UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROY LEBAN, DANIEL R. KERNS, and
NIGEL J. GREEN

Appeal 2018-000541
Application 11/860,430
Technology Center 3700

Before CHARLES N. GREENHUT, MICHELLE R. OSINSKI, and
RICHARD H. MARSCHALL, *Administrative Patent Judges.*

OSINSKI, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Roy Leban et al. ("Appellants")[1] appeal under 35 U.S.C. § 134(a)
from the Examiner's decision rejecting claims 25–45.[2] We have jurisdiction
under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellants identify the real party in interest as DreamBox Learning, Inc.
Appeal Br. 4.
[2] Claims 1–24 are cancelled. Appeal Br. 34 (Claims App.).

THE CLAIMED SUBJECT MATTER

Claims 25 and 38 are independent. Claim 25, reproduced below, is illustrative of the claimed subject matter on appeal.

25. A non-transitory computer-readable medium having instructions which, when executed by a process or a computing device, cause the computing device to perform a method of providing an interactive lesson to a student, the method comprising:

provising a graphical interface for an educator to define a lesson plan;

receiving, from the educator via the graphical interface, the lesson plan including:

multiple states, each state reflecting a location in the interactive lesson and being associated with one or more questions in the interactive lesson to be solved by a student using a virtual manipulative; and

for each state, transitions from a present state to one or more next states, each transition having one or more conditions dependent on a detected interaction of the student with the virtual manipulative in response to the one or more questions corresponding to the present state,

wherein the graphical interface enables the educator to define the lesson plan in terms of the states and the transitions; and

executing the lesson plan by starting at a first state as a selected state and repetitively:

displaying one or more questions associated with the selected state for the student to solve using the virtual manipulative;

receiving an indication of the student's interactions with the virtual manipulative;

assessing the received interactions to determine if the interactions satisfy the condition of a transition from the selected state; and

transitioning to a next state specified by the transition if the interactions indicate that the transition

conditions are satisfied, the next state becoming the selected state.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Pellegrino	US 6,149,441	Nov. 21, 2000
Wall	US 6,371,765 B1	Apr. 16, 2002

THE REJECTIONS[3]

I. Claims 25–45 stand rejected under 35 U.S.C. § 101 as being directed to patent ineligible subject matter. Non-Final Act. 4–5.

II. Claims 25–45 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Pellegrino and Wall. *Id.* at 5–15.

OPINION

Rejection I

Appellants argue claims 25–45 as a group. Appeal Br. 10–21. We select claim 25 as the representative claim, and claims 26–45 stand or fall with claim 25. *See* 37 C.F.R. § 41.37(c)(1)(iv).

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g., Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

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[3] A rejection of claims 25–45 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement (Non-Final Act. 3) has been withdrawn (Ans. 2) and is not before us on appeal.

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 192 (1981)); "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores" (*id.* at 184 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 192 ("We view respondents' claims as nothing more than a process for molding rubber

products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO's January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Memorandum"). Under that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract
> ideas (i.e., mathematical concepts, certain methods of organizing

human activity such as a fundamental economic practice, or mental

processes); and

(2) additional elements that integrate the judicial exception into a

practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not recite

additional elements to integrate that exception into a practical application, do

we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that are not

"well-understood, routine, conventional" in the field (*see* MPEP

§ 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities

previously known to the industry, specified at a high level of

generality, to the judicial exception.

See Memorandum.

The Examiner determines that the subject matter of claim 25 is

directed to a "judicial exception" in that "Applicant is merely implementing

a prior manual process in a computing environment." Non-Final Act. 17. In

particular, the Examiner finds that Appellants' "claimed process, which

includes both monitored interactions with a virtual manipulative and

assessing such interactions against state definitions, is a process readily

suited to manual implementation." *Id.* Significantly, the Examiner finds

that "[i]n the pre-computer era, the longstanding concept of defining a lesson

plan to have multiple states and transition condition[s] for each state to the

next state based on the student's interaction with the virtual manipulative are

undisputedly well-known and conventional." Ans. 3. The Examiner also

finds that "in a conventional learning environment, adaptively distributing

the created lesson plan to student[]s based on how they interact or perform with the lesson presentation could be performed either mentally or by pen and paper." *Id.* at 3–4.

