dodatno povečevala socialne razlike, ker si jih vsi ne morejo privoščiti. Prav to smo želeli v naši raziskavi raziskati, namreč kakšne so razlike glede na kraj bivanja in izobrazbo staršev. Zaradi

individualizma in konformizma se povpraševanje po inštrukcijah povečuje. Inštrukcije ne služijo več zgolj popravljanju negativnih ocen in višanju le-teh, pač pa gre pri procesu za redno kontinuirano delo, za katerega javni izobraževalni sistem nima dovolj časa, saj se šole doslej še niso uspele uspešno prilagoditi individualnemu tipu aktivnega izobraževanja (Perozzi, 2018). Uspešnost takšnega učenja je odvisna od mnogih pogojev, med temi same metode inštruiranja, trajanja in organizacije inštrukcij, intenzivnosti ter motivacije inštrukturja in uporabnika (Bray, 2006).

V Sloveniji že dalj časa narašča povpraševanje po inštrukcijah, najbolj izrazito med osnovnošolci (Čakš, 2004). Naraščajoče zavedanje o vrednosti znanja in pomenu razvoja lastnega potenciala, je spodbudilo povpraševanje po inštrukcijah, saj so ustrezni in dostopen način za doseganje omenjenih vrednot. Učencu predstavljajo orodje za doseganje lastnih ciljev, najpogosteje cilja »imeti«, kar mu posledično omogoča zdravo tekmovalnost in ga obvaruje pred izolacijo. Inštrukcije so dopolnitev formalnega izobraževanja in učencu pomagajo zviševati lastni intelektualni kapital. S prilaganjem poučevanja osebnostnim lastnostim in potrebam učenca se izboljšujejo tudi njegove ocene v formalnem izobraževanju (Glass v Dassy, St-Amour, & Vencatachellum, 1998).

Nedvomno je »izobraževanje v senci« dobrodošel in pomemben način za izboljšanje učnega uspeha učencev, dijakov in študentov. V procesu inštruiranja sta tako inštruktur kot inštruiranec ciljno usmerjena. Zato ni nujno, da to vpliva na dejansko pridobljeno znanje in kompetence, saj so fokusirani predvsem v izboljšanje ocen (Vukovič, Perozzi, & Raspot, 2019).

## 2.5 Razvoj in utemeljitev raziskovalnega vprašanja

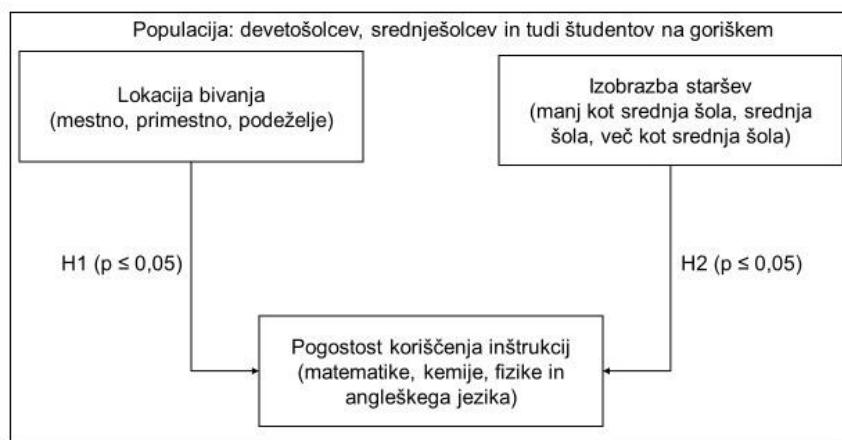
Sklicujoč se na avtorje, ki opažajo povečanje časa za instrukcije (Andersen, Humlum, & Nandrup, 2016; Chingtham, 2015) in prej opisano teoretično ozadje raziskovalnega problema, smo v prispevku iskali vzroke za povečanje uporabnikov inštrukcij, predvsem morebiten vpliv kraja bivanja in izobrazbe staršev na intenzivnost inštrukcij. Osredotočili smo se na naravoslovne predmete kot so fizika, kemija, matematika ter na en tuj jezik. Družbene spremembe se odražajo v šolstvu in vplivajo na izobraževalne procese, posledično pa tudi na »izobraževanje v senci« - inštrukcije. Naloga je obravnavala dve ključni problematiki: prvič spremembe v intenzivnost inštrukcij med sredno in osnovnošolsko stopnjo ter med generacijami, ki so bile deležne vpliva družbenih sprememb, in kot drugo na raziskovanje vzrokov fenomena večje intenzivnosti »izobraževanja v senci«.

V raziskavi smo se med drugim osredotočili na povezavo med izobrazbo in prebivališčem staršev otrok, ki obiskujejo inštrukcije ter njihovo intenzivnostjo. Za namene raziskave smo temu primerno oblikovali naslednje raziskovalno vprašanje: »Ali bivališče uporabnikov in izobrazba njihovih staršev vplivata na intenzivnost inštrukcij?« in predlagali dve raziskovalni hipotezi:

Napaka! Vira sklicevanja ni bilo mogoče najti.

*H.2: Učenci in dijaki z višješolsko izobraženimi starši se inštrukcij poslužujejo bolj pogosto.*

Model predstavljamo v spodnji sliki (glej sliko 1.).



Slika 1. Model raziskave

### 3 Metoda

Pri raziskavi je bilo uporabljenih več metod zbiranja podatkov. Anketirali smo osnovnošolce, dijake gimnazij, srednjih strokovnih in poklicnih šol, ter študente, vpisane v visokošolske študijske programe na Goriškem. Pri tem smo upoštevali tudi časovno komponento sprememb intenzivnosti koriščenja inštrukcij, glede na stopnjo izobraževanja in generacije. Kvantitativni raziskavi smo po pregledu intervjujev udeležencev inštrukcij in njihovih staršev dodali še vsebinsko presojo koristi inštrukcij. Intervjuje smo izvedli še z učitelji fizike, kemije, matematike in angleškega jezika na osnovnošolskem in srednješolskem nivoju izobraževanja. Na ta način smo uspeli pridobili njihova mnenja glede razlogov za razširjenost in potrebe po uporabi inštrukcij med formalnim izobraževanjem. Pri raziskavi smo med koristnikih inštrukcij uporabili še metodo opazovanja z udeležbo.

Podatke o populaciji šolarjev (devetošolcev), dijakov in študentov na Goriškem smo v glavnem zbirali s Statističnega urada (SURS, 2019), za tiste, ki niso bili dostopni preko spletnega portala, smo Statistični urad posebej zaprosili.

Na območju Goriške se nahajata dve mestni šoli: Osnovna šola Milojke Štrukelj, s podružnično šolo Ledine in Osnovna šola Frana Erjavca; primestna Osnovna šola Solkan s podružničnima šolama Grgar in Trnovo; in pet podeželskih šol: Osnovna šola Branik, Osnovna šola Čepovan, Osnovna šola Brda in Osnovna šola Dornberk s podružnico v Prvacini. Izmed dveh mestnih, ene primestne, peterice podeželskih šol, in tistih podružničnih, smo med tistimi, ki so se na anketo odzvale, izbrali po eno naključno šolo iz vsakega od obravnavanih območij. Kot je razvidno v spodnji tabeli (glej Tabela 1. Populacija devetošolcev v šolskem letu 2016/17 v goriški regiji), je obsegala populacija šolarjev devetega razreda v šolskem letu 2016/17 na vseh osnovnih šolah goriške regije skupno 438 otrok. Od teh smo uspeli anketirati 97 otrok, kar je 22,15 % celotne populacije. Anketirane

učence smo med tistimi, ki so se odzvali, naključno izbrali. Anketiranje smo tako izvedli v eni primestni šoli in dveh podeželskih.

Tabela 1. Populacija devetošolcev v šolskem letu 2016/17 v goriški regiji

Občina zavoda	9.razred
Brda	37
Miren - Kostanjevica	30
Nova Gorica	269
Renče - Vogrsko	34
Šempeter - Vrtojba	68
<b>SKUPAJ</b>	<b>438</b>
Anketiranih	97
% anket/populacijo	22,15 %

Povzeto po SURS (2019).

Srednješolska populacija na Goriškem je v šolskem letu 2016/17 obsegala 2.777 dijakov in dijakinj. Ti so se bili vpisani v različne programe: od nižjega poklicnega, srednje-tehničnega in drugih štiriletnih strokovnih in splošnega srednješolskega programa. Vključili smo tudi poklicne in maturitetne tečajnike (glej Tabela 2. Populacija dijakov po izobraževalnih ustanovah šol. leto 2016/17 v goriški regiji).

Tabela 2. Populacija dijakov po izobraževalnih ustanovah šol. leto 2016/17 v goriški regiji

Dijaki po vrsti zavoda in statistični regiji zavoda, Slovenija, letno 2016/17	Št. dijakov
Gimnazija Nova Gorica	661
Šolski center Nova Gorica, Biotehniška šola Skupaj	414
Šolski center Nova Gorica, Elektrotehniška in računalniška šola Skupaj	464
Šolski center Nova Gorica, Gimnazija in zdravstvena šola Skupaj	381
Šolski center Nova Gorica, Srednja ekonomska in trgovska šola Skupaj	362
Šolski center Nova Gorica, Strojna, prometna in lesarska šola Skupaj	495
<b>SKUPAJ</b>	<b>2.777</b>
Anketiranih	66
% anket/populacijo	2,38

Povzeto po SURS (2019).

Anketirali smo naključnih 66 srednješolk in srednješolcev, kar predstavlja 2,37 % celotne populacije. Nizek delež anketirane populacije je posledica nezainteresiranosti izobraževalnih ustanov za anketiranje, saj je bila kljub kontaktiranju vseh srednješolskih izobraževalnih ustanov na Goriškem, odzivnost nizka. V času anketiranja smo imeli na Goriškem tri večje zavode za terciarno izobraževanje: Univerzo v Novi Gorici (UNG), Evropsko pravno fakulteto (EPF) in Fakulteto za uporabne družbene študije (FUDŠ), pa tudi nekatere druge manjše ustanove za pridobivanje terciarne izobrazbe.

Kot je razvidno iz tabele (glej Tabela 3. Populacija terciarnega izobraževanja v šolskem letu 2016/17 v goriški regiji), je bilo v letu 2016/17 v programe terciarnega izobraževanja vpisanih vsega 1.447 študentk in študentov. Med vsemi smo jih anketirali 48, kar je 3,32 % celotne študentske populacije na Goriškem, kar je nekoliko boljši odziv kot na nižji izobraževalni

stopnji, a vseeno nizek. K anketiranju smo povabili vse ustanove terciarnega izobraževanja, odzivi so bili naključni.

Podatke o vpisu študentov smo zajemali s stanja na dan 15.10.2017 in nanašajo na tekoče izkazano študijsko leto.

Tabela 3. Populacija terciarnega izobraževanja v šolskem letu 2016/17 v goriški regiji

Študenti terciarnega izobraževanja po: vrsti izobraževalnega programa, občini: Nova Gorica in Šempeter-Vrtojba	Študijsko leto 2016/17
Višje strokovno	140
Visokošolsko strokovno (prejšnje)	-
Visokošolsko strokovno (1. bolonjska stopnja)	352
Visokošolsko univerzitetno (1. bolonjska stopnja)	536
Visokošolsko univerzitetno (prejšnje)	-
Magistrsko (2. bolonjska stopnja) - enovito magistrsko	70
Magistrsko (2. bolonjska stopnja) - po končani 1. bolonjski stopnji	317
Specialistično	-
Magistrsko (prejšnje)	-
Doktorsko (prejšnje)	-
Doktorsko (3. bolonjska stopnja)	32
GORIŠKA REGIJA SKUPAJ	1.447
Anketiranih	48
% anket/populacijo	3,32

Povzeto po SURS (2019).

Anketiranje je bilo izvedeno v obdobju med 15. februarjem in 15. junijem 2017. Podatke za potrebe naše raziskave smo zbirali s pomočjo anketnega vprašalnika in polstrukturiranega intervjuja, ki je vseboval 16 okvirnih vprašanj za izvajalce izobraževanja. Anketni vprašalnik za učence, dijake in študente pa je vseboval 14 vprašanj. V nadaljevanju navajamo le tista vprašanja, ki so relevantna za ta članek. Vključeval je demografske podatke (vrsta šole, kraj bivanja, spol, starost, stopnja izobrazbe staršev) in vprašanja, ki se nanašajo na predmet raziskave (intenzivnost inštrukcij, potrebe po inštrukcijah, vzroki za inštrukcije, ipd.).

Podatke anketnih vprašalnikov smo obdelali s programskim orodjem SPSS (Specializirani program za statistične analize). Opravili smo univariantne in bivariantne statistične analize. Podatke polstrukturiranih intervjujev s pedagoškimi delavci pa smo obdelali z odprtim kodiranjem vsebine.

## 4 Rezultati

Z raziskavo smo med drugim želeli ugotoviti, kako pogosto anketiranci koristijo inštrukcije glede na kraj bivanja in izobrazbo staršev. V spodnji tabeli (glej Tabela 4. Uporabniki inštrukcij glede na kraj bivanja) so anketiranci razvrščeni glede na kraj bivanja in koriščenje oziroma nekoriščenje inštrukcij. Skupno je pri anketi sodelovalo 211 anketirancev.