Appellants argue that "the claimed technology is not the mere computerization of what teachers have done in the past." Reply Br. 2–3. More particularly, Appellants argue that Appellants' "claims do not recite simply choosing a handful of lessons to be completed in sequential order or in an ad hoc manner[;] [r]ather, Appellant[s'] claims recite generating a lesson plan for execution on a computing device, the lesson specified in terms of specific states and specific state transitions from a present state to one or more next states." *Id.* at 5–6. Appellants continue that "[t]he Examiner has not identified any instance (nor [are] Appellant[s] aware of any instance) where a teacher in a traditional classroom environment has created a lesson plan that is defined in such a specific manner—mentally, with the use of pen and paper, or otherwise—as recited in Appellant[s'] claims." *Id.* at 6.

Claim 25 recites executable instructions for causing a computing device to (i) provide a graphical user interface for an educator to define a lesson plan; (ii) receive the lesson plan including (a) multiple states, each state reflecting a location in the interactive lesson and being associated with one or more questions in the interactive lesson to be solved by a student using a virtual manipulative and (b) transitions between states, each having one or more conditions dependent on a detected interaction of the student with the virtual manipulative in response to the one or more questions; and (iii) execute the lesson plan by starting at a first state and repetitively (a) displaying questions associated with the state for the student to solve using

the virtual manipulative, (b) receiving an indication of the student's interaction with the virtual manipulative, (c) assessing the interactions to determine if they satisfy the condition of a transition from the selected state, and (d) transitioning to a next state if conditions are satisfied. These limitations, under their broadest reasonable interpretation, recite creating an interactive lesson plan and executing the interactive lesson plan because the limitations all recite steps that would ordinarily take place when a teacher provides an interactive lesson plan to a student. For example, an interactive lesson plan involving one or more questions to be solved by a student would indicate an order of questions to be presented to the student based on the student's response to each question. Also, when executing the lesson plan, the questions would be presented to the student, the student would respond to the question, and based on the response to the question, the next question to be presented would be determined. Creating and executing an interactive lesson plan is part of teaching, which is an example of managing personal behavior or relationships or interactions between people. Accordingly, we conclude claim 25 recites managing personal behavior or relationships or interactions between people, which is one certain method of organizing human activity identified in the Memorandum, and thus an abstract idea.

In addition, we agree with the Examiner that the underlying methodology of claim 25 amounts to activities that could be performed by a human mentally or with the help of pen and paper. *See* Ans. 3–4. Steps that can be performed in the human mind, or by a human using pen and paper, without more, are mental processes that are abstract ideas. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2001) (holding a method for verifying the validity of a credit card transaction over

the Internet as an abstract idea capable of being performed in the human mind or by a human using pen and paper). "Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind." *Versata Dev. Group v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015). Accordingly, we conclude claim 25 also recites a teaching methodology/evaluation, which is a concept performed in the human mind or a mental process as identified in the Memorandum, and thus an abstract idea.

Following our Office guidance, having found that claim 25 recites judicial exceptions, namely, managing personal behavior or relationships or interactions between people and/or a mental process, we are instructed next to determine whether the claim recites "additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h))." *See* Memorandum.

The claim recites instructions that are executed to cause a computing device to perform the method, and also specifically recites a graphical user interface for an educator to input a lesson plan. The computing device is recited at a high level of generality, i.e., as a generic computing device performing a generic computer function of executing instructions to receive input (e.g., student responses to questions) and generate output (e.g., subsequent questions). The generic computing device limitation is no more than mere instructions to apply the judicial exceptions using a generic computer component. *See* MPEP § 2106.05(f) ("Use of a computer or other machinery in its ordinary capacity for . . . tasks (*e.g.,* to receive, store, or transmit data) or simply adding a general purpose computer or computer

components after the fact to an abstract idea . . . does not provide significantly more."). Accordingly, this additional element does not integrate the abstract idea into a practical application because it does not impose any meaningful limits on practicing the abstract idea.

The graphical user interface is also recited at a high level of generality, i.e., as a generic graphical user interface performing a generic graphical user interface function of receiving input (e.g., lesson plan states and transitions). The generic graphical user interface is no more than a way to gather data, which is a form of insignificant extra-solution activity, and does not integrate the abstract idea into a practical application. *See* MPEP § 2106.04(g) ("An example of pre-solution activity is a step of gathering data for use in a claimed process.").

In short, the additional elements recited in the claims (1) do not improve the functioning of a computer or other technology, (2) are not applied with any particular machine, (3) do not effect a transformation of a particular article to a different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment. *See* MPEP § 2106.05(a)–(c), (e)–(h). Consequently, the claimed invention does not integrate the abstract idea into a "practical application," as that phrase is used in the Memorandum.

We have considered Appellants' arguments that if claim 25 does not monopolize or preempt an abstract idea, it is patent-eligible. Appeal Br. 10–13. Merely because claims do not preempt all forms of the abstraction does not make them any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362-63 (Fed. Cir. 2015) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the

e-commerce setting do not make them any less abstract."). Moreover, characterizing preemption as a driving concern for patent eligibility is not the same as characterizing preemption as the dispositive test for patent eligibility. Although "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

Because we determine claim 25 fails to integrate the judicial exception into a practical application, in accordance with the Office guidance we next consider whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field or instead "simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception." *See* Memorandum.

The Examiner determines that "[t]he application of the computing environment including graphical user interface . . . are directed to conventional computing devices that do not add significantly more to the abstract idea." Non-Final Act. 4. The Examiner further determines that "[g]eneric computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system." Ans. 18. According to the Examiner, "the use of a computer is simply used to automate and make the process efficient which is [a] conventional function of the computer." *Id.*

Appellants argue that "as in *Enfish*, Appellant[s'] claims contain numerous limitations that cause the claims to be narrower than the

characterization proposed by the Examiner." Appeal Br. 16. Appellants argue that the claims "recite an approach to accomplishing a specific, practical, and useful improvement to computer-based education processes." *Id.* at 17–18. This argument is not convincing. In *Enfish*, the court found that "the self-referential table recited in the claims on appeal is a specific type of data structure designed to improve the way a computer stores and retrieves data in memory." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). The court found they were "not faced with a situation where general-purpose computer components are added post-hoc to a fundamental economic practice or mathematical equation," but "[r]ather, the claims are directed to a specific implementation of a solution to a problem in the software arts." *Id.* The question becomes whether the claims as a whole "focus on a specific means or method that improves the relevant technology" or are "directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

Here, where claim 25 involves providing a graphical interface and receiving as an input a lesson plan having states and transitions between states and then executing the lesson plan based on the states and transition between states, Appellants have not persuaded us that claim 25 is directed to anything more than instructions for performing a method in which the computing device is invoked as a conventional tool. The computer elements described in the claim and in the Specification appear to function in a conventional manner to execute program instructions and operations. *See* Spec. 26–28 (describing exemplary hardware typically including (i) a processor coupled to a memory, (ii) one or more user input devices, and (iii)

one or more output devices, as well as an operating system that executes
various computer software applications, programs, and modules to
implement the described techniques). Receiving data, determining which
data to display, and displaying data are steps that are well-understood,
routine, and conventional functions of a general purpose computer (*see*
MPEP § 2106(d) (citing *Versata* , 793 F.3d at 1334 and *OIP Techs.*, 788
F.3d at 1363) (supporting that courts have recognized the computer
functions of storing and retrieving information in memory as well-
understood, routine, and conventional functions of a computer), and
Appellants do not provide adequate evidence to the contrary. In sum,
Appellants have not persuaded us that claim 25 is directed to a specific
application designed to achieve an improved technological result, as
opposed to being directed to merely ordinary functionality of a computing
device and graphical user interface.