Iz tabele (glej Tabela 4. Uporabniki inštrukcij glede na kraj bivanja) je jasno, da je uporabnikov inštrukcij najmanj enega predmeta kar 63,51 % vseh anketirancev. Od tega

31,34 % anketirancev živi v mestu, 18,66 % v predmestju, 50 % pa jih živi na podeželju. Glede na te podatke, prve hipoteze, da se učenci in dijaki, bivajoči v mestu, inštrukcij poslužujejo bolj pogosto, kakor tisti izven mest, ni mogoče potrditi. Z manj kot 5 % tveganjem ne moremo trditi, da bi bivališče vplivalo na pogostost koriščenja inštrukcij. Slednje dokazujemo s Hi-kvadrat testi ( $X^2 = 1,9$  in  $p > 0,05$ ), ki so prikazani v spodnji tabeli (Tabela 5. Hi-kvadrat testi uporabniki inštrukcij glede na kraj bivanja), kjer je signifikanca pri Pearsonovem  $\chi^2$  testu znašala 0,386, kar pomeni, da je  $p > 0,05$ , in statistično značilne povezanosti med spremenljivkama ni. Omejitev raziskave seveda je, da je vzorec še vedno majhen.

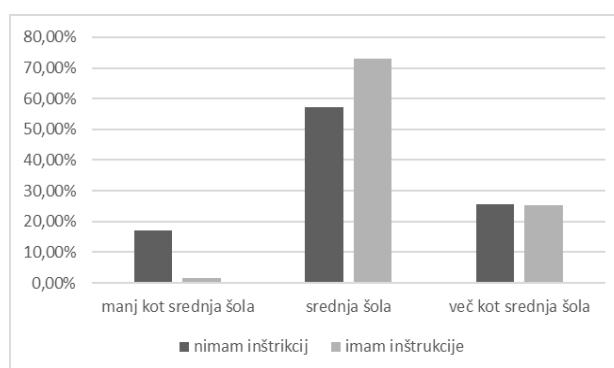
Tabela 4. Uporabniki inštrukcij glede na kraj bivanja

	V katerem okolju živiš?			
instrukcije	mestno	primerno	podeželje	skupaj
nimam inštrukcij	28	18	31	77
	36,36%	23,38%	40,26%	100,00%
	40,00%	41,86%	31,63%	36,49%
imam inštrukcije	13,27%	8,53%	14,69%	36,49%
	42	25	67	134
	31,34%	18,66%	50,00%	100,00%
skupaj	60,00%	58,14%	68,37%	63,51%
	19,91%	11,85%	31,75%	63,51%
	70	43	98	211
skupaj	33,18%	20,38%	46,45%	100,00%
	100,00%	100,00%	100,00%	100,00%
	33,18%	20,38%	46,45%	100,00%

Tabela 5. Hi-kvadrat testi uporabniki inštrukcij glede na kraj bivanja

Statistika	Vrednost	prost.st.	Asymp. Sig. (2-tailed)
Pearsonov Hi-kvadrat	1,90	2	,386
Razmerje verjetij	1,91	2	,384
Linear-by-Linear Association	1,36	1	,243
N veljavnih enot	211		

Tako hipoteze »Napaka! Vira sklicevanja ni bilo mogoče najti.«



Slika 2. Instrukcije in dosežena izobrazba staršev

Anketirance, ki so na vprašanje o izobrazbi svojih staršev odgovorili z »ne vem«, smo iz analize morali izvzeli (glej Tabela 5. Hi-kvadrat testi uporabniki inštrukcij glede na kraj bivanja, Tabela 6. Dosežena izobrazba staršev izobrazba staršev in Slika 2. Inštrukcije in dosežena izobrazba staršev). Iz rezultatov je razvidno, da inštrukcije koristi le 1,4 % anketirancev s starši, ki imajo izobrazbo nižjo od srednješolske, 73,13 % je takšnih, ki imajo starše s srednješolsko izobrazbo, 25,37 % ima starše z višjo izobrazbo od srednješolske.

Glede na analizo ima največ staršev anketiranih koristnikov inštrukcij srednješolsko izobrazbo (glej Tabela 6. Dosežena izobrazba staršev izobrazba staršev).

Tabela 6. Dosežena izobrazba staršev izobrazba staršev

Kakšna je najvišja dosežena formalna izobrazba vaših staršev?				
instrukcije	manj kot srednja šola	srednja šola	več kot srednja šola	skupaj
nimam inštrukcij	6,00	20,00	9,00	35,00
	17,14%	57,14%	25,71%	100,00%
	85,71%	28,99%	34,62%	34,31%
	5,88%	19,61%	8,82%	34,31%
	3,60	-3,68	,08	,00
imam inštrukcije	1,00	49,00	17,00	67,00
	1,49%	73,13%	25,37%	100,00%
	14,29%	71,01%	65,38%	65,69%
	,98%	48,04%	16,67%	65,69%
	-3,60	3,68	-,08	,00
skupaj	7,00	69,00	26,00	102,00
	6,86%	67,65%	25,49%	100,00%
	100,00%	100,00%	100,00%	100,00%
	6,86%	67,65%	25,49%	100,00%

Glede na pridobljene rezultate lahko z manj kot 5 % tveganja potrdimo, da izobrazba staršev vpliva na koriščenje inštrukcij. To dokazujemo s Hi-kvadrat testom, ki znaša 9,8, pri Pearsonovem  $\chi^2$  testu je signifikanca manjša od 0,05, kar sicer pomeni, da je povezanost med spremenljivkama statistično značilna in rezultat velja za celotno populacijo.

Hipoteze vseeno ne moramo potrditi, ker se ob višanju stopnje izobrazbe staršev, koriščenje inštrukcij ne povečuje (glej Tabela 7. Hi-kvadrat testi Dosežena izobrazba staršev izobrazba staršev). Najvišji delež koristnikov inštrukcij med anketiranci opažamo pri tistih, ki imajo srednješolsko izobražene starše. Slednje lahko nakazuje tudi, da učencem in dijakom, ki imajo bolj izobražene starše, ti lažje pomagajo pri šolskih obveznostih.

Tabela 7. Hi-kvadrat testi Dosežena izobrazba staršev izobrazba staršev

	Vrednost	prost.st.	Asymp. Sig. (2-tailed)
Pearsonov Hi-kvadrat	9,08	2	,011
Razmerje verjetij	8,83	2	,012
Linear-by-Linear Association	1,85	1	,174
N veljavnih enot	102		

Na podlagi rezultatov smo ugotovili, da statistično značilno ne velja in ne moremo potrditi hipoteze »H.2: Napaka! Vira sklicevanja ni bilo mogoče najti.«

Obe svoji domnevi smo preverjali tudi preko intervjuev z udeleženci inštrukcij in njihovimi starši ter učitelji fizike, kemije, matematike in angleškega jezika v osnovnih in srednjih šolah. Vključena je bila tudi metoda opazovanja z udeležbo samega izvajalca raziskave, ki je dolgoletni inštruktor. Tako tudi sami ne zaznavajo, da bi kdo bolj koristil inštrukcije, zaradi kraja bivanja ali izobrazbe staršev. Kot faktor potrebe po inštrukcijah navajajo samo predznanje inštruiranca, učni uspeh (ali je ta na meji za pozitivno oceno ali pa za oceno, ki jim omogoča boljše pogoje za vpis v nadaljnji študij), njegovo motivacijo za študij (prehodnost, dokazovanje pred vrstniki, višja ocena) in preference staršev, ki bi želeli svojemu otroku pomagati ali ga spodbuditi pri študiju. Prav slednje je včasih pomembno, saj starši zaradi plačljivosti inštrukcij pričakujejo, da se bodo njihovi otroci naučili (npr. za pozitivno oceno). Tega se od rednega obiskovanja šole ne pričakuje vedno. Izjava enega od staršev je bila: »Plačal sem ti inštrukcije in sedaj se moraš naučiti za pozitivno!«.

## 5 Razprava

Glede na zgoraj navedeno lahko na raziskovalno vprašanje »Ali bivališče uporabnikov in izobrazba njihovih staršev vplivata na intenzivnost inštrukcij?« odgovorimo, da bivališče inštruiranca in izobrazba njegovih staršev, na intenzivnost inštrukcij nimata vpliva. Sama raziskava ni dala jasnih odgovorov, čemu je to tako. Potrebna bi bila poglobljena raziskava z večjim vzorcem, ki bi zajel celotno območje Slovenije, da bi dobili bolj relevantno sliko. Na podlagi metode z udeležbo terenska raziskovalka, ki je soavtorica prispevka ugotavlja (saj je namreč tudi sama inštrukturica), da je vzrokov več. Najprej gre za to, da želijo vsi, ne glede na kraj bivanja oz. izobrazbo staršev, otrokom nuditi čim več. Razlik med mestom, in podeželjem, vsaj na Goriškem, kjer je bila izvedena raziskava ni, saj se klasično podeželje spreminja in se precej družin odloča za selitev iz mesta na podeželje. Tako se na podeželje s ciljem da bi živel v bolj umirjenem okolju v lastni hiši selijo tudi bolj izobraženi in premožni, ki so prej živel v večstanovanjskih objektih. To tudi spreminja izobrazbeno strukturo tradicionalnega vaškega okolja.

Za osebe, ki bivajo na podeželju, še bolj pa za tiste, ki so se iz mesta preselili na podeželje, se ugotavlja, da se zavedajo, da so zdravo in mirno okolje, povezanost z naravo, pa tudi manjši vpliv raznih motečih mestnih dejavnikov, pomembni za razvoj njihovih otrok. Posledično izhaja najvišji delež inštruirancev iz podeželja, sledijo jim uporabniki iz primestja. Starši z

višjimi izobrazbami pa se znajo bolje angažirati pri učnem delu z otroki in jim lahko v tej smeri ponudijo širši spekter pomoči. Prav s tega vidika lahko predpostavimo, da imajo otroci z višje izobraženimi starši manjšo potrebo po učni pomoči in posledično manj inštrukcij, kakor otroci s srednješolsko izobraženimi starši. Delež inštruirancev s srednješolsko izobraženimi starši je tako v naši anketi presegel 70 %, kar kaže, da se starši teh otrok zavedajo pomena izobrazbe, a jim pri šolskem delu, zaradi pomanjkanja znanja ali drugih razlogov, ne zmorejo pomagati, želijo pa, da bi bil otrok v šolanju uspešen. Pri starših, katerih izobrazba je nižja od srednješolske, smo ugotovili, da si ti inštrukcij finančno ne morejo privoščiti v tolikšnem obsegu, kot bi si to žeeli. V prihodnje bi zato kazalo raziskati povezavo med dohodki in inštrukcijami. To bi nam dalo odgovore ali si lahko vsi finančno privoščijo inštrukcije.

Tovrstne socialne razlike so se pokazale tudi v času izolacije in študija na daljavo, ko smo bili priča virusu COVID-19 (Cahapay, 2020). Starši, ki nimajo ustreznega znanja, niso bili v stanju, da bi pomagali svojim otrokom pri študiju na daljavo. Po drugi strani pa so starši z boljšo izobrazbo in boljšimi družinskim dohodki lahko svojim otrokom nudili bodisi njihovo pomoč ali boljšo informacijsko tehnologijo in dostop do spletnih inštrukcij. Tako se taka oblika študija, ki je sicer potekal v izrednih razmerah, lahko pa se ponovi tudi v naslednjem šolskem letu, pokazala na velike razlike. To je bil eden največjih eksperimentov v zadnjem času, na katerega nismo bili pripravljeni (Orehovec, 2020).

## 6 Zaključek

V uvodu smo si zastavili raziskovalno vprašanje: »Ali bivališče uporabnikov in izobrazba njihovih staršev vplivata na intenzivnost inštrukcij?« Na podlagi izvedenega anketiranja dijakov, intervjujev s inštruktorji, učitelji in opazovanjem z udeležbo, smo ugotovili, da kraj bivanja in izobrazba staršev ne vplivata na intenzivnost koriščenja inštrukcij. To lahko vzamemo kot pozitivno ugotovitev, saj nismo zaznali večjega razslojevanja. Splošno pa je precej zaskrbljujoče, da postajajo inštrukcije nekaj pričakovanega. To seveda zmanjšuje individualno odgovornost posameznega pedagoga za kakovost lastnega dela in uspešnost učenca/dijaka/študenta. To nekaterim pedagoškim delavcem omogoča, da učencev v najslabšem primeru tudi ničesar ne naučijo, saj so lahko prepričani, da bodo s pomočjo inštrukcij ti vseeno dosegali tudi mednarodne standarde znanja. Dosežki slovenskih dijakov so se od osamosvojitve dalje bistveno popravili, čeprav se metode poučevanja v formalnem izobraževalnem sistemu niso bistveno reformirale. Odgovornost za doseganje zastavljenih standardov so z ramen pedagoških delavcev morali prevzeti kar sami učenci in (finančno) njihovi starši, posledično pa je padla na ramena inštruktorjev.

Za razliko od običajnih pedagoških delavcev, so inštruktorji velikokrat pod pritiskom staršev, ki zahtevajo doseganje zastavljenih ciljev in odgovornost inštruktorja, ko ti niso doseženi. Za formalni izobraževalni sistem ni značilno, da bi starši do pedagoških delavcev pristopali s pritožbami, da otroke naučijo premalo ali da metoda ni ustrezna, čeprav je v zadnjih letih opaziti porast ponavljanj preizkusov znanja zaradi prevelikega števila negativnih ocen. Tu

prihaja tudi do nesoglasji med pedagoškimi delavci in inštruktorji, saj prvi velikokrat niso pripravljeni sodelovati z inštruktorjem. Pri nekaterih pedagoških delavcih je zaznati prepričanje, da so, ker jih plačuje država, odgovorni samo do države, ne pa tudi do staršev, kot velja za inštruktorje, ker te plačujejo starši. Na vseh nivojih izobraževanja je potrebno zbuditi zavest o odgovornosti do uporabnika. Izobraževanje mora bili namenjeno uporabniku in ne sme biti samo sebi namen. Znanje mora uporabniku podajati na način, da ga je ta zmožen usvojiti in postane zanj koristno. V kolikor stremimo k odličnosti v šolstvu in na področju inštrukcij, morajo te temeljiti na utrjenem znanju in ne zgolj na storitveno naravnemu učenju za izboljšanje ocen. Povpraševanje po inštrukcijah se namreč povečuje prav v obdobju zaključevanja ocen. O tej temi se pre malo govorji. V kolikor obstoječi šolski sistem ne zmore organizirati dovolj učne pomoči v okviru organiziranega šolanja, so inštrukcije zagotovo ustrezno orodje za utrjevanje snovi. Potrebno pa bo večje sodelovanje učiteljev, staršev in inštruktorjev. Predvsem s ciljem, da se bo iskalo vzroke, zakaj neka snov predstavlja težavo. Velikokrat se namreč dogaja, da več različnih inštrurancev potrebuje pomoč pri snovi, ki so jo obravnavali pri istem učitelju. To pa bi morda že moral biti znak za alarm, da snov ni bila ustrezno podana. Učenci, ki so bolj navdušeni nad učenjem v šoli, bodo tudi bolj sodelovali in se bolj poglobili v snov, ki jim jo učitelji podajo. Ravno tako bodo pri pouku bolj sodelovali, torej se bodo znanje tudi naučili uporabljati, kar je osnovni namen šolanja in šolstva.

Raziskava daje nekaj koristnih informacij tudi za menedžment v izobraževanju. Tu so misljeni predvsem ravnatelji osnovnih in srednjih šol in dekani fakultet. V kolikor bi imeli informacije o številu inštruirancev glede na število učencev, dijakov ali študentov na posamezni šoli, predmetu ali celo učiteljev, bi to lahko bil tudi eden od pokazateljev odličnosti posameznega učitelja, predmeta in šole. Velika razlika je namreč, če koristi inštrukcije 5 učencev od 30-ih, za izboljšanje s prav dobre na odlično oceno, ali pa 15 od 30-ih, da bi popravili svojo oceno na pozitivno.

Raziskovalci, ki preučujejo življenske prehode, izpostavljajo podaljševanje mladostniškega obdobja, s tem podaljševanje izobraževanja in nadgrajevanje izobraževalnih kvalifikacij, kar ima za posledico dolgotrajen stik mladih z izobraževalnimi institucijami (Rapuš & Stepišnik Perdih, 2007). S tega vidika, bi bilo smiselno in nujno v mednarodnih in lastnih raziskavah nadalje spremljati gibanje intenzivnosti koriščenja inštrukcij, kot tudi nadaljevati s poglobljenim raziskovanjem vzrokov za naraščajoče potrebe po inštrukcijah in seveda morebitnih rešitvah težav, ki se kažejo med koristniki. Iz naše raziskave je namreč jasno, da so inštruiranci pogosto pod velikimi stresi, kar potrjeno povzroča različne oblike čustvenih stisk, travm in depresij. S takšnimi raziskavami bi bilo mogoče pomagati šolskemu sistemu, da bi dosegel ravan, ki je bila dosežena na Finskem in v drugih severnih državah, mu povrniti kredibilnost, ustrezno zmanjšati potrebo po inštrukcijah, in na ta način preprečiti daljnosežne posledice na zdravje učencev, dijakov in študentov.

Sama raziskava žal ni omogočila, da bi se lahko ta teza preverila na širšem območju, kar je njena pomanjkljivost. Ker je pa raziskava omejena le na določeno število šol, učiteljev in

učencev, ter zajema le goriško regijo, bi bilo potrebno raziskavo razširiti na celotno območje Republike Slovenije, da bi lahko analizirali stanje na celotnem območju države. To bi nam dalo prave odgovore na vprašanje, zakaj pa prihaja do takšnega porasta inštrukcij in kako bi učitelji to lahko rešili. Prave vzroke pa bi lahko ugotovili le z globinskimi intervjuji in fokusnimi skupinami, kar priporočamo za nadaljnje raziskovanje. Pred celovito reformo šolstva pa bi morali izvesti poglobljeno vseslovensko raziskavo, kjer bi celovito raziskali prisotnost in vzroke za inštrukcije in kako inštrukcije skupaj z drugimi oblikami učne pomoči še bolj integrirati v sam učni proces.

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**Evelina Perozzi** je po osnovni izobrazbi inženir elektrotehnike. Po večletnem delu v razvojnih družbah, kjer je bila v središču inovacij raznih produkcijskih sistemov in avtomatizaciji proizvodnje, je nadaljevala svojo pot v izobraževanju otrok na področjih naravoslovja, tako v srednji, kot tudi v osnovni šoli, kjer je sodelovala v projektih za vpeljavo računalnika pri izobraževanju v osnovni šoli. Nato se je odločila, da bo nadaljevala z izobraževanjem na Univerzi v Mariboru, na Fakulteti za organizacijske vede, kjer je diplomirala iz informatike v organizaciji in managementu. Sledilo je večletno delo na področju igralništva. Kasneje se je pridružila inovativni skupini v HIT d.d. in tako postala pionirka spletnega igralništva. Temu je sledila drugačna pot, saj se je avtorica odločila, da bo odprla samostojno podjetje z inštrukcijami iz naravoslovnih predmetov. Tako je, da bi bolje opravljala svoje delo, magistrirala iz medkulturnega managementa. Ravno v okviru tega študija je sledila inovativna raziskava inštrukcij na področju Goriške. Pri svojem delu uporablja znanja, pridobljena na zelo različnih področjih, ki jih je nabrala med več kot 35 leti delovnih izkušenj. Ravno ta raznolikost ji omogoča sodelovanje pri različnih projektih.

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**Andrej Raspot** je po osnovni izobrazbi strojni tehnik. Po univerzitetnem študiju organizacije dela na Fakulteti za organizacijske vede v Kranju v okviru Univerze v Mariboru, je nadaljeval podiplomski študij na Fakulteti za družbene vede Univerze v Ljubljani in doktoriral leta 2010. Pri svojem delu združuje poslovno in akademsko delo, saj predava, vodi lastno podjetje in svetuje. Ima več kot 35 let delovnih izkušenj, med temi več kot 17 let na različnih vodilnih mestih, od vodje splošnih poslov, direktorja razvoja kadrov, direktorja za strateške projekte in vodje komisije za nadzor stroškov. Raziskovalna dela: Delovna razmerja in procesi s poudarkom na optimizaciji delovnih procesov, tako z vidika stroškov, kot tudi organizacije delovnega časa; Turizem s poudarkom na kitajskem izhodnem turizmu, turizmu za ljudi s posebnimi potrebami in trajnostnemu turizmu; Odperte inovacije; Igralništvo. Vodil je več bilateralnih projektov ARRS in sodeluje v INTEREG projektih.

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## Abstract:

### The Influence of Place of Residence and Education of Parents on the Intensity of Instruction

**Research question (RQ):** Among other questions in this research we have tried to answer, in relation to an increase of the use of tutoring, was whether the intensity of the use of tutoring is influenced by the place of residence and education of parents, so we formulated the following research question: "Does the place of residence and education of parents' affect the use of tutoring?"

**Purpose:** The basic goal of the research was to determine how extensive the use of tutoring is in the Goriška region and how/if the place of residence and education of parents is relevant. We focused on science subjects such as math, physics, chemistry, and one foreign language.

**Method:** We surveyed primary school students, high school students, secondary schools, and students enrolled in higher education study programs in the Goriška region. By interviewing both students and parents, a quantitative research was enriched by the detailed content review of the importance of tutoring. We also conducted interviews with teachers of physics, chemistry, mathematics, and English in both primary and secondary education, and gained an insight into the increased use and need of tutoring in the context of formal education. We also used the method of observation by observing the students that use tutors and resort to tutoring. The research was conducted during the 2016/2017 school year.

**Results:** Based on the data gained by conducting an extensive research, the following key conclusion was formed: Place of residence and education of parents do not affect the intensity of tutoring.

**Organization:** According to the findings, the volume of tutors is increasing, and students are too focused on improving grades rather than better consolidating learning, school principals and deans could make certain changes in the delivery of learning content to students. When organizing the tutoring, it is important that it directly relates to consolidation of learning, rather than being directed only towards the improvement of grades, which are required for passing and applying for collage.

**Society:** The contribution is important from the point of view of students, teachers and also the Ministry of Education in relation to the reform of the school system. Moreover, a broader study could offer solutions to limit the emerging gap between students and teachers, as research has shown that the use of tutoring has increased significantly. Here we should follow the example of those countries where the study is designed in such a way, that there is no need for additional tutoring.

**Originality:** This is the first such extensive research in the Goriška region and in Slovenia in general. All school levels were included. Starting with elementary schools, high schools and higher education programs. Above all, this study expresses originality, as it seeks to answer how the place of residence and education of parents influence the tutoring process.

**Limitations/further research:** The limitation of the research is that we conducted the research in the Goriška region only and that the selected sample was small, therefore, the findings cannot be applicable to everyone. It would make sense to conduct similar research and expand it to the entire Slovenian population. Another limitation is the fact that it was carried out before COVID-19, during which teaching, and tutoring had to adapt to the new situation.

**Keywords:** tutoring, education, individualism, conformism, motivation, generations, parental education, location of parents' residence.

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# Overlap Between Lean Production and Scientific Management

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## Abstract:

**Research question:** Does the base of lean production include principles and factors of Taylor's scientific management?

**Purpose:** The purpose of our research was to establish the value of overlap of the principles and factors of lean organization with basic principles and factors of scientific management.

**Method:** We used an integrative review of technical literature of the last 20 years (from 2000 to 2020) in which the principles and factors of scientific management and lean production were described.

**Results:** The principles and factors of lean production predominantly contain principles and factors of scientific management (53 % of analysed contributions support the finding that the principles of lean production include principles and factors of scientific management, 29 % partly support this and 18% do not).

**Organization:** Our conclusions will help the owners and top managers in organizations with the decisions about the induction of principles and factors of lean production.

**Society:** The conclusions of the research will have theoretical and practical implications for everyone who deal with induction of principles and factors of lean production from the aspect of society's sustainable development.

**Originality:** The original research from the field of overlap of the principles and factors of lean production and scientific management in the Republic of Slovenia.

**Limitations/ further research:** We conducted an integrative review of technical literature in three world bases.

**Keywords:** factors, company, overlap, lean production, scientific management.

## 1 Introduction

Lean organization is a philosophy and a concept of management based on waste and resource reduction which are used in the production process (the manufacture of products and performance of services (Parkes, 2016, p. 118). Chiarini (2013, p. 15) finds that the main concept not only lean organisation, but every system of legal excellence in general is based on, must be a perfect removal of losses from the business process. Kumar, Kumar & Sultan (2014, p. 2613) claim that it is not an easy task, as the mastery of production planning and performance

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is a complicated activity, which is affected by many variables. They differ according to the activities in which the organisation functions. Due to these findings, the predominant classical managing production paradigm should increasingly redirect to lean production.

In our research we will compare the principles and factors of lean production with the classical managing organisation paradigm theory. With classical organisation theory we will limit ourselves to F.W. Taylor and his fundamental principles and factors of scientific management. Taylor's division of work, choices, training, teaching and development of the employees, cooperation among the employees and the responsibility for decision making about how the work should be done should also be strongly present in the era of information- communication society. The difference is only in the fact that manual worker was replaced by scientific worker and that *Taylorism* transformed into *turbo-Taylorism* (Ambrož & Ovsenik, 2010, p. 105). On the other hand, some authors are expressing a considerable measure of scepticism regarding the success of the principles of lean production. Kutin (2019, December) finds out that we constantly listen about the demand of *lean production, lean administration and lean whatdoIknowwhat*. We would be repeating something that is a synonym for Toyota Production System and rarely would we ask ourselves about its content. Hines, Taylor & Walsh (2018, p. 16) cite that we might wrongly understand the traditional *lean* approach, which should be based on practices, principles, processes, tools and techniques for waste reduction. Because of this, thinking about lean organisation from the aspect of its contents through the paradigm of scientific management principles is an intellectually exciting and socially responsible business. Based on the previous conclusions, we asked our fundamental scientific question, which goes like this: *Do principles and factors of lean production overlap with principles and factors of Taylor's scientific management?* We will conclude the study of principles and factors of lean production with paradigms of Taylor's scientific management with a final thought about the overlap of both principles. We assume that the majority of the principles and factors of lean production are already included in Taylor's scientific management. For this purpose, we researched the technical literature and main authors from the field of lean production and scientific management. We assume that Taylor's principles sufficiently captured the work organisation in companies and throughout the history various authors assigned different terminology to these principles in order to adjust them more to the current reality. All this resulted in the emergence of concept of lean production. In the article, we were not dealing with the concepts which emerged between Taylor's scientific management and lean production. We assumed that these concepts were already described within scientific management and lean production and that they will be included in the research of overlap of these two concepts as such. The purpose of our research was to find out the level of overlap between lean production principles and factors and fundamental principles and factors of scientific management which were designed by F.W. Taylor in 1911.

## 2 Theoretical starting points

### 2.1 Principles and factors of scientific management

Taylor's scientific management, which prevailed as a major form of work organisation in companies and other institutions in the last century, should leave the leading position to other, more contemporary organisation paradigms. New forms of organisation are emerging in the 21<sup>st</sup> century, such as TPS (Toyota Production System), Lean Organisation, Lean Production, Six Sigma and so on. With simple comparison of the contents of scientific management and new forms of organisation, we can see that they have at least two contents in common. Firstly, they had *instructors* for the induction of their principles and factors into the organisations and secondly, all the organisation approaches according to Taylor followed and took advantage of the achievements of scientific management.

Giannantonio & Hurley-Hanson (2011, p. 8) find out that the principles and factors of scientific management contributed to management practices in the 20<sup>th</sup> century, including the specialization of tasks, production practices, analysis and formation of work places, support schemes, person's adaptation to work and production quotas and surveillance. Taylor's principles and factors should cause the following: the emergence and establishment of the study of time and movement, the standardization of work processes and equipment and the improvement of management communication systems (Charron, Harrington, Voehl & Wiggin, 2015, p. 38).

Kulesza, Weaver & Friedman (2011, p. 20) write that the principles and factors of scientific management remain a lasting contribution to the development of science and profession of manager. Taylor's principles and factors of scientific management are a good starting point for further search for effective organisation controlling. Taylor's book about scientific management was also a base for Drucker's concept of Management by Objectives (Short 2011, p. 44). At the core of Taylor's scientific management - his *mechanism* as he called it himself - in which the workers are mainly active as objects which are run by rudimentary motives, is the performance of precisely created recurring tasks. Taylor also highlighted that around the mechanism there had to be an atmosphere of friendship, honesty and cooperation (Derksen, 2014, p. 164).

In the formation of principles and factors of scientific management, Taylor originated from the assumption that the problem of poor efficiency of workers and low wages could have been solved for the collective good of both workers and owners. He would achieve this with four different principles, Taylor (1967. p. 190):

- A scientific study of each movement (including the process, operation and so on.) of work, which replaces the old rule-of-thumb method.
- Systematic selection, training, education and development of every workman individually.
- Honest cooperation between workers in order to ensure that the work can be done in the best possible way.

- Managers should carry the responsibility of deciding about how the work should be done, while the workmen carry the responsibility of getting the work done.

His main assumption was that for a certain amount of work there is only one best way to perform it. Ott in Shafritz (2001, p. 31) say that the organisations assumed that these methods existed and should have been discovered with careful scientific research and analyses. The principles and factors of scientific management were later taken over by Ford and he improved them with the introduction of the assembly line. The introduction of tayloristically-scientific work organisation in automotive industry and its fusion with Fordism should represent the most progressive form of capitalistic rationalisation of work process in the 20<sup>th</sup> century. It was not until the end of the 1960s and the beginning of the 1970s that this productive model – now structurally endangered - started to show signs of exhaustion (Budgen, Edwards, Linden & Thomas 2013, p. 23).

## 2.2 Principles and factors of lean production

Krafcik was the first one to use the term *lean* in context which it has today in Sloan Management Review magazine in the article *Triumph of Lean Production Systems* (Holland, 2019, December). In the late 1980s, James Womack, the founder of Lean Enterprise Institute and the author of *Lean Thinking* and *The Machine that Changed the World*, significantly contributed to the further popularisation and final enforcement of the term lean production, from which the term lean organisation later developed. He was the leader of a research group, which created the term *lean organisation* in order to describe the Toyota concept. Womack, Jones & Roos state that lean production is *lean* because it consumes less in comparison to mass production: less human effort, less production space, less investments into tools, less engineers' working hours for the development of new product and so on (Womack, Jones & Roos, 1990, p. 13).

The vital fields which lean organisations cope with are how to please their customers and how to abolish all the losses in the production process. The responsibility for the achievement of excellent results in these two main areas rearranges itself and starts from the bottom up. Unterlechner, Meško Štok in Markič (2009, p. 144) define that a messy workspace and *habitual inefficiency* are the two main reasons for the emergence of waste in modern production processes. Both reasons for waste are most often the main point of kaizen workshops with which these wastes are abolished. Wittrock (2015, p. 95) claims that the main principles of *being lean* are the components of Japanese culture and that because of this finding the transportation of principles of lean production to other cultures is not easy. Schmidt (2011, p. 83) attaches to this saying that the understanding of principles of lean production and not accepting methods and principles is vital in the introduction of principles of lean production into organisation. In the following step it is crucial to evaluate which parts can be accepted and adapted to the circumstances and most importantly, what could be improved. In the literature, five principles of lean organisation are listed, Bateman, Esain, Massey, Rich, & Samuel (2006, p. 16-17): the definition of value from the customer's point of view, map the value stream and eliminate all

the waste from this stream, create the flow of materials and information without any distractions, Pull production system- producing only what the customer needs and seeking the perfection. The organisations use several tools for the induction of principles of lean organisation and functioning according to them. We will list only some of them:

- *5S* is one of the most common lean manufacturing tools which are recommended by the experts for usage. The purpose of 5S is the organisation and management by avoiding all the waste and loss which originate from a disorganised work environment. The basic aim of 5S is to establish a higher level of culture and efficiency at the workplace. It consists of 5 phases: sort (Seiri), set in order (Seiton), shine (Seiso), standardize (Seiketsu) and sustain (Shitusuke). Charron, Harrington, Voehl, in Wiggin (2015, p. 255), Chiarini (2013, p. 83) and Nicholas (2018, p. 88) describe 5S as a method which ensures the establishment and maintenance of cleanliness of workspace and also enables the productivity growth, improving the quality, security and induction of fundamental principles of visual control.
- *Kaizien* is a system of constant process improvements which we reach with simple steps. It is performed constantly. It means adding the value and lowering waste in the whole flow of value. Chiarini (2013, p. 64) describes the activities of kaizen workshop as group activities which strive for quick reduction of waste in a specific field. The pace of activity is the main factor which decorates the kaizen workshop and it is its key to success.
- *OEE Overall Equipment Effectiveness* is a lean tool which is reasonably used in half-atomised and atomised work processes. Charron, Harrington, Voehl, in Wiggin (2015, p. 260) say that with this tool we measure the equipment efficiency, its availability and quality.
- *SMED Single Minute Exchange of Dies* The changes of tools and settings of the machine do not represent added value, so it is not necessary to lower them to the lowest measure possible. The author of SMED method, Shingo (1985, p. XIX) says that it is impossible to replace every tool under ten minutes, but it is still an aim of all the tool replacements. The practice shows that it is possible to reach it in surprisingly many cases.
- *Production levelling (Heijunka)* is a technique for an equal loading of production, which is performed with the help of quantitative methods like: moving average, single exponential levelling and double and triple levelling.

The authors warn that carefulness is required with lean tool selection. Thus, Marksberry (2013, p. 1) says that the selection of lean tools is a dangerous doing and he compares the co-dependence of organisations with gardening. As it is impossible to successfully transplant a plant if the soil and environment are not the same, the *transplantations* of the tools from one company to the other is not possible if the two companies do not have the same culture, are not of the same size, are in different sectors and so on. Lewandowski (2014, p. 2, 32) warns about the finding that every company has its own organisation culture. It is important to consider this with the selection of a suitable tool for a certain organisation. The tool should be suited for the culture of the organisation and the collection of products or services. Some tools are universal and the others not so much. But with all this, the experts for lean production do not advise any expectations about the results being quick.

## 2.3 Overlap of lean production and scientific management

In the article, we derive from the assumption that there is a predominant overlap of principles and factors of lean production and principles and factors of Taylor's scientific management. Charron, Harrington, Voehl & Wiggin (2015, p. 66) see this while treating lean production as a more improved version of endeavours for higher production which should be based on other authors such as Taylor or Ford. Their false assumptions are eliminated. The comparison of overlap of Taylor's scientific management and lean production is impossible when comparing Taylor's original work *Scientific Management* and for instance Liker's *The Toyota Way*. With every single Toyota's principle and factor we would establish a suitable principle and factor from Taylor's Scientific Management. It should be necessary to interpret him in terms of what would Taylor change in every single principle and factor of his, if he knew what for example Taiichi, Ohno, Liker, Womack and others did. We could also turn the comparison upside down and, for example, for each of Taylor's principles and factors of scientific management establish which Toyota principles and factors he influenced or devised. Thus, Evangelopoulos (2011, p. 71) represents the pyramid of discourse about Taylorism. The author represents an intellectual area of practices, ideas and philosophies, which were launched by Taylor and indicates that Taylor's initial work from 1911 is still very important. Rawlinson in Wells (1996, p. 194-195) say that Shingo was a devoted follower of Taylor's work and usage of principles in the industrial engineering at Toyota, which greatly impacted Shingo's way of thinking and the production organisation. Likert (2004, p. 158) lists an example of a joint factory, built in California by Toyota and General Motors, where the workmen follow very detailed standardized procedures, but there are many group leaders and a clearly set up hierarchy. Time, expenses, quality and security were planned in detail. In NUMMI (acronym for Toyota and General Motors joint company) they had prevailing characteristics of bureaucratic and mechanic organisation which overlaps with endeavours of Taylor's scientific management. Tang (2017, p. 119) also gave an indirect connection between principles and factors of lean production in Taylor's scientific management. Tang (ibid, p. 119) explained every single Taylor's principle and factors of scientific management from the point of view of modern organisation bases. The first principle should be used with the measuring of knowledge production (Jones & Womack 2003). Total Quality Management (TQM) should be applied in the selection of co-workers in the postmodern era (Daniel, 1995). The scientific co-worker selection should be based on co-workers' flexibility to perform a different kind of work (polyvalence) and not performing only one task. The usage of principles and factors of education and development of workmen would mean an integration of employees into decision-making. The principle and factors should develop for the authorization of the co-workers and the domination over them (Clegg, 1990). The fourth principle and factors should exist in team work in postmodern organisations. Ribeiro (2015, p. 77) talks about the *synthesis* of Taylorism, Fordism and Toyotism.

## 2.4 Principles and factors of scientific management in lean production

- 5S – (*Seiri- sort, Seiton- set in order, Seiso- shine, Seiketsu- standardize, Shitsuke- sustain*)  
*Principle and factors of lean production for an organized workspace*

In his work, *Shop Management*, Taylor (1967, p. 83) recommends that every worker keeps his machine clean and oiled. A written document which the workers signed (in order to confirm the performance of machine examination on a particular day because the majority of the workers were illiterate) probably did not follow Taylor's recommendations about the maintenance of machine cleanliness.

- *Total Productive Management (TPM) a tool for the boost of machine efficiency and total maintenance management and Single minute exchange of dies (SMED), a tool for the reduction of tool change times.*

Taylor (1967, p. 227-228) also tested the capability of the machines in industrial plants. The evolution of the skills and science of cutting metal lasted for 26 years with occasional breaks. Between 30 000 and 50 000 experiments were performed altogether. We can recognize the SMED method in Taylor's description of the change of drive belt. The experts tackled with measurement of time for individual phases of production process.

- *The analysis of value stream*

Taylor (1967, p. 94) explains the function of planning department in scientific management as crucial for a sequence of operations. In the case of a well-planned flowchart, an even process is guaranteed. It is necessary to create a perfect analysis of the sequence of operations, which will be conducted on individual pieces (determine the exact stream through the process, which must be passed over every single part of the machine). Taylor (1967, p. 243) also mentions *the system of determining the movement of products through the production*, which is comparable to the following of the stream of value formation.

- *Standardized work*

Standardized work is one of the principles and factors of lean organisation which completely overlaps with principles and factors of Taylor's scientific management. Corbacioglu (2017, p. 81) says that the connection between productivity and the way in which workers complete a certain task is evident from the case of worker Schmidt. The managers need to find the best method for every task with the help of researchers and make sure that the task for every kind of work is done properly.

- *Kaizen, the continual improvement process*

The continual development and improvement were some of the components of factors in Taylor's scientific management. Taylor (1967, p. 242) suggests the worker should be stimulated in order to suggest any improvements, regardless of whether it is an improvement on the tools or the process. Managers should closely analyse the suggestion and conduct a series of experiments in order to get to know its value. If the new suggestion is better than the old one, it should be introduced as a standard into the organisation unity as a whole. The workers which hand over such a suggestion for improvement are entitled to a money prize and a recognition award for endeavours.

- *Visual management*

Visualisation of results of the process is an important principle and factor with which we signal the employees how well their job is being done. In lean organisation we choose a certain collection of KPIs (Key Performance Indexes) and visualize them so they are accessible and visible to all the employees. Taylor (1967, p. 289-290) explains visualisation management with the help of two sheets of paper in different colours (white or yellow). In case that both sheets were white, the worker knew that everything was alright. If one of them was yellow, it meant that his results from the previous day were not satisfying. The worker knew that the supervisor would visit him if he had found yellow sheets in his closet for three days in a row. In the previous chapter we presented the basic theoretical principles and factors of scientific management, principles and factors of lean production and overlap of lean production and scientific management and principles and factors of scientific management in lean production. The aim of our research was to establish the value of overlap of the principles and factors in lean production and basic principles and factors in scientific management.

### 3 Method

In the empiric part of the research the author of this article used an integrative overview of literature from academic databases from the field of lean production and Taylor's scientific management. On the integrative examination of the literature the author of this article based a research question which has not yet been asked, but it offers a new perspective over the already known problem, Torraco (2016, p. 19). The author of this article formed hypothesis H1 based on the previous theoretical conclusions H1: The overlap between lean production and Taylor's scientific management is more than 50 %. The author of this article included technical literature in searching which referred to production organisations (production and service organisations) and chose technical literature which included descriptions of principles and factors of Taylor's scientific management and lean production. Starting choice of the classics from the field of scientific management (Taylor, 1967) and lean production (Liker, 2004 & Womack, 2003) was crucial for the better depiction of both designs and other authors in the last 20 years (the period between 2000 and 2019). A graphical representation of our research is shown Figure 1.

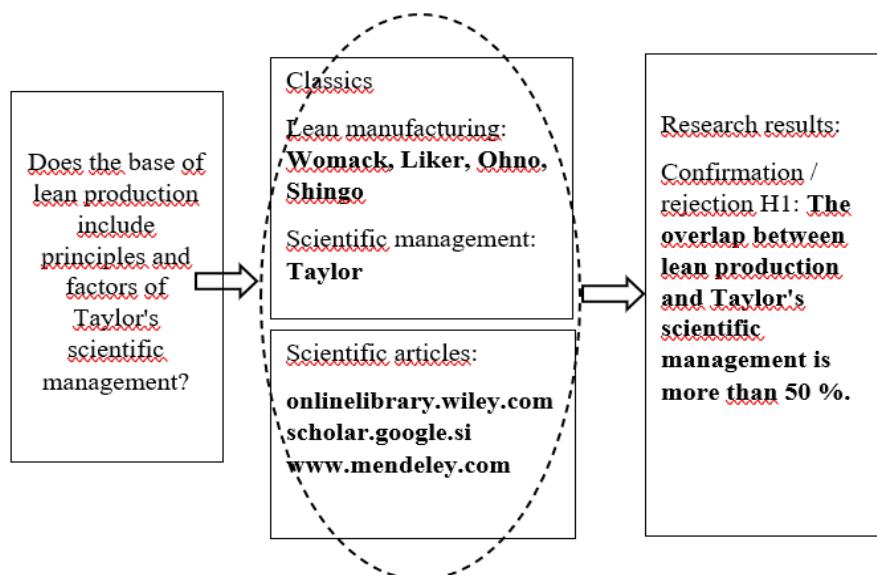


Figure 1. Research model

The technical literature the author of this article used was chosen after the examination of the bases of scientific articles in Wiley Library ([onlinelibrary.wiley.com](http://onlinelibrary.wiley.com)), web browser Google Scholar ([scholar.google.si](http://scholar.google.si)) and tool browser for citation editing Mendeley desktop ([www.mendeley.com](http://www.mendeley.com)). Key words which the author of this article used in the search for material were: fact fiction frederick w taylor, lean manufacturing implementation, frederick w taylor myth and reality, taylor lean manufacturing and frederick taylor, which are represented in table 1.

Table 1. Results of the literature review by keywords

Data base	Key words	Number of results	Selected results
Mendeley desktop	fact fiction frederick w taylor	78	1
	lean manufacturing implementation	3.316	3
	frederick w taylor myth and reality	1.748	2
Google scholar	fact fiction frederick w taylor	1.010	6
	lean manufacturing implementation	3.930	19
	frederick w taylor myth and reality	3.380	17
Wiley library	taylor lean manufacturing	2.956	1
	lean manufacturing implementation	3.389	5
	frederick taylor	772	3

For the decision about whether to include or exclude the results in further processing, the author of this article took into consideration the content adjustment to our research question: Does the base of lean production include principles and factors of Taylor's scientific management? In the research, the author of this article included articles which either compared scientific management and lean production or described the principles of scientific management and lean production in detail. The process of reduction of studied material is shown in Figure 2. Firstly, the author of this article evaluated whether the results (there was 20 759 of them) covered the field we were researching, based on their titles. The author of this article chose 321 titles whose abstracts we read and decided whether to keep or discard the article. Based on the content of matching the abstracts we limited ourselves to a closer overlook of 58 bibliographic units and 49 of them were included when looking for an answer to our research question.

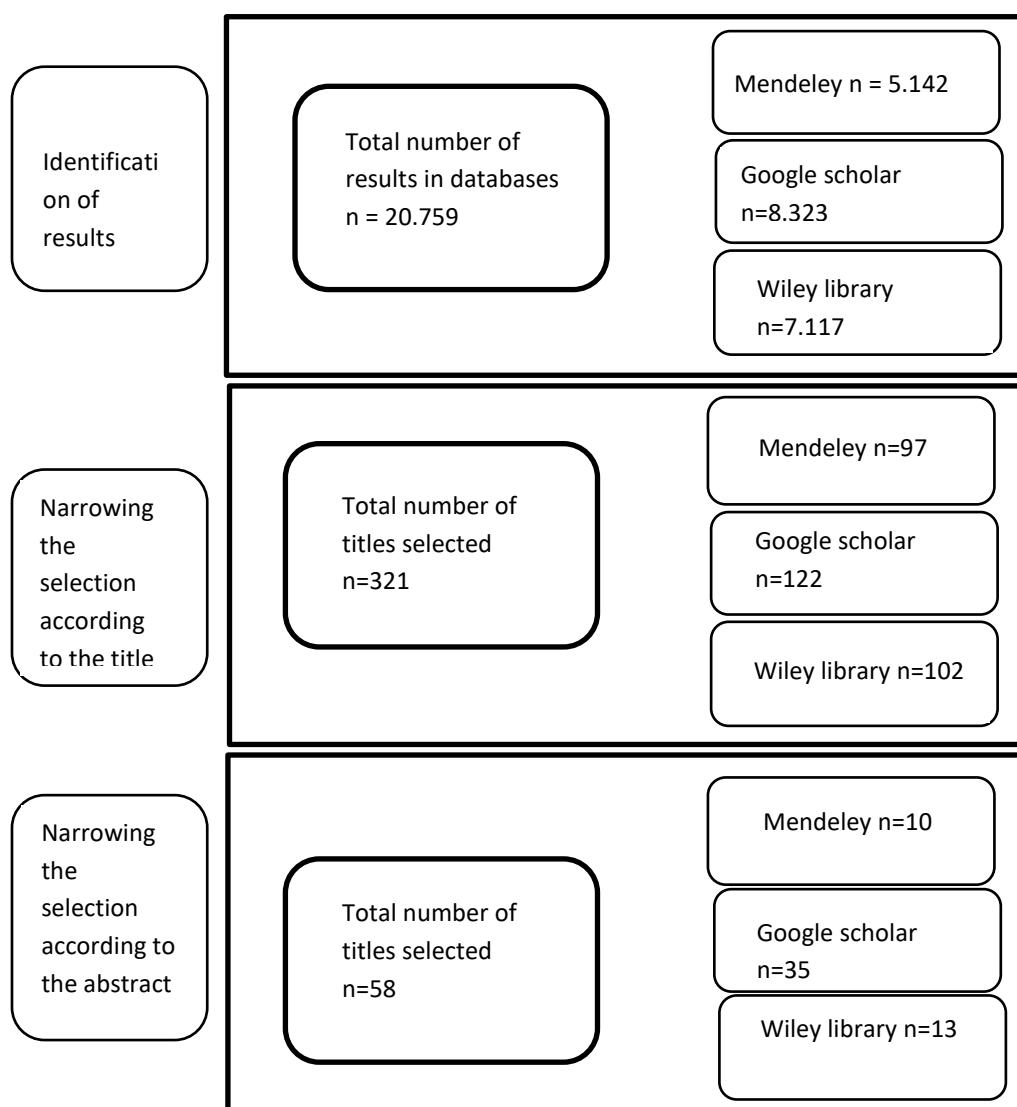


Figure 2. The process of reduction of studied material

## 4 Results

In table 2 we listed the literature and authors the author of this article used when searching for an answer to our research question: Does the base of lean production include principles and factors of Taylor's scientific management? The author of this article showed our estimation of author of the analysed publication based on our scientific question. In the second column of the table there are names of authors, in the third there is a title of the work we analysed and in the fourth the evaluation of author's attitude towards our research question (true, partly true, not true). In the end, we created a graph and figure which show how our evaluations are arranged (Table 2.), (Figures 2.). The analysed article was marked with grade *true* if the author lists that the principles and factors of lean production originate from scientific management. With grade *partly true* we marked the articles where author's point of view about the principles and factors of lean production overlapping the ones of scientific management is not entirely clear. The grade *not true* was given to all the articles where authors do not mention the influence of scientific management when describing the history of lean production.

Table 2. The evaluations of the attitude of authors of analysed publications according to our scientific question, whether the concept of lean production includes the principles of scientific management.

Ord N.	Autor	Publication	Does the base of lean production include principles and factors of Taylor's scientific management?
1	Adams, D.E., Smith, T., & Urick, M.J.(2017)	Taylorism and Operational Excellence Improving on the "One Best Way"	True
2	Hines P., Holweg M., & Rich N. (2004)	Learning to evolve A review of contemporary lean thinking	Partly true
3	Pruijt H. (2003)	Teams between Neo-Taylorism and Anti-Taylorism	True
4	Hop W. J. (2018)	Positive lean: merging the science of efficiency with the psychology of work	Partly true
5	Vijai, J. P., Somayaji, G. S. R., Swamy, R. J. R., & Aital, P. (2017)	Relevance of F.W. Taylor's principles to modern shop-floor practices: a benchmarking work study	True
6	Mtar, K., & Smordel, A.(2019)	JIT inventory control and manufacturing SME performance	Not true
7	Lubnina, A. A., & all (2018)	Innovative strategy for improving the efficiency of industrial enterprises management	True
8	Palla, A. K., & Billy, I. (2018)	Scientific management: its inapplicability to contemporary management challenges	Not true
9	Wilson, J.(2018)	Deconstructing the reinvention of operations management	True
10	Tsukamoto, W. S. (2007)	An Institutional Economic Reconstruction of Scientific Management: On the Lost Theoretical Logic of Taylorism	True
11	Corbacioglu, S.(2017)	Influence of Taylorism on Deming'S Quality Management	True
12	Turan, H. (2015)	Taylor's "Scientific Management Principles": Contemporary Issues in Personnel Selection Period	Not true
13	Kemp, L. J. (2013)	Modern to postmodern management: developments in scientific management	True

»continued«

14	DerkSEN, M. (2014)	Turning men into machines? scientific management, industrial psychology, and the “human factor”	True
15	Rask, K Johansson, J. (2008)	Similarities and Differences between Lean Production, Tayloristic and Socio-Technical Systems Revealed in the Methodology Characteristics Map	Partly true
16	Emiliani, M.L. (2006)	Origins of lean management in America	True
17	Evangelopoulos, N. (2011)	Citing Taylor: Tracing Taylorism’s Technical and Sociotechnical Duality through Latent Semantic Analysis	True
18	Paxton J. (2011)	Taylor’s Unsung Contribution: Making Interchangeable Parts Practical	True
19	Giannantonio, C.M., & Hurley-Hanson, A.E. (2011)	Frederick Winslow Taylor: Reflections on the Relevance of The Principles of Scientific Management 100 Years Later	True
20	Handel, M. (2014)	Theories of lean management: An empirical evaluation.	Not true
21	Hernaus, T. (2017)	Teorija organizacije	Partly true
22	Wren,D. A. (2011)	The Centennial of Frederick W. Taylor’s The Principles of Scientific Management: A Retrospective Commentary	Partly true
23	Kulesza, M.G., Weaver, P.Q., & Friedman, S. (2011)	Frederick W. Taylor’s presence in 21st century management accounting systems and work process theories	True
24	Kutin, M. (2019)	Vitka organizacija in kriza ali cesarjeva nova oblačila	True
25	Melton, T. (2005)	The Benefits of Lean Manufacturing What Lean Thinking has to Offer the Process Industries	Not true
26	Liker, J. (2004)	The Toyota Way - 14 management principles the world’s greatest manufacturer	Partly true
27	Parks, Charles M. (2003)	The bare necessities of lean: 10 things your lean guru may not tell you about making just-in-time work.	Partly true
28	Iuga, M., V., & Kifor, Claudiu, V., (2013)	Lean manufacturing: the when, the where, the who	True
29	Balle, F., & Balle, M. (2020)	Lean nor Sigma	True
30	Nepal, P.B.,Yadav, O.P., Rahaman, M., & Lal, V. (2017)	Lean Implementation and Organizational Transformation	Not true
31	Brennan, L. L (2011)	The Scientific Management of Information Overload	Partly true
32	Ohno T. (1988)	Workplace Management	Partly true
33	Parkes, A. (2016)	Lean Management Genesis	Partly true
34	Pech, M., & Vaneček, D. (2018)	Methods of Lean Production to Improve Quality in Manufacturing	True
35	Stentoft Arlbjørn, J., & Vagn Freytag, P. (2013)	Evidence of lean: a review of international peer-reviewed journal articles	True
36	Johansson, J., & Abrahamsson, L. (2009)	The good work – A Swedish trade union vision in the shadow of lean production	True
37	Ribeiro, A.F. (2015)	Taylorismo, fordismo e toyotismo	Partly true
38	Smith, S. (2014)	Muda, Muri and Mura	True

»continued«

39	Teehan, R., & Tucker, W. (2010)	A simplified lean method to capture customer voice.	Not true
40	Short, J.C. (2011)	The Debate Goes On! A Graphic Portrayal Of The Sinclair-Taylor Editorial Dialogue	True
41	Karim, A., & Arif-Uz-Zaman, K. (2013)	A methodology for effective implementation of lean strategies and its performance evaluation in manufacturing organizations	True
42	Tang, H. (2017)	The Implications of Taylorism...	True
43	Howison, J. D. (2009)	A Tough "Cell": Implementing Lean Production at Toledo Jeep	Partly true
44	Koskela, L. J., Sacks, R., & Rooke, J. A. (2020)	A brief history of the concept of waste in production.	Partly true
45	Hummels, H., & de Leede, J. (2000)	Teamwork and Morality: Comparing Lean Production and Sociotechnology	Not true
46	Womack J.P., & Jones, D.T. (2003)	Lean thinking	Partly true
47	Wittrock, C. (2015)	Reembedding Lean: The Japanese Cultural and Religious Context of a World Changing Management Concept	Not true
48	Zuffo, R.G. (2011)	Taylor is Dead, Huray Taylor!The "Human Factor" in Scientific Management: Between Ethics,	True
49	Smith, C., & Vidal, M. (2019)	The lean labour process: Global diffusion, societal effects, contradictory implementation	True

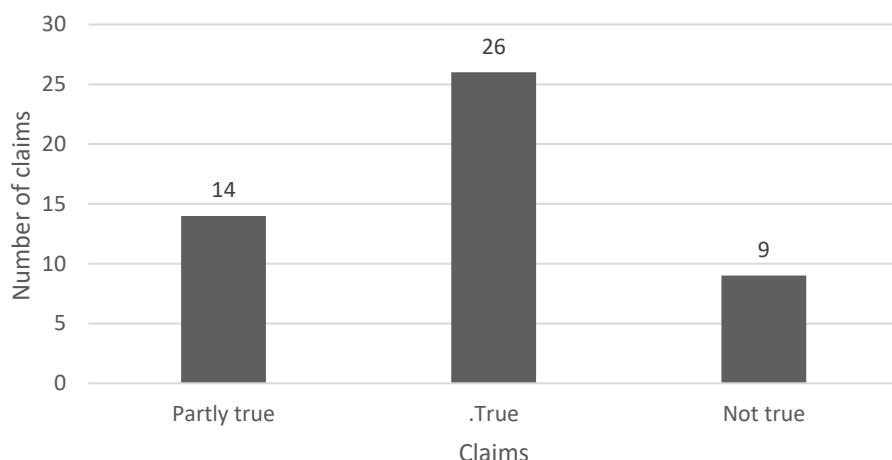


Figure 2. The results of the research about the integration of scientific management into the concept of lean production

## 5 Discussion

When analysing the articles, we included in the research we were seeking an answer to the research question: Does the foundation of lean production include principles of scientific management? We got an answer by individually evaluating authors' attitudes towards our research question. We concluded that 26 of the authors confirmed that the principles of lean production do include the principles of scientific management, 14 of them partly support this and 9 of them do not agree. The majority of the authors we analysed find out that the

contribution of scientific management to the development of organisational science is enormous. The differences among the authors occur in the following questions:

- How big the historical contribution of scientific management to the organisation science actually is?
- Various authors interpret Taylor's principles of scientific management differently; from the inhumane treatment of workers to being the pioneer of humane relationship towards the employees (DerkSEN, Tang).
- Some authors claim that lean organisation has roots in scientific management and that there are similarities between them, whereas others strongly deny this (Ott & Shafritz, Budgen, Edwards, Linden & Thomas, Charron, Harrington, Voehl & Wiggin, Corbacioglu).
- Taylor is not credited for his *scientific* approach (there is no science in observing worker Schmidt shifting iron with a spade), but others greatly appreciate his approach (Giannantonio & Hurley-Hanson, Kulesza, Weaver & Friedman, Short, Charron, Harrington, Voehl & Wiggin, Rawlinson in Wells).
- Taylor's impact on the modern organisation; in individual environments and other institutions Taylor' way of managing the organisations prevails, while others speak about the extinction of his methods (Evangelopoulos, Liker, Ribeiro).
- Based on the analysed articles we confirmed hypothesis H1: The overlap between lean production and Taylor's scientific management is more than 50 %. From the table it is evident that the overlap between lean production and Taylor's scientific management is 53 %. We did not come across any author specially searching for an answer to the question *Does the foundation of lean production include the principles and factors of Taylor's scientific management?* or this kind of question being partly or without further explanation debated as a part of the discussion of some other issue. We would like to point out the big differences between the times when Taylor's scientific management was in making and times when the concept of lean production was in development. The social conditions were different and the law did not protect the worker as it does today, the majority of the employees were illiterate, the production workers knew the work process better than the managers, the market was not demanding and there was a lack of goods in general. Our opinion is that Taylor would also have his own concept of scientific management equal to what we call today the concept of lean production, if we assume that the conditions he lived in resembled the ones we have today. The difference would be merely in the naming of the tools and methods. Some lean tools like pull system were useless in Taylor's times, as the market was predominated by shortage. The introduction of pull system would be a pure *lean production* waste in Taylor's times and without any added value. Similar is in force today, the foundation of lean production inside its concept should not include anything what does not bring an added value. It does not include what could turn out to be very useful in for example 2050.

## 6 Conclusion

The main aim of our research was to establish the stage of overlap of the principles of lean production and the principles of scientific management which were conceived by F. W. Taylor in 1911. In the empirical part of the research we used an integrative overlook of technical literature from the field of lean production and Taylor's scientific management. The technical literature that we used was chosen after the examination of bases of scientific articles in Wiley library ([onlinelibrary.wiley.com](http://onlinelibrary.wiley.com)), online browser Google Scholar ([scholar.google.si](http://scholar.google.si)) and tool browser for citation editing Mendeley desktop ([www.mendeley.com](http://www.mendeley.com)). Among 20759 results we chose 321 titles, read their abstracts and decided whether to keep or discard the article. According to the content of the abstract we limited the examination to a closer overlook of 58 bibliographic units and 49 of them were later included in answering to our research question. We concluded that the principles and factors of lean production prevailingly include the principles and factors of scientific management (53 % of the analysed articles support the finding that the principles and factors of lean production include the principles and factors of scientific management, 29 % partly support it and 18 % do not support it at all).

The contribution of findings from the articles to the management science and profession is theoretical, empirically-investigative and practical. In the theoretical part of the research, we gained and presented in one place new knowledge about the factors of lean production and scientific management which enable the creation of conceptual model and forming scientific question and hypotheses. In the empirical part of the research, we came to new knowledge about the level of overlap of principles and factors of lean production and basic principles and factors of scientific management with the help of the analysis of the articles. The overlap of principles and factors of lean production and principles and factors of scientific management is more than 50 %. The overlap of the principles and factors of lean production with the principles and factors of scientific management will also have practical implications for the economic companies in the Republic of Slovenia and beyond. Our findings will help the owners and top managers with the decisions regarding the principles and factors of lean production.

While conducting the research we faced individual assumptions and restrictions. We originated from the assumption that in domestic and foreign researches about the overlap of principles and factors of lean production and basic principles and factors of scientific management so far, the study with such point of view has not yet been conducted. We assumed that the function of production is among the fundamental functions in every company and institution and is mostly inconsistent with other fundamental functions like marketing or financing. The research was limited to the selection of publicly accessible bases of scientific articles: Wiley Library, Google Scholar and using Mendeley desktop. In the analysis of the overlap of the principles and factors of lean production and the principles and factors of scientific management we did not study the impact of the overlap of these principles and the key performance indicators of production processes like for example OEE, 5S, TPM, A3 and so on.

The research from the field of overlap of the principles and factors of lean production and the fundamental principles and factors of scientific management have not been conducted yet in the Republic of Slovenia, so our results cannot be compared to any similar or comparable one. The results we got from the integrative examination of the technical literature could be a good base for a possible further research from various aspects, theoretical as well as methodological. Further research could be conducted by examining the technical literature and other publicly accessible scientific articles like for example JStor, Emerald, Ebsco, Proquest, Springer and so on. Further on, the research could be substantively continued in the course of establishing the impact of factors of lean production and scientific management on individual or composite indicators of successfullness of the (business, technological or comprehensive) organisation.

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## **Povzetek:** **Sovpadanje vitke proizvodnje in znanstvenega menedžmenta**

**Raziskovalno vprašanje (RV):** Ali zasnova vitkega proizvajanja vsebuje načela in dejavnike Taylorjevega znanstvenega menedžmenta?

**Namen:** Namen naše raziskave je bil ugotoviti vrednost sovpadanja načel in dejavnikov vitkega proizvajanja s temeljnimi načeli in dejavniki znanstvenega menedžmenta.

**Metoda:** Uporabili smo integrativni pregled strokovne literature za preteklih 20 let (od 2000-2020) v kateri so bila opisana načela in dejavniki znanstvenega managementa in vitkega proizvajanja.

**Rezultati:** Načela in dejavniki vitkega proizvajanja prevladujejoče vsebujejo načela in dejavnike znanstvenega menedžmenta (53 % analiziranih prispevkov podpira spoznanje, da načela in dejavniki vitkega proizvajanja vsebujejo načela in dejavnike znanstvenega menedžmenta, 29 % jih delno podpira in 18 % ne podpira tega).

**Organizacija:** Lasnikom in vršnim menedžerjem v organizacijah bodo naše ugotovitve pomagale pri odločitvah o uvajanju načel in dejavnikov vitkega proizvajanja.

**Družba:** Ugotovitve iz raziskave bodo imele teoretične in praktične implikacije za vse tiste, ki se ukvarjajo z vpeljevanjem načel in dejavnikov vitkega proizvajanja iz vidika trajnognega razvoja družbe.

**Originalnost:** Izvirna raziskava s področja sovpadanje načel in dejavnikov vitkega proizvajana in znanstvenega menedžmenta v Republiki Sloveniji.

**Omejitve/nadaljnje raziskovanje:** Integrativni pregled strokovne literature smo opravili v treh svetovnih bazah.

**Ključne besede:** dejavniki, podjetje, sovpadanje, vitko proizvajanje, znanstveni menedžment.

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# Patients' Views on Self-Management of Chronic Musculoskeletal Pain

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## Abstract:

**Research Question (RQ):** Chronic musculoskeletal pain is a complex condition and one of the most important causes of suffering of modern times. Self-management refers to the individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a chronic condition. The research question is; what is the view on the self-management of chronic musculoskeletal pain from the patient's perspective?

**Purpose:** The purpose of this literature review was to review original articles that reported how self-management educational programmes are viewed from the patient's perspective.

**Method:** We used an integrative review of the literature. The search was conducted from November 2019 to March 2020 on the PubMed, PEDro and OTseeker databases. We included original studies, written in English that examined the patients' point of view on self-management. The included studies, needed to be conducted on adult patients of both sexes, that were suffering from chronic pain and were educated on self-management of their pain. Two authors independently searched for original studies.

**Results:** Nine article were included in the review. Most of the studies included a multidisciplinary approach. Patients reported they more frequently used passive strategies to manage their pain. They want to be included in the management and be able to communicate with the provider of self-management. There are several positive aspects of a multidisciplinary and groups approach.

**Organization:** Health care providers can encourage an individual to proactively behave through ongoing processes of communication, partnerships and the creation of appropriate self-management plans over time.

**Society:** We assume that the analysis will help to identify the social responsibility of the individual and society in the common concern for the health of the population and the individual within it.

**Originality:** The research provides an up-to-date, new overview of the patients' perspective on self management on chronic pain. The review can be helpful to health care providers s they can compare their expectations with patients's.

**Limitations / further research:** Further research would focus on high quality studies, and specific forms of multidisciplinary approach, and finding what patients use at a home setting and how to help them continue in the self management of their pain. Limitations of this review include the lack of risk of bias assessment and the fact that this is not a systematic review.

**Keywords:** chronic pain, musculoskeletal pain, self-management, patient perspective, patient experience.

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254

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## 1 Introduction

According to the International classification of diseases chronic pain is a persistent or recurrent pain lasting longer than 3 months. Causes of chronic pain are primary pain, cancer, postsurgical or posttraumatic pain, neuropathic pain, headache, orofacial pain, visceral pain or musculoskeletal pain (Treede et al., 2015, p. 1004). Chronic conditions will be the major cause of death and disability globally by 2020 according to WHO estimates, and by then will account for two thirds of the global burden of disease (Epping-Jordan et al., 2001, p. 947). Population surveys have revealed that chronic pain and its associated problems affect between 10 and 30 % of the population (Nicholas & Blyth, 2016, p. 76). In a large-scale survey of the prevalence, severity, treatment and impact of chronic pain in 15 European countries and Israel, 19 % of respondents reported having chronic pain. Of the respondents with chronic pain, 66 % reported having moderate and 34 % severe pain. Twenty-one percent of patients were diagnosed with depression because of their pain, yet only 2 % were currently treated by a pain management specialist. Forty percent of chronic pain sufferers had inadequate management of their pain. Chronic pain seriously affected their social and professional lives (Breivik et al., 2006, p. 288).

Numerous policy and guideline publications have concluded that in order to reduce chronic pain at both the individual and population level, individuals will have to play a central role in the management of their pain (Nicholas & Blyth, 2016, p. 75). According to previous research patients find it difficult to cope with their pain and its consequences that affect their daily lives (Franklin, Smith, & Fowler, 2016, p.1). This is generally what is meant by the term “self-management”.

The purpose of this literature review was to establish current knowledge on how self-management educational programmes are viewed from the patient’s perspective. We set out to determine what self-management tools are deemed effective, how a self-management educational programme should be constructed and which health care providers play a significant role from the patients’ perspective and whether proposed self-management interventions are consistent with the patient’s perspectives.

## 2 Theoretical framework

Self-management refers to the individual’s ability to manage the symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a chronic condition. Efficacious self-management includes the ability to monitor one’s condition and to effects cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life (Barlow et al., 2002, p. 178).

Self-management is a key treatment modality for patients with chronic pain (Lukewich et al., 2015, p. 2552). Consideration is given on how to improve the quality of life of patients with chronic pain through self-management. Self-management of chronic pain should confront patients with the effects of symptoms, treatment, and the psychosocial consequences of a long-

term condition. There are several possible mechanisms to facilitate self-management, including patient-clinic interaction in routine consultations. This requires patients to be involved in their healthcare, and healthcare professionals are specifically encouraged to develop a patient perspective (Dures et al., 2016a, p.1).

Self-management includes tasks and techniques on having the confidence to deal with medical management and emotional management as well as having a role in the management of their conditions. Self-management of chronic pain is mainly provided in the context of primary care. The delivery of self-management support for individuals with chronic pain has recently been identified as a priority for health care providers (Lukewich et al., 2015, p. 2552). Some examples of pain self-management strategies include activity pacing, problem solving, attention diversion, exercise, goal setting, relaxation, self-monitoring, sleep management, assertiveness and communication skills, deliberate exposure to pain and thought management (Nicholas & Blyth, 2016, p. 76).

Previous research has focused on primary care, specific conditions or diseases that cause chronic pain. Such information is needed for the prevention and management of chronic pain. Information about the course of chronic pain in the community and factors predicting its onset recovery needed for the prevention and management of chronic pain (Elliott et al., 2002, p. 299). Educational needs are related to knowledge and control of the disease, side effects of treatment and appropriate risk factors, non-pharmacological treatment, pain control, exercise, and behavioural changes. Patient education is not just about transferring knowledge. Evaluating the patient's educational needs are related to knowledge and control of the disease, side effects of knowledge of the educational process is part of evaluating the success of educational interventions (Beauvais et al., 2019, p. 747).

The situation of patients facing with chronic musculoskeletal pain makes this study very needed, as it helps to find guidelines for maintaining the quality of life of the individual and their family, reducing the cost of health care and maintaining a healthy society. Self-management of chronic pain is a key factor relating to an individual's ability to manage symptoms, treatment, physical and psychosocial consequences, and lifestyle changes associated with living with a chronic condition. We decided to formulate a research question, what is the view of self-management of chronic musculoskeletal pain from the patient's point of view.

### 3 Method

A review of the scientific and professional literature in connection with the studied topic was used in the research. The review of the literature presented is based on a research analysis, using the approach described by Cronin et al. (2008, p. 38). The approach includes formulating a research question, setting criteria for inclusion and exclusion criteria, selecting appropriate literature, assessing the quality of the literature involved, analyzing and synthesizing key findings. We carried out an integrative literature review. The search strategy used was to conduct a bibliographic study of published articles in the following databases PEDro, PubMed and

OTseeker. The search was conducted using the following keywords: chronic pain, self-management and patient perspective.

The literature search was conducted from November 2019 to March 2020. We included original studies, written in English that examined the patients point of view on self-management. The included studies, needed to be conducted on adult patients of both sexes, that were suffering from chronic pain and were educated on self-management of their pain. Two authors independently searched for original studies. If studies met the inclusion criteria on title and abstract, full text eligibility was assessed. Both authors met and discussed on the full text eligibility of the studies. We excluded articles conducted on patients in palliative care, patients with chronic pain that was not caused by a musculoskeletal condition. We also excluded studies conducted on pregnant women and patients with psychological conditions.

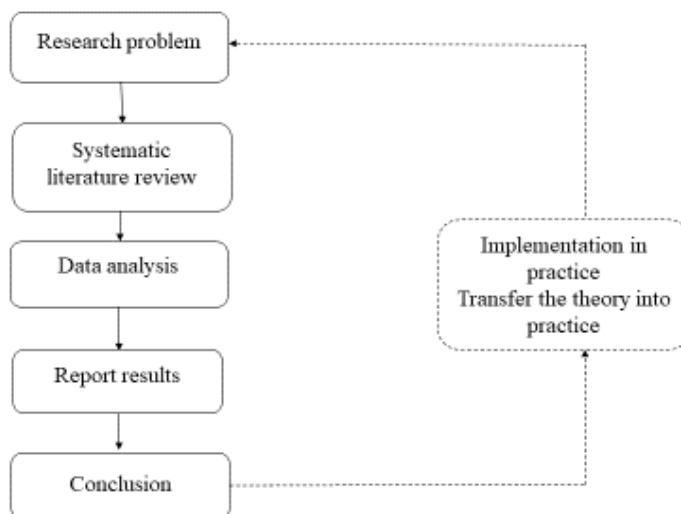


Figure 1: Research model

## 4 Results

We identified a total of 176 publications (PEDro 5, PubMed 126, OTseeker 45). The review included database searches, adequacy reviews and study quality assessments. After analysis, 167 studies were excluded because they did not meet the inclusion criteria or were duplicated. Finally, 9 studies were included in the review (with Journal Citation Reports from 1.7 to 12.3).

In two articles a telephone survey was conducted with the aim to determine what form of self-management patients with chronic pain used at home (Blyth et al., 2005, pp. 285-292; Lukewich et al., 2015, pp. 2551-2562). Blyth and colleagues (2005, p. 285) included 474 adults with chronic pain and asked them to nominate up to 5 strategies that they use to manage their pain. The self-management strategies were grouped in active and passive strategies. Lukewich and

colleagues (2015) included 239 adults suffering from chronic pain from back problems, osteoarthritis, arthritis, migraines or nerve damage. In both articles passive strategies were more frequently reported to manage chronic pain, in 59.3 % (Blyth et al., 2005, p. 285) and 39.2 % of adults (Lukewich et al., 2015, p. 2555). Of the passive strategies, rest was the most commonly reported (31.5 %), followed by hot/cold pack (23.4 %) and massage (18 %). Exercise was the most common active strategy to manage chronic pain, used in 25.8 % of the included adults, followed by posture correction (12.1 %). Taking medication was reported in 47 % of the included adults to manage chronic pain. All of the other strategies were reported to be used by less than 10 % of the included adults (Blyth et al., 2005, p. 285). In seven studies the self-management of chronic pain was assessed after a programme was administered to the chronic pain patients. The methodological properties are described in Table 1.

Table 1. The methodological properties

Authors	Joural Citation Report	Code	Participants	Self management	Medical professionals
Matthias et al., 2012	2,4	article	26 (4F, 22M) 40 years (24 – 62) chronic musculoskeletal pain	physical activity, accountability, motivation and support	nurse care manager, clinical psychologist
Franklin et al., 2015	1,9	research article	8 (6W, 2M) 53.8 years chronic musculoskeletal pain	cognitive behavioral therapy, mindfulness based stress reduction, acceptance and commitment therapy	psychologist, physiotherapist, nurse, doctor, occupational therapist
Bunzil et al., 2016	12,3	qualitative study	14 (8W, 6M) 42 years low back pain	pain education, posture and movement retraining, functional integration, physical activity and lifestyle training	physiotherapist
Dures et al., 2016a	12,8	extended repott	1210 (895W, 315M) 59 years inflammatory arthritis	pain management, occupational therapy, support groups, patient education, psychology and counseling	doctors, nurses, occupational therapist, physiotherapist

»continued«

Dures et al., 2016b	1,7	research article	19 (14W, 5M) 55 (27 – 75) years inflammatory arthritis	pharmacological education, pain reduction education, physical activity	physician, nurse, occupation therapist, physiotherapist
Hapidou et al., 2016	no information	original research	50 (26W, 24M) 43.96 (21 – 79) years Chronic musculoskeletal pain	relaxation classes, functional activity, exercise, group therapy	physician, psychologist, psychometrist, physiotherapist, pharmacist, social worker, occupational therapist
Nees et al., 2020	5,5	original article	276 (157W, 119M) 44.5 years Chronic low back pain	physiotherapy, aquatic therapy, medical training therapy, biofeedback training, back education, relaxation therapy, music therapy, psychological pain therapy, medical supervision	physiotherapist, aquatic therapist, psychologist, attending physician

Legend: W – female, M – men.

## Role of health care providers

Lukewich and colleagues (2015, p. 2557) indicated facilitators and barriers of self-management reported by the individuals with chronic pain. The most common reported facilitator was confidence in self-management (65.3 %), relationship with provider (48.8 %), friend or family support (43.8 %), access to healthcare services (42.6 %) and the ability to understand health information (30 %). The barriers of chronic pain self-management included fear of pain exacerbation (25.3 %), pain intensity (23.2 %) and depression or feeling down (15.9 %).

In two articles subjects with chronic pain listed the most supportive health care provider in supporting chronic pain self-management (Dures et al., 2016a, p.1; Lukewich et al., 2015, p. 2551). The most supportive healthcare professional in supporting chronic pain self-management was the family doctor (43.8 %) followed by the physiotherapist and occupational therapist (10.5 %) (Lukewich et al., 2015, p. 2557). On the other hand, the preferred provider of psychological support during a self-management programme is the rheumatology nurse (74 %) or doctor (55 %) and the general practitioner (51 %). Other preferred sources include family (49 %), friends (35 %), other patients (37 %), patient support group (33 %), online information (31 %), psychologist (29 %) and occupational therapist (27 %) (Dures, Hewlett, et al., 2016, p. 2). In the study conducted by Matthias and colleagues (2012) patients identified the nurse care

manager, who administered the intervention, as being integral to patients' ability to self-manage their chronic pain (Matthias et al., 2012, pp. 1-3).

### **Group or individual approach**

Hapidou and Horst (2016) found there are several benefits of a group intervention. For many patients this is the first encounter with other patients with a similar condition. They expressed enjoyment in being able to share their own insight and concerns with others and share stories. With the group interaction, patients also learned how to better communicate with family members. There is a strong role of an interdisciplinary approach. Patients expressed some form of gratitude. Patients commented that the program had an advantage on learning about one's own condition, which has often been limited in the past. The interdisciplinary approach provided patients with a new insight on their own condition (Hapidou, Horst, 2016, pp. 5-11).

Nees and colleagues (Nees et al., 2020, pp. 3-4) performed a multidisciplinary pain management programme for patients with chronic low back pain. Surprisingly, individual physiotherapy was, on average, rated as very beneficial and was highest during treatment. The vast majority of patients were useful in group therapy with physiotherapy (87.3 %) and with individual physiotherapy (85.5 %). Group and individual based physiotherapy were, on average, rated as very beneficial. Nearly half of patients reported (48.6 %) that individual physiotherapy was extremely helpful in alleviating of chronic back pain (CBP). A similarly high percentage of patients (38.4 %) rated group-based physiotherapy as extremely beneficial.

### **Benefits of an interdisciplinary approach**

Hapids and Horst (2016, pp. 4-5) found there is a strong role of an interdisciplinary approach. Patients expressed some form of gratitude, staff had something positive to say about them. Patients wrote that staff showed up good balance, professionalism and compassion and empathy. Patients commented on the designed program as an advantage learning about one's own condition, which has often been limited in the past due to physiological mechanism and psychosocial consequences of chronic pain. The interdisciplinary nature of the Chronic Pain Management Unit (CPMU) patients with different perspectives. The interdisciplinary nature of the CPMU provided patients a ranging perspective.

### **What modalities do patients use in a home setting**

Blyth and colleagues (2005, p. 285) asked patients to nominate up to 5 strategies that they use to manage their pain. The self-management strategies were grouped in active and passive strategies. Passive strategies were more frequently reported to manage chronic pain, in 59.3 % (Blyth et al., 2005, p. 285) and 39.2 % of adults (Lukewich et al., 2015, p. 2555). Of the passive strategies, rest was the most commonly reported (31.5 %), followed by hot/cold pack (23.4 %) and massage (18 %). Exercise was the most common active strategy to manage chronic pain, used in 25.8 % of the included adults, followed by posture correction (12.1 %). Taking medication was reported in 47 % of the included adults to manage chronic pain. All of the other

strategies were reported to be used by less than 10 % of the included adults (Blyth et al., 2005, p. 285).

### **What should be included in a self-management programme**

Hapidou and Horst (2016, p. 2) note that the main emphasis is on learning self-management techniques and encouraging the use of strategies to manage unpleasant pain-related thoughts and behaviours. The main goal is to improve the patient's sense of control over their pain by providing a set of skills to better manage physical symptoms. Goal setting, active quota implementation, stress management, relaxation, career counselling and family mediation are essential components.

Similarly, Matthias and colleagues (2012, pp. 1-3) found that helping patients find what works for their pain, holding patients accountable for their pain management and motivating with providing emotional support to patients were described as proffered approaches used by the nurse who provided self-management education. The authors proposed a model of self-management, in which chronic pain-self management is a complex construct, tied to the relationship between a patient and his providers.

Changing the belief in pain into a more biopsychosocial perspective required a strong therapeutic alliance, the development of physical consciousness, and the experience of managing pain. Those that were unchanged retained their biomedical beliefs. Independence has been achieved through major improvements with newly cultivated problem-solving skills, independence, less fear of pain and improved stress management. Residual fear and poor stress management meant that small improvers were easily distressed and lacked independence. Those who were so unchanged therefore continued to feel defined by their pain in maintaining a biomedical perspective (Bunzli et al., 2016, p. 3).

Dures et al. (2016b) summarized in the following sections the findings of patients with inflammatory arthritis on interactions that facilitate participation in consultation and self-management:

- patients and clinicians treat care as usual, patients and clinicians actively participate and agree,
- clinicians understand patients' needs, understand the challenges faced by patients, assess the impact of problems and focus on patients' priorities,
- clinicians use an open mode of communication, including the use of non-didactive patient-centred approaches,
- active participation of the clinicians and the patient in consultations, including greater confidence in dealing with the problems and greater acceptability of the long-term situation (Dures et al., 2016b, pp. 3-5).

## **Patients expectations**

In the study by Franklin and colleagues (2016), with patient interviews were used to identify key factors influencing an individual's experience of managing chronic pain. Participants expressed a desire to understand their position and learn about self-management strategies that enable them to better manage. Because patients have benefited from participating in the management process, discussions about treatment options can improve management and rehabilitation. It was important that participants understood their condition because this changed the outcome of treatment expectations (Franklin et al., 2016, pp. 1–6).

Dures et al. (2016b) examined patient preferences and psychological support. Only 23 % routinely reported regular social and emotional consultations with a rheumatologist, and 46 % wanted opportunities to discuss the psychological impact. Patients want support in managing the effects of pain and fatigue (82 %), emotion management (57 %), work and leisure (52 %), relationships (37 %) and depression (34 %). Only 6 % of patients said that social and emotional issues are not important (Dures et al., 2016b, p. 3).

Dures research (2016a) confirmed the great need of patients for psychological support. Patients want support in managing the impact and attitude to symptoms such as pain and fatigue, emotions and work and leisure. Patients showed a preference for face-to-face psychological support and providing psychological support through computer-assisted interventions. For certain groups (e.g., patients from a remote location) or specific problems (e.g., self-management), online support is very appropriate. Half of the patients wanted a form of support that would be available 6 months after diagnosis. Influencing factors that include interpersonal relationships, personality traits, cognitive variables, and coping procedures could be addressed through types of services that include self-management and pain treatment programs (Dures et al., 2016a, p. 5).

## **5 Discussion**

Chronic musculoskeletal pain is not in itself life-threatening, but it does significantly affect an individual's quality of life. Prolonged absence of diagnosis and effective pain management strategies can lead to life changes that condition emotional and social change. Understanding the patient's condition is a step towards improving communication between patients and the clinic. Addressing the factors from the patient's perspective helps to develop a more critical discussion of treatment options and gives him a greater sense of control and satisfaction. Previous research has found that having a diagnosis for their pain is important for individuals as it gives them a feeling of legitimacy for their pain (Franklin et al., 2016, p. 7).

One of the factors showing the promising results reported by patients is pain education. However, the patient's opinion of pain education and its impact remains relatively unknown. A cross-sectional study (Mittinty et al., 2018, pp. 1-9) involving individuals with chronic pain examined their views on pain education; whether this changed their understanding of their pain and self-management, and whether it affected their perceived pain intensity and recovery. The

results showed that individuals who observed changes in cognitive pain and self-management when receiving pain reported lower pain intensity and higher expectations for recovery than their counterparts who did not perceive any changes in pain perception and self-management. We note that patient education should not only focus on illness and treatment, but should also include a range of flexible skills such as general issues, health system management, patient pathways, joint decision-making, multidisciplinary team assistance, patient education interest and recommended physical activity. Similar recommendations were proposed in a study by Beauvais and colleagues (2019, p. 754).

Facilitating effective self-management includes supporting patients to adjust to the many consequences of illness, which may include symptoms of disability, insecurity, loss of independence, fear and depression, anger, loneliness, sleep disturbances, and stress. Patients are looking for answers to the question of who is best suited to provide support services and assistance. An important place in the provision of these services is played by a multidisciplinary group because it understands the disease and the course of treatment. The team plays a key therapeutic role as it helps patients increase their sense of control and improve their mental well-being (Dures et al., 2016a, pp. 4-5).

The exclusive use of passive strategies was four times more common than the exclusive use of active strategies. Self-management strategies were strongly associated with pain, impairment, and use of health services in multiple logistic regression models. Consistent use of passive strategies was associated with an increased likelihood of an increase in disability-related pain levels and more pain-related health care; the use of active strategies was associated with a reduced likelihood of also having a high level of pain disability (Blyth et al., 2005, p. 290).

The findings highlight the role of therapists as mentors in equipping patients with the knowledge and skills needed for self-management. Therapists have to challenge old beliefs, stimulate discussion, and resolve cognitive dissonance, but do so in a motivational, empathetic way. Learning from personal experience played an important role in self-management process. The visibility of patients who show insecurity in their own abilities or are at risk of prolonged stress or anxiety may highlight those who will struggle with independent self-management. The therapist's role in these situations may include raising awareness of their impact on the pain experience, further referral for multidisciplinary care, contact maintenance and follow-up when it is necessary (Bunzli et al., 2016, pp. 30-31).

From our search of the literature, we can conclude that the poorly researched area of data is precisely the population living in the community, coping with the symptoms of chronic pain, what kind of help they seek or not. It is indicated, that the use of active strategies would be related with a lower degree of disability, less distress, less reliance on medicines and less use of formal health care. Patients with chronic pain used a wide range of self-management strategies that often bring together those that are considered to be active chronic pain with passive. Strategies used and the frequency of their use was consistent with those found in others

studies (Grimby-Ekman, Andersson, & Hagberg, 2009, pp. 1-11, Vlaeyen, Kole-Snijders, Boeren, & van Eek, 1995, pp. 363-372).

Research has shown the usefulness of self-management strategies for patients with chronic musculoskeletal pain. Active self-management strategies are associated with lower levels pain-related disability and use of health care. It is advisable to pay more attention to community strategies, improve awareness and acceptance of active self-management in chronic pain.

## 6 Conclusion

We set out to determine what self-management tools are deemed effective, how a self-management educational programme should be constructed and which health care providers play a significant role from the patients' perspective and to compare if proposed self-management interventions are consistent with the patient's perspectives. Self-management of chronic pain is transferred from the community to the individual - the user of health services, where is an important aspect cooperation between the health worker and the patient. Research shows that patients who were actively involved in treatment procedures had better management and rehabilitation options. As many researchers note, it is important to continue to explore factors relevant to individuals with musculoskeletal pain in order to find an effective, evidence-based framework for understanding and managing this condition.

Treatment or treating of chronic pain should be considered as normal care, where the patient should be actively involved. The clinician must understand and be sympathetic to the patient's needs, his challenges, and his priorities. An open, patient-centered way of communicating provides greater confidence in problem solving and greater acceptability in solving long-term situations.

There are several limitations of this review. This is not a systematic review, no risk of bias assessment was conducted. There is also a possibility that not all available studies were included in the review. Future research should focus on specific forms of interdisciplinary approaches and finding what elements of self-management are effective and what patients actually use in a home setting regularly. There is a lack of high-quality studies examining patients' perspectives of self-management of chronic pain.

We can conclude that patients need to be included in the management of their pain and be able to openly communicate with the health care provider. We believe that a multidisciplinary, group approach is best as the patients learn different self-management techniques and have several different options to find what works for them and the management of their chronic pain. With a group approach, patients meet other people with the same or similar condition and may find a support system for each other and communication between them they can exchange taughts and experiences in the management of their condition.

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## **Povzetek:**

### **Stališče bolnikov do samoupravljanja kronične mišično-skeletne bolečine**

**Raziskovalno vprašanje (RV):** Kronična mišično-skeletna bolečina je zapleteno stanje in ena od najpogostejših vzrokov obolenosti sodobnega časa. Samoupravljanje (ang. self-management) se nanaša na posameznikovo sposobnost obvladovanja simptomov, zdravljenja, fizičnih in psihosocialnih posledic ter sprememb življenjskega sloga, ki so značilne za življenje s kroničnim obolenjem. Raziskovalno vprašanje je; kakšno je stališče na samoupravljanje kronične mišično-skeletne bolečine z vidika pacienta?

**Namen:** Namen pregleda literature je bil pregled izvirnih člankov, ki so poročali o samoupravnih izobraževalnih programih s stališča bolnika.

**Metoda:** Uporabili smo integrativni pregled literature. Iskanje je potekalo od novembra 2019 do marca 2020 v bazah PubMed, PEDro in OTseeker. Vključili smo izvirne študije, napisane v angleščini, ki so preučile bolnikov pogled na samoupravljanje. Vključene študije so bile izvedene na odraslih bolnikih obeh spolov s kronično bolečino, ki so bili poučeni o samoupravljanju bolečine. Dva avtorja sta samostojno iskala izvirne študije.

**Rezultati:** V pregled je bilo vključenih devet člankov. Večina študij je vključevala multidisciplinarni pristop. Bolniki so poročali, da pogosteje uporabljajo pasivne strategije za obvladovanje svoje bolečine. Želijo si aktivne vključnosti v upravljanje in sposobni komuniciranja z izvajalcem (zdravstvenih storitev) samoupravljanja. Multidisciplinarni in skupinski pristopi imajo več pozitivnih vplivov.

**Organizacija:** Izvajalci zdravstvenih storitev lahko posameznika spodbudijo k proaktivnemu vedenju z rednimi komunikacijskimi procesi, partnerstvom in oblikovanjem ustreznih načrtov samoupravljanja s časom.

**Družba:** Predvidevamo, da bo analiza pomagala prepoznati družbeno odgovornost posameznika in družbe v skupni skrbi za zdravje prebivalstva in posameznika znotraj njega.

**Originalnost:** Raziskava ponuja posodobljen, nov pregled na bolnikovo stališča do samoupravljanja kronične bolečine. Pregled je lahko v pomoč izvajalcem zdravstvenih storitev, saj lahko primerjajo svoja pričakovanja z bolnikovimi.

**Omejitve/nadaljnje raziskovanje:** Nadaljnje raziskave bi se morale osredotočiti na visokokakovostne študije in posebne oblike multidisciplinarnega pristopa ter raziskati, kaj bolniki izvajajo v domačem okolju in kako jim pomagati pri nadalnjem samostojnem obvladovanju kronične bolečine. Omejitve tega pregleda vključujejo pomanjkanje ocene pristranskosti in dejstvo, da pregled ni sistematičen.

**Ključne besede:** kronična bolečina, mišično-skeletna bolečina, samoupravljanje, stališče bolnika, bolnikove izkušnje.