Appellants also argue that "[c]onventional educational systems, for
example, do not use state machine-based lesson plans." Ans. 18–19.
Appellants also argue that "the claims recite combinations of features not
described in any asserted reference." *Id.* at 19. To the extent Appellants are
arguing that the claimed invention is not directed to an abstract idea because
it is novel and nonobvious, we are not persuaded because a novel and
nonobvious claim directed to a purely abstract idea is, nonetheless, patent-
ineligible. *See Mayo,* 566 U.S. at 90; *see also Ass'n for Molecular
Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013)
("Groundbreaking, innovative, or even brilliant discovery does not by itself
satisfy the § 101 inquiry."); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839
F.3d 1138, 1151 (Fed. Cir. 2016) (citing *Mayo*, 566 U.S. at 90) (a finding

that the claims are novel and nonobvious in light of an absence of evidence does not conflict with the Examiner's conclusion under 35 U.S.C. § 101 because "a claim for a *new* abstract idea is still an abstract idea"); and *Flook*, 437 U.S. at 594–96 (determining claims to "a new and presumably better method for calculating alarm limit values," which were of undisputed usefulness, were nevertheless directed to patent-ineligible subject matter).

Moreover, any argument regarding the novelty of the states and transitions between states relates to the judicial exceptions (i.e., managing personal behavior or relationships or interactions between people and/or a mental process), whereas we are looking for an element or combination of elements that ensures that the claim is *more* than the ineligible judicial exceptions of managing personal behavior or relationships or interactions between people and/or a mental process.

Appellants argue that "the claims here are like the claims in *DDR*, in which the Federal Circuit noted that the claim features were 'necessarily rooted in computer technology' and were not 'routine or conventional,' and therefore found the claims to be significantly more than an attempt to monopolize an abstract idea." Appeal Br. 19 (quoting *DDR Holdings, LLC v. Hotels.com, LLC*, 773 F.3d 1245, 1259 (Fed. Cir. 2014)). This argument is unpersuasive. The claims at issue in *DDR* address the problem of retaining website visitors who would otherwise be transported away from the host website after clicking on an advertisement on the host website and activating a hyperlink. *Id.* at 1257. The *DDR* claims automatically generate a hybrid web page that permits users visiting a host website to view and purchase products from a third-party merchant, whose ads are displayed with hyperlinks on the host website, without leaving the host website and entering

that merchant's website. The Federal Circuit found the claims to be directed to patentable subject matter because they "specify how interactions with the Internet are manipulated to yield a desired result--a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink." *Id.* at 1258. Thus, the solution set forth in the *DDR* claims "is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id.* at 1257. In contrast, claim 25 does not import to improve the functioning of the computing device itself. Nor does it effect an improvement in any other technology or technical field. Instead, claim 25 amounts to using generic computer components to input and create interactive lessons (including questions and rules for transitioning to subsequent questions) that could otherwise be created mentally or using pen and paper.

For the reasons discussed above, we find no element or combination of elements recited in claim 25 that contains any "inventive concept" or adds anything "significantly more" to transform the abstract concept into a patent-eligible application. *Alice*, 573 U.S. at 221. Accordingly, we sustain the Examiner's decision rejecting claim 25, and claims 26–45 falling therewith, under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

Rejection II

The Examiner finds that Pellegrino teaches a non-transitory computer-readable medium having instructions, which when executed by a process or a computing device, cause the computing device to perform a method of: (i) providing a graphical interface for an educator to define a lesson plan; (ii) receiving, from the educator, the lesson plan; and (iii) executing the lesson plan by providing an interactive lesson to a student. Non-Final Act. 5–6

(citing Pellegrino, 2:35–45; 15:61–67; 16:1–27; Figs. 20–22; Table 2). The Examiner acknowledges that Pellegrino does not teach the lesson plan including multiple states and transitions between states, or the lesson plan being executed by starting at a first state and transitioning to next states specified by transitions when the conditions of the transitions are satisfied. *Id.* at 6–7.

The Examiner turns to Wall and finds that "Wall teaches a lesson plan including multiple states . . . and for each state, transitions from a present state to next states." *Id.* at 7 (citing Wall, 5:6–26; 6:4–23; Fig. 5). As to Wall's teaching of a "lesson plan" in particular, the Examiner finds that Wall teaches "independently selectable learning modules as part of the ICBT [interactive computer-based training] system, wherein each learning module includes lesson plans related to the hardware and software functionality of the emulated piece of equipment." *Id.* at 8. The Examiner concludes that it would have been obvious

> to modify Pellegrino's interactive lesson plan[]s by incorporating Wall's teaching of [an] adaptable presentation sequence of the questions based from the student's input response in order to provide [a] dynamic interactive computer[-]based educational system that customize[s] the lesson material presentation based from student's performance as needed.

Id. The Examiner makes similar findings and conclusions for independent claim 38. *Id.* at 10–13.

Appellants argue that "[t]he states illustrated in Figure 5 of Wall represent a device, providing a 'model of the device being emulated'" and that "Wall uses the state diagram of Figure 5 to characterize the operation of *hardware and software* that is being simulated by Wall's simulator engine," and "[t]hus, the states represent conditions of a device in hardware or

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software emulation—they do not represent *locations in a lesson* about the hardware of software." Appeal Br. 30 (citing Wall, 6:22–23). Appellants further argue that "Wall's 'hardware states,' even if used to build inferences, lesson plans, and/or troubleshooting modules, do not each reflect a location in an interactive lesson." *Id.* Appellants further argue that "Wall say[s] nothing about receiving a lesson plan in terms of multiple lesson states and transitions." *Id.*

We agree with Appellants that the Examiner's finding that Wall teaches a lesson plan including multiple states, each state reflecting a location in the interactive lesson (Non-Final Act. 7) is not adequately supported by the reference. The Examiner is correct that Wall teaches "lesson plans related to the hardware and software functionality of the emulated piece of equipment." *Id.* at 8; *see also* Wall, 5:15–24 ("One or more learning modules 306 are provided as part of the ICBT system, preferably including a plurality of self-contained multimedia lesson plans, on-line help screens, troubleshooting modules, test/quiz portions, appropriate technology background information, glossaries, et cetera. Preferably, the components of the learning modules are organized in reference to the various hardware and software portions of the abstracted device and are appropriately associated with the hardware and software simulators of the ICBT system.").

The Examiner, however, has not adequately explained how these lesson plans identified by the Examiner include (i) states reflecting a location in the lesson and (ii) transitions between states, each transition having conditions to be satisfied. It is not the lesson plans identified by the Examiner in the rejection, but rather hardware and software simulators 302,

304 respectively, that include states and transitions between states, each transition reflecting conditions to be satisfied. In particular, Wall describes "both hardware and software functionality of the equipment for which the courseware is designed are modeled as inter-dependent state machines that allow transitions via multiple paths based on state dependency and reference value inferences." Wall, 4:46–50; *see also id.* at 4:61–67 ("A hardware simulator 302 is provided for emulating the hardware functionality of a component or device. A state machine engine forms the basis for the hardware simulator 302 wherein the sub-components of the 65 device are characterized and the states in which the device may exist, based upon the conditions of the sub-components, are defined."), 5:6–14 ("A software simulator 304 is provided for emulating the software functionality, or a subset thereof, of the device. A suitable inter-dependent state machine engine also forms the basis for the device software simulator 304. The various states of the hardware and software state machine engines are provided to be inter-dependent and, accordingly, affect the respective state transitions appropriately in order to emulate the device functionality substantially accurately and completely."). The Examiner's articulated rejection relies on a finding that Wall teaches a *lesson plan* that includes multiple states and transitions from present states to next states (*see* Non-Final Act. 7) to conclude that it would have been obvious to modify Pelligrino's lesson plan to "incorporat[e] Wall's teaching of adapatable presentation sequence of the questions" (*id.* at 8). The Examiner has not adequately explained how Wall teaches such a lesson plan with an adaptable presentation sequence of questions. Accordingly, the Examiner's conclusion

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of obviousness is based on an insufficiently supported finding as to the scope and content of Wall.

For the foregoing reasons, we find that the Examiner erred in concluding that the subject matter of independent claims 25 and 38 is rendered obvious by Pellegrino and Wall. We do not sustain the rejection of claims 25 and 38, or claims 26–37 and 39–45 which depend therefrom, under 35 U.S.C. § 103(a) as unpatentable over Pellegrino and Wall.

DECISION

The Examiner's decision to reject claims 25–45 under 35 U.S.C. § 101 as being directed to patent ineligible subject matter is affirmed.

The Examiner's decision to reject claims 25–45 under 35 U.S.C. § 103(a) as unpatentable over Pellegrino and Wall is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED